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"It's Not Me, It's /u/: An Acoustic Analysis of Target-Language Immersion's Effect on L1 English Speakers' Spanish Vowel Production" and "Tener: ¿Lo tenemos entendido?"

Tanner Charles Linton
Brigham Young University

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“It’s Not Me, It’s /u/: An Acoustic Analysis of Target-Language Immersion’s Effect on L1 English Speakers’ Spanish Vowel Production” and

“Tener: ¿Lo tenemos entendido?”

Tanner Charles Linton

A thesis submitted to the faculty of Brigham Young University in partial fulfillment of the requirements for the degree of

Master of Arts

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ABSTRACTS

“It’s Not Me, It’s /u/: An Acoustic Analysis of Target-Language Immersion’s Effect on L1 English Speakers’ Spanish Vowel Production”

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Master of Arts

Within the field of second language acquisition of phonology, the role of immersion experiences on language learners’ pronunciation has recently become a topic of greater interest. While students of a foreign language with study abroad experience (one to six months) have shown relatively little progress in pronunciation gains, language learners group with extended immersion experience—approximately 24 months abroad—have demonstrated more native-like pronunciation. This study compares the pronunciation of L2 Spanish /u/ among native English speakers enrolled in the same third-year Spanish course who belong to two different groups based on the context of their previous language learning: extended immersion in a Spanish-speaking country or traditional classroom instruction. The effects of syllabic stress and speech task type on the pronunciation of these two groups are also examined. Acoustic data from participants’ speech is used to conduct statistical analyses.

Keywords: Spanish, second language acquisition, immersion, pronunciation, vowels

“Tener: ¿Lo tenemos entendido?”

Words and phrases are subject over time to a process called grammaticalization, especially those that are used frequently. This process causes a gradual shift from use as lexical items to use as grammatical devices. Semantic bleaching also occurs, which means that the earlier or original lexical content of a word or phrase is partially or completely lost. Verbs expressing the idea of possession are particularly susceptible to this type of change. The Spanish verb tener (‘to have’), while still retaining its lexical content, has come to be used in constructions that do not represent the explicit idea of possession—they incorporate a bleached usage of the word. This alteration is evident in four construction types examined in this paper. These constructions all have three essential elements: a “possessor” argument, a “possessed” argument, and a third modifying component. The analyses of these constructions include templates that describe both their semantic content and their syntactic structure.

Keywords: Spanish, grammaticalization, semantic bleaching, construction, tener
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It’s Not Me, It’s /u/: An Acoustic Analysis of Target-Language Immersion’s Effect on L1 English Speakers’ Spanish Vowel Production

As second language acquisition research in linguistics and pedagogy progresses, the findings have continued implications for the approaches and strategies used to help students of language acquire a variety of linguistic features. Those strategies, however, may vary depending on the part of language that a learner is seeking to acquire. For that reason, linguistic subcategories must be considered separately in SLA research because the process of acquisition for one feature may differ significantly from that of another. The subcategory of interest in this project is that of phonetics and phonology and the factors involved in a language learner’s acquisition of sounds belonging to the phonetic or phonemic inventory of a target language. Specifically, this analysis examines the effect of immersion experiences on the attainment of accurate L2 Spanish pronunciation.

Before reviewing past literature and presenting the details of this study, it is important to address why pronunciation matters. Correct pronunciation, like other facets of a language, is important and deserving of attention for at least two reasons. First, a minimal level of accuracy is required for understanding to take place in conversation. A language learner’s inability to reach that minimum level of intelligibility will obviously hinder their ability to communicate effectively. Second, accurate pronunciation has social implications and may therefore play an essential part in a learner’s ability to navigate the perceptions, attitudes, and culture of native speakers in the settings in which the learner expects to use the language. It is possible that extended immersion, in addition to simply providing extra exposure to the target language, may increase learners’ awareness of both the minimum level of correct pronunciation necessary for
successful communication and the social repercussions of their phonetic and phonological accuracy (Munro, 2008; Tarone, 1987).

Previous Work in SLA of Phonology

In the literature, second language phonology and pronunciation received comparatively less attention than syntax, discourse, and pragmatics before 2000 (Leather, 1999); however, significantly more literature has appeared in the last 17 years to add to the published works available in the area from before. Among those works are summaries of past SLA research in pronunciation and perception and the cross-linguistic foundational concepts on which that research is based (e.g., Leather, 1999; Major, 2001; Major, 2008; Zampini, 2008). Although it is not possible to provide an exhaustive list of relevant publications, a sample of the work in SLA of phonology is discussed below to offer an idea of the topics being investigated. Strange and Shafer (2008), for example, address the importance of selective perception in L2 phonology acquisition, and Munro (2008) calls attention to the importance of prioritizing intelligibility in pronunciation over a strict focus on “accent reduction” (p. 213). Other studies have focused specifically on the pronunciation and perception of L2 vowels. Flege, Bohn, and Jang (1997) used data from learners of L2 English to show how differences in the perceived relation between L1 and L2 vowels can produce variability in the production and perception of the latter. Flege, Schirru, and MacKay (2003) use an example from Italian to illustrate how early L2 learners can exaggerate differences between their L1 and L2 as they adjust to two vowel systems. Flege and MacKay (2004) also contribute evidence supporting the reality of the separation of L1 and L2 perceptual categories. Additional works highlight research involving the influence of social factors on L2 phonology; for example, Hansen Edwards (2008) investigates the role of language
learners’ choice of L2 goals, and Ioup (2008) and Flege and MacKay (2011) discuss the importance of age as a variable.

Many researchers have also contributed literature involving Spanish phonology in particular. Some of these have been concerned with justifying the use of specific theoretical frameworks or concepts to describe the cognitive aspects involved in the acquisition of L2 Spanish sounds. Escudero and Boersma (2002) use the idea of multiple-category assimilation (MCA) to suggest the independence of L1 Dutch and L2 Spanish perception modes and subsequently (Boersma & Escudero, 2008) use Optimality Theory (OT) to account for phenomena in the L2 Spanish acquisition of L1 Dutch speakers. Others have utilized comparisons of L2 Spanish learners at different proficiency levels (and native speakers as a control) to identify the factors involved in the achievement of a more native-like pronunciation (e.g., Cobb & Simonet, 2015; Zampini & Green, 2001).

A number of publications have examined more in depth the relationship between English and Spanish pronunciation, with an emphasis on vowels (e.g., Alvord & Rogers, 2014; Casillas, 2015; Casillas & Simonet, 2015; Díaz-Campos & Simonet, 2015; Fox, Flege, & Munro, 1995; García Bayonas, 2007). These vowel-focused studies have added to discussions on the plausibility of native-like L2 acquisition of Spanish phonetics and phonology (e.g., Colantoni & Steel, 2006; Face, 2006; Face & Menke, 2009). In addition, they contribute to investigations of the role of pronunciation and perception instruction in successful acquisition of L2 phonology, and the effectiveness of certain pedagogical approaches incorporating explicit phonetics instruction in the classroom (e.g., Elliott, 1995; Elliott, 1997; González-Bueno, 1997; Lord, 2005). Although the hope exists that any kind of language teaching is of some value to learners, invested students and instructors understandably look for the best options for successfully
acquiring the linguistic features of the target language. Identifying the contexts and methods of instruction that produce the best results, therefore, becomes a priority.

Although the studies referenced above serve as a foundation, they have not examined data from the participant-group types in this study. I will focus my attention on the L2 vowel pronunciation of native English speakers learning Spanish who belong to two different groups based on the context of their language learning: extended immersion in a Spanish-speaking country or traditional classroom instruction. Among the language-learning and teaching methodologies mentioned above, the role of immersion experiences (and the length of those experiences) has recently become of greater interest, at times discussed along with level of instruction, level of motivation, cultural sensitivity, or other social factors (e.g., Aldrich, 2014; Alvord & Christiansen, 2012; Díaz-Campos, 2004; Díaz-Campos, 2006; Hurtado & Estrada, 2010; Lord, 2006; Lord, 2010; Martinsen & Alvord, 2012; Martinsen, Alvord, & Tanner, 2014; Rogers & Alvord, 2014; Shively, 2008; Simões, 1996; see also Magnan & Back, 2007, for an L2 French example). With the exception of Aldrich (2014), the publications in this last set all discussed consonants, or they did not identify specific sound categories as a focus. Some of these studies have reported unremarkable progress in pronunciation from study abroad students (e.g., Díaz-Campos, 2004; Shively, 2008); Lord (2006) described study abroad gains as “indefinable” at best. Those students, however, were involved in programs ranging from one to six months. Recent studies involving L2 Spanish learners with extended immersion experience—a period of approximately two years—have reported more promising results (e.g., Aldrich, 2014; Alvord & Christiansen, 2012; Martinsen, Alvord, & Tanner, 2014; Rogers & Alvord, 2014). In these studies, participants were able to acquire more native-like pronunciation due to their time abroad.
In this study, I will specifically be investigating the acquisition of the Spanish high back (rounded) vowel /u/ by L1 English speakers. As mentioned above, other publications have discussed investigations of the effect of study abroad programs and other target language immersion experiences (e.g., Alvord & Christiansen, 2012; Díaz-Campos, 2004; Lord, 2010; etc.), but these authors have been primarily concerned with consonants or have not identified specific sounds for analysis. Aldrich (2014) describes a similar study to the one detailed here, but the vowel of interest in that investigation is /a/. Cobb and Simonet (2015) include a discussion of /u/ fronting, but not in the context of immersion experiences like the one described in this study.

/u/ and the Present Investigation

Although the /u/ phonemes of English and Spanish are both traditionally referred to as high back vowels and are generally considered to be correlates, it is not possible to claim that this vowel, or any other when comparing the inventories of Spanish and English, can be considered “the same” (i.e., Spanish /u/ and English /u/ are not exact equivalents; see Bradlow, 1995; García Bayonas, 2007; Hualde, 2005; Ladefoged, 2010). The documented formant values from these works place the Spanish /u/ higher and further back in the mouth than the English version. In addition, the phenomenon of /u/ fronting by native speakers of American English has been documented in several sources (e.g., Hualde, 2005; Labov, 2006; Thomas, 2001). Some transcriptions of the English vowel include [u] and [ʉ], indicating that it has a central quality in spite of the traditionally accepted label of back vowel. Since this difference between the /u/ phonemes of Spanish and English can demonstrate a particularly salient difference between the languages’ vowels, it is a variable of value in investigations of the L2 acquisition of vowel production. The major purpose of this study is to determine if an extended immersive experience in a target-language-speaking culture has a statistically significant effect on the acquisition of
Spanish /u/ by L1 English speakers. To discover any effects, the pronunciation of language learners with such an immersion experience must be compared with the pronunciation of the same vowel among L1 English speakers who have studied Spanish primarily in the United States in a university setting with little or no time abroad.

While the frontness/backness contrast is of primary interest here, an analysis of vowel height can also contribute to discussions of the L2 acquisition of Spanish /u/. English is well-documented as a language in which centralization or reduction of unstressed vowels occurs (see Brown, 1990; Hualde, 2005; Whitley, 2002). The interference of this process is also possible in the L2 acquisition of Spanish vowels. Traditionally, the Spanish vowel system has been described as generally stable in this respect, in spite of variation in some regional varieties and seemingly infrequent manifestation of variation in vowel quality between stressed and unstressed contexts (Hualde, 2005; Quilis & Esgueva, 1983); however, Cobb and Simonet (2015)¹ and Harmegnies and Poch-Olivé (1992)² have found evidence of reduction tendencies in spontaneous speech. Despite these findings, and due to the widely-accepted view of stability, the presence of vowel reduction (or the degree of that reduction) in the Spanish of L1 English-speaking learners is often included in the list of features that contribute to the perception of foreign accent and reveal difficulties in acquiring L2 phonology (Brown, 1990; Stevens, 2011). This study seeks to call attention to any significant lowering or fronting of /u/ in unstressed contexts as a possible indication of L1 English transfer; the degree to which English vowel reduction tendencies appear in the Spanish of the participant groups can be used as a variable for comparison.

Speech style, or speech task type (saying isolated words, reading a text, casual conversation, etc.), has been previously recognized as a possible factor in the variability of

¹ See also Menke & Face, 2010.
² See also Poch-Olivé, 1989; Borzone de Manrique, 1980.
pronunciation (e.g., Labov, 1969; Tarone, 1985; Tarone & Parrish, 1988; Major, 2001). These studies have shown that the performance of less formal tasks and less attention to speech (referring to speakers’ attention to their own speech) both result in less accurate pronunciation. In the present study, this would affect the degree of /u/ centralization, as participants would likely exhibit more L1 transfer of unstressed vowel centralization in less formal tasks. Although task type is not as high of a priority in this study, and the speech tasks are not considerably different (both are reading tasks), any changes in pronunciation between them is worth considering, especially if any difference exists in the way immersion participants handle the change when compared with non-immersion participants.

Using acoustic and statistical analyses and graphical representations, this study attempts to show any salient differences, or lack thereof, in the production of the vowel of interest. Two questions guided the investigation:

1) Does a relationship exist between the type of language acquisition (extended immersion vs. traditional home-country classroom) and the phonetic features of the participants’ pronunciation of Spanish /u/?

2) What effect, if any, do stress and speech task type have on the pronunciation of Spanish /u/ in the participant groups?

Methodology

As mentioned above, the variable of interest is the effect of extended foreign immersion in a target-language-speaking culture on the acquisition of the pronunciation of the high back vowel /u/ of Spanish. The two groups being compared to the control group both consist of university-age young adults from the United States learning Spanish. The data analyzed in this study was taken from speech recordings from 22 participants: 17 L1 English-speaking learners of
Spanish and five native Spanish speakers. The learners, ranging in age from 17 to 23, were divided into two groups: an extended immersion group (n=12) and a non-immersion group (n=5). The L1 Spanish speakers served as a control group (n=5).

The immersion group consisted of 12 participants enrolled in a third-year Spanish grammar, reading, and composition course at a major university. All 12 spent a period of approximately 24 months in a Spanish-speaking country (two in Argentina, two in Chile, two in the Dominican Republic, two in Mexico, one in El Salvador, one in Guatemala, one in Paraguay, and one in Spain), during which time they volunteered as missionaries for a religious organization. They lived and worked for this entire period in the country they were assigned to and interacted with native Spanish speakers on a daily basis in the streets and other public forums, religious gatherings, and in residents’ homes. Although all participants were enrolled students at the time of recording, they were not considered students of the language during their time abroad. Ten of these missionaries had taken at least one Spanish course in high school, but two had no previous class experience. Regardless of their previous experience with the language, all members of the group received approximately two months of Spanish instruction preceding their departure to their assigned country. The quality of their instruction, the accuracy of the instructors’ pronunciation, and the consistency of the course curriculum is unknown; however, minimal attention was given to pronunciation. A block of 30 to 60 minutes was also programmed into their daily schedule for language study once abroad. There was no standardized study program, and the use of language study time was left to the discretion of the missionary. Although there is reason to believe that pronunciation received little, if any, attention during this time, there is no official record of the way the time was spent; for the purposes of this study, the information will be considered unknown. Previous experience with Spanish (before missionary
service and university coursework), such as secondary education courses, was not controlled for. In addition, the participants worked in two-man teams called companionships, which would change periodically over the course of the 24 months. They were expected to be accompanied by their assigned companion at virtually all times in accordance with missionary service rules. The period of time with a single companion could have been as few as six weeks, but most companionships worked together for a period of approximately three months, resulting in periods of work with several different companions. Fellow missionaries could potentially be paired with another L1 English-speaking missionary from the United States or with a native Spanish speaker. This variable was also not controlled for in this study. The group is also referred to as the RM (Returned Missionary) group.

The non-immersion group, or At-Home group (AH), consisted of five participants who were enrolled in the same third-year Spanish course as those in the immersion group at the time of recording. They had all spent three months or less in a Spanish-speaking country, with the majority having spent no more than a week abroad. All but one group member had previous high school and university coursework in Spanish, and none of them had participated in a university phonetics course at the time of recording; however, all participants had completed the required semesters of university Spanish (or the equivalent) necessary for enrollment in the same course. As with the RM group, previous Spanish experience (pre-university) was not controlled for in the analysis of the data.

The control group consisted of five native speakers from Spanish-speaking countries who came to the U.S. as adults (18 or older) to pursue university studies: two from Mexico, one from Chile, one from Colombia, and one from Paraguay. Their previous experience with and
proficiency in English was unknown at the time of recording. The group is also referred to as the N (Native) group.

All participants were asked to complete two Spanish speech tasks consecutively: the reading of a short story approximately two pages long and a list of 52 vocabulary words. The short story contained nine tokens of stressed /u/ and 34 tokens of unstressed /u/, and the vocabulary list contained five tokens of stressed /u/ and 10 tokens of unstressed /u/. Their speech samples were recorded as .wav files at a sample rate of 44.1 kHz in Audacity on university-owned computers with Plantronics USB headset microphones. The .wav files were then used for acoustic analysis (spectrographic) in Praat (Boersma & Weenink, 2012), a software package designed to provide quantitative phonetic data from speech sounds. Each token of /u/ was marked with an indication of stress context (stressed or unstressed) as well as style (story or vocabulary list). Although all speakers read the short story and vocab list in their entirety, some tokens of /u/ could not be included in the data due to various fluctuations in pronunciation (glottalization, devoicing, synalepha, etc.) or external factors (recording volume fluctuations, background noise, etc.) preventing clear identification of the vowels on the spectrograms produced by the software. The same number of tokens, therefore, was not analyzed in the case of each individual participant; however, the use of group means in the analysis helped compensate for the discrepancy in total token amount. For all tokens of /u/ in which readable formants were produced, the values of the first and second formants (F1 and F2) were measured at the midpoint of the duration marked and used to determine height and backness. These formant values of 1,173 tokens were extracted from Praat with 4 different algorithm scripts3 and then used to plot the relative locations of all tokens in the vowel space and to conduct a quantitative analysis.

3 Given the variation in distance (on the spectrograms) between the first and second formants (F1 and F2) across participants’ productions of /u/, 4 different scripts were used in Praat for 4 different measuring ranges—maximums
To account for physiological differences in the individual speakers, such as those caused by inconsistencies in the anatomy of the vocal tract, variations in vocal cord size, etc., the absolute values of the formants, measured in hertz, were normalized using the Bark Difference method, detailed by Thomas and Kendall (2007). Although raw frequency values (Hz) allow for a more accurate description of the absolute placement of a sound in the vowel space, the Bark scale provides a more adequate or appropriate relative description that helps control for individual speaker variation and therefore allows for statistical measures to compare formant values between different speakers.

The normalized formant values were used to conduct an analysis with a random effects model to control for individual speaker variation (besides the variation controlled by the use of the Bark scale). Landau and Everitt (2004) explain that, “Random effects models formalize the sensible idea that an individual’s pattern of responses in a study is likely to depend on many characteristics of that individual, including some that are unobserved” (p. 194). With the unobserved characteristics (i.e., random effects) of individual speakers handled by an “appropriate probability distribution” (p. 194), the fixed categories of participant group (RM, AH, N), stress (stressed /u/ vs. unstressed /u/), and task type (short story vs. vocabulary list) could be factored into a mixed model statistical analysis (a multiple regression analysis and a repeated measures analysis of variance [ANOVA]) to determine the significance of their effect on vowel formant values.

of 3300 Hz, 4400 Hz, 4800 Hz, and 5500 Hz—that placed distinct limits on the program’s formant tracking feature. The further back the production of /u/, the closer F2 was to F1, making it difficult in some cases to distinguish the formant boundaries until the measurement range had been narrowed (3300 Hz max). The most fronted productions of /u/ showed the most noticeable gap between formants, so much so that Praat would frequently track an erroneous formant value between F1 and F2 in order to adhere to narrower settings; in such cases, a higher setting (5500 Hz max) was needed to widen the measurement range. The 4 separate scripts, therefore, helped to ensure the best possible tracking for both extremes and offered intermediate adjustments for the tokens in between them.
Results

In addition to conducting a statistical analysis with the Bark scale formant values, the tokens of /u/ were plotted to show their relative spatial relationship. Tokens were plotted together based on stress context with the stressed examples represented in Figure 1 and the unstressed in Figure 2. The figures represent the vowel space in the mouth, with the left end corresponding to a more fronted placement and the right to a placement farther back. F1 values correspond to vowel height with a higher value representing a lower placement. F2 values correspond to vowel backness with a higher value representing a more fronted placement.

Figure 1. Format Value Plot of Stressed Tokens of /u/.
Figure 2. Format Value Plot of Unstressed Tokens of /u/.

The means for stressed and unstressed tokens of F1 and F2 were also plotted to show the spatial relationship of the height and backness averages from the three groups. The mean values are found in Table 1 and have been plotted in Figure 3, with the left once more representing the front of the vowel space in the mouth.

Table 1

<table>
<thead>
<tr>
<th>Mean Formant Values of Stressed and Unstressed Tokens of /u/</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean Format Values – Stressed &amp; Unstressed Tokens</strong></td>
</tr>
<tr>
<td><strong>STRESSED</strong></td>
</tr>
<tr>
<td>F1</td>
</tr>
<tr>
<td>RM</td>
</tr>
<tr>
<td>AH</td>
</tr>
<tr>
<td>N</td>
</tr>
</tbody>
</table>
Figure 3. Mean Formant Value Plot for Stressed and Unstressed Tokens of /u/.

The mixed model analysis produced a summary of the statistical data for the variables of interest (i.e., group, stress, style), which indicated the strength of their relationship with the values of F2 (backness). Those results are found below in Table 2.
Table 2

*Fixed Effects Statistical Data for F2*

<table>
<thead>
<tr>
<th>Source</th>
<th>Numerator df</th>
<th>Denominator df</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>1</td>
<td>1161</td>
<td>29821.489</td>
<td>.000</td>
</tr>
<tr>
<td>Stress</td>
<td>1</td>
<td>1161</td>
<td>45.519</td>
<td>.000</td>
</tr>
<tr>
<td>Style</td>
<td>1</td>
<td>1161.000</td>
<td>.724</td>
<td>.395</td>
</tr>
<tr>
<td>Group</td>
<td>2</td>
<td>1161</td>
<td>26.616</td>
<td>.000</td>
</tr>
<tr>
<td>Stress * Style</td>
<td>1</td>
<td>1161.000</td>
<td>.035</td>
<td>.852</td>
</tr>
<tr>
<td>Stress * Group</td>
<td>2</td>
<td>1161</td>
<td>.194</td>
<td>.823</td>
</tr>
<tr>
<td>Style * Group</td>
<td>2</td>
<td>1161</td>
<td>.527</td>
<td>.590</td>
</tr>
<tr>
<td>Stress * Style * Group</td>
<td>2</td>
<td>1161</td>
<td>.229</td>
<td>.796</td>
</tr>
</tbody>
</table>


The mixed model analysis revealed that both group (RM vs. AH vs. N) and stress were significant variables (p < 0.001 in both cases) for the formant values corresponding to backness (L2). In the case of group, the difference between the immersion language learners (RM) and the native (N) control group was not significant (p = 0.281), but both groups were significantly different from the non-immersion learner group (AH). The AH group’s pronunciation of /u/ was notably further forward than those of the other two groups, as seen in Figures 1, 2, and 3. A summary of the pairwise comparisons of the groups for F2, and their corresponding p-values, are found in Table 3.
Table 3

Pairwise Comparisons of Groups for F2

<table>
<thead>
<tr>
<th>(l) Group</th>
<th>(j) Group</th>
<th>Mean Difference (l - j)</th>
<th>Std. Error</th>
<th>df</th>
<th>Sig. c</th>
<th>95% Confidence Interval for Difference c</th>
</tr>
</thead>
<tbody>
<tr>
<td>AH</td>
<td>N</td>
<td>.657*</td>
<td>.142</td>
<td>1161.000</td>
<td>.000</td>
<td>.316 - .998</td>
</tr>
<tr>
<td>N</td>
<td>AH</td>
<td>.860*</td>
<td>.118</td>
<td>1161</td>
<td>.000</td>
<td>.577 - 1.143</td>
</tr>
<tr>
<td>RM</td>
<td>AH</td>
<td>-.203</td>
<td>.121</td>
<td>1161.000</td>
<td>.281</td>
<td>- .998 - .316</td>
</tr>
<tr>
<td>RM</td>
<td>N</td>
<td>-.203</td>
<td>.121</td>
<td>1161.000</td>
<td>.281</td>
<td>-.492 - .087</td>
</tr>
<tr>
<td>N</td>
<td>RM</td>
<td>.203</td>
<td>.121</td>
<td>1161.000</td>
<td>.281</td>
<td>- .998 - .316</td>
</tr>
</tbody>
</table>

Based on estimated marginal means
* The mean difference is significant at the .05 level.
c. Adjustment for multiple comparisons: Bonferroni.

Stress was also a significant factor for all three groups. Unstressed tokens of /u/ had, on average, a more fronted pronunciation than stressed tokens in all three participant groupings. The difference in mean F2 values among groups for stressed and unstressed tokens is displayed in Figure 4.

![Figure 4: Mean F2 Values of Stressed and Unstressed Tokens of /u/](image-url)
The stressed and unstressed averages for the AH group were both significantly different from those of the RM and N groups. The averages for the RM and N groups were not significantly different.

A report describing the relationship of the factors of interest with F1 values (height) was also produced by the analysis. The summary of statistical results is found in Table 4.

Table 4

Fixed Effects Statistical Data for F1

<table>
<thead>
<tr>
<th>Source</th>
<th>Numerator df</th>
<th>Denominator df</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>1</td>
<td>1161</td>
<td>33632.316</td>
<td>.000</td>
</tr>
<tr>
<td>Stress</td>
<td>1</td>
<td>1161.000</td>
<td>12.875</td>
<td>.000</td>
</tr>
<tr>
<td>Style</td>
<td>1</td>
<td>1161</td>
<td>20.153</td>
<td>.000</td>
</tr>
<tr>
<td>Group</td>
<td>2</td>
<td>1161</td>
<td>120.289</td>
<td>.000</td>
</tr>
<tr>
<td>Stress * Style</td>
<td>1</td>
<td>1161.000</td>
<td>1.196</td>
<td>.274</td>
</tr>
<tr>
<td>Stress * Group</td>
<td>2</td>
<td>1161</td>
<td>2.041</td>
<td>.130</td>
</tr>
<tr>
<td>Style * Group</td>
<td>2</td>
<td>1161</td>
<td>.103</td>
<td>.902</td>
</tr>
<tr>
<td>Stress * Style * Group</td>
<td>2</td>
<td>1161</td>
<td>.060</td>
<td>.942</td>
</tr>
</tbody>
</table>


The analysis revealed that group, stress, and style were all significant factors for the F1 (height) of collected tokens (p < 0.001 in all cases). All three groups were significantly different from one another, with a native speaker average between that of the RM and AH groups. The average height of tokens from the RM group was higher than that of the native group, and the average of the AH group was lower. Table 5 summarizes the pairwise comparisons for F1 of the three groups and provides the corresponding p-values.
Table 5

**Pairwise Comparisons of Groups for F1**

<table>
<thead>
<tr>
<th>(I) Group</th>
<th>(J) Group</th>
<th>Mean Difference (l–j)</th>
<th>Std. Error</th>
<th>df</th>
<th>Sig.¹</th>
<th>95% Confidence Interval for Difference ²</th>
</tr>
</thead>
<tbody>
<tr>
<td>AH</td>
<td>N</td>
<td>.166⁺</td>
<td>.061</td>
<td>1161.000</td>
<td>.019</td>
<td>.020 – .313</td>
</tr>
<tr>
<td>RM</td>
<td>N</td>
<td>.708⁺</td>
<td>.051</td>
<td>1161</td>
<td>.000</td>
<td>.587 – .830</td>
</tr>
<tr>
<td>N</td>
<td>AH</td>
<td>-.166⁺</td>
<td>.061</td>
<td>1161.000</td>
<td>.019</td>
<td>-.313 – .020</td>
</tr>
<tr>
<td>RM</td>
<td>AH</td>
<td>.542⁺</td>
<td>.052</td>
<td>1161</td>
<td>.000</td>
<td>.418 – .666</td>
</tr>
<tr>
<td>N</td>
<td>RM</td>
<td>-.708⁺</td>
<td>.051</td>
<td>1161</td>
<td>.000</td>
<td>-.830 – -.587</td>
</tr>
<tr>
<td>N</td>
<td>AH</td>
<td>.542⁺</td>
<td>.052</td>
<td>1161</td>
<td>.000</td>
<td>-.666 – -.418</td>
</tr>
</tbody>
</table>

Based on estimated marginal means

*⁺. The mean difference is significant at the .05 level.
¹. Dependent Variable: F1.
². Adjustment for multiple comparisons: Bonferroni.

Stress and style were both marked as significant in the case of F1 values; however, they were only significant for the immersion group. Figures 5 and 6 show a comparison of the averages from the groups for both stress and style, respectively.

**Figure 5.** Mean F1 Values of Stressed and Unstressed Tokens of /u/.
While the stress context differences in all groups are observable, the differences in the AH and N groups are negligible according to the statistical report; the RM group difference is the only statistically noteworthy one. As with stress, the average difference in vowel height between styles is only significant for the RM group; however, the differences are still evident in the other groups as well but are not statistically different.

Discussion

Based on the findings from the statistical analysis, it appears that extended immersion does indeed play a role in attaining a native-like pronunciation of /u/, at least in regards to the degree of backness. The non-immersion group had a much more fronted pronunciation of /u/, a possible indication of a continued influence from English. Based on the mean values of F2, the immersion group attained a native-like pronunciation in backness, at least one that was not statistically different from that of the native group.

Stress was also significant for the F2 of all three groups. The unstressed tokens of /u/ had a more fronted pronunciation in each case. This finding is perhaps most surprising for the native
group because, although supported by Harmegnies and Poch-Olivé (1992) and Cobb and Simonet (2015), it contrasts with the claims of stability presented in works such as Bradlow (1995), Hualde (2005), and Quilis and Esgueva (1983). It would not be unreasonable to expect some difference between the stressed and unstressed tokens from the learner groups due to L1 transfer (English fronting); however, the results indicate that such a contrast was present in the speech of the native speakers, suggesting that the learner groups’ preservation of the distinction could still have a place in their acquisition of accurate L2 pronunciation.

The findings on the height of /u/ were illuminating as well. According to the p-values from Table 5, all groups were statistically different from one another, with the average heights of tokens from the learner groups falling on either side (above and below) of the native control group average. Although the lower /u/ produced by AH group, the lowest of the three, is consistent with expected transfer from the effects of English vowel reduction on the unstressed tokens (Brown, 1990; Hualde, 2005; Whitley, 2002), the fact that the RM group’s average place of articulation was higher than that of the native group is noteworthy; it demonstrates an extreme articulation in the opposite direction from what would be expected from L1 English influence. While it is impossible to provide an accurate explanation without further investigation, one possibility is that the RM learners were exaggerating their L2 vowel pronunciation in height, perhaps to dissimilate L1 and L2 /u/ categories (see Flege, Schirru, & MacKay, 2003). The reasons behind this kind of exaggeration and dissimilation in immersion learners is a potential topic for future research.

While stress had a noticeable influence on the F2 of /u/ in all groups, it was only significant for immersion learners’ F1 values. Stressed tokens had a mean place of articulation that was significantly higher than that of the unstressed tokens. In addition, the unstressed mean
F1 value for the RM group represented a higher place of articulation than even the stressed mean value from the N group, indicating that the places of articulation of both means from the RM group were altogether higher than those from the N group.

The only case in which style was a significant factor was that of RM vowel height. It is possible that the slightly less formal task of reading the short story called for less attention to pronunciation than the enunciation of isolated words. While the speakers from the RM group did not have a lowered pronunciation of /u/ like that of the AH group, they did not show the consistency across tasks that the N group demonstrated. These results, however, are not particularly meaningful to investigations of the effect of style on pronunciation, due to the fact that the difference between speech task style was minimal; neither task in this study represented spontaneous or more conversational speech.

Future Directions and Implications

While the present study was informative, there are opportunities for further investigation. Future studies would benefit from a greater number of tokens, which would increase the reliability and validity of this type of analysis. Greater attention to phonetic context could also add more detail to this particular area of research. It is possible that the variety of neighboring sounds (obstruents, nasals, liquids, vowels), had varied effects on the tokens analyzed, particularly in the case of laterals and rhotics. Due to the low number of tokens, it was not feasible to control for these differences in this study.

As mentioned above, previous Spanish experience was not controlled for in the study. Although all the participants from both the RM and AH groups were enrolled in the same third-year course, the nature of their learning beforehand was not considered. In addition, variables unique to the immersive missionary experience (e.g., time spent with native-speaking
companions vs. L2 Spanish-speaking companions, amount of consistent study time, etc.) were not controlled. Closer attention to these factors could provide further insight into the nature of language learning in an extended immersion context.

Though style was relatively insignificant in the present study, its role deserves more attention in future research. The vocabulary list and short story are different tasks, but both consist of reading written text and therefore represent only a slight difference in formality. The degree to which style affects /u/ production may change in more informal, unscripted contexts like open conversation. The inclusion of more conversational speech samples (such as OPI-style interviews) would provide an additional avenue of research.

In addition to the research questions addressing the influence of speaker group, stress, and style, one issue of interest is any implications or applications the results could have for the teaching and learning of L2 Spanish vowel pronunciation. The fact that the RM group demonstrated a native-like pronunciation of /u/, compared to the fronted pronunciation of the AH group, seems to indicate that extended immersion experiences can help learners achieve successful acquisition of that vowel, and perhaps acquisition of others. However, extended immersion experiences may not be plausible for all L1 English-speaking learners of Spanish; nonetheless, if the opportunity presents itself, this study suggests that such an experience can be valuable. The extended length of the experience is important, especially due to the fact that past studies have shown little progress in pronunciation among students participating in shorter study abroad programs (e.g., Diaz-Campos, 2004; Shively; 2008). Previous investigations involving missionary-type learners (e.g., Aldrich, 2014; Alvord & Christiansen, 2012) highlight this time-length argument. Nevertheless, Lord (2010) draws attention to the fact that a combination of factors (such as time abroad and explicit pronunciation instruction) may produce a more
noticeable benefit when compared to the effect of any one factor in isolation. Future research of extended-immersion learner groups like the returned missionary participants of this study could focus on the combined influence of explicit pronunciation instruction and prolonged time abroad.

Despite its limitations, this investigation has offered a unique contribution and will also ideally serve as part of the foundation for any future efforts to clarify the nature of the influence of extended immersion in target-language-speaking communities when the acquisition of L2 phonology, specifically that of vowels, is involved.
References


25


Tener: ¿Lo tenemos entendido?

Languages are dynamic systems that undergo change with the passage of time. From the basic level of sounds to more complex areas of discourse, transformations and alterations take place as usage changes. One historical change of interest here is grammaticalization, which refers to a word or phrase’s change from a lexical item to a grammatical item; a “content word” becomes a “function word” (Hopper & Traugott, 2003). Semantic bleaching, an integral component of grammaticalization, specifically refers to a lexical item’s loss of most or all of its earlier or original lexical content (Heine, 1993). In discussions of these types of historical changes, verbs of possession often come up as words that undergo such processes (Torroja de Bone, 2006). They seem to be particularly susceptible to modifications and shifts in function, and that susceptibility, according to Bybee (2007), results from their high frequency of usage. This is clearly evident in English in the perfect constructions, in which forms of the verb to have have developed into auxiliaries with a participle. The same is true of the Spanish verb haber, which was once used as a verb of possession, but has since become an auxiliary in perfect constructions with participles. Examples of current or former possessive verbs that have become auxiliaries are found in the following examples:

1. Haber in Spanish: perfect constructions, future, conditional, ha de saber, etc.
   - Ha hecho, había hecho, hará, haría
2. Have in English: auxiliary verb in perfect constructions
   - ‘They have gone’, ‘she had gone’
3. Ter in Portuguese in tempos compostos
   - Ele tem falado, eu tinha falado

The purpose of this study is to add to the base of evidence for the grammaticalization of Spanish tener, the language’s most common verb expressing possession, by discussing four examples of bleached or grammaticalized uses. Those examples will be presented as structural templates,

The word tener, from the Latin tenēre (‘to hold, keep, grasp’) has since replaced haber as the primary verb with the meaning ‘to have’ in the possessive sense (Langacker, 2009b). In spite of this replacement, it seems that tener has also become vulnerable to the same type of change as haber and is therefore undergoing a process of grammaticalization and semantic bleaching seen in other verbs of similar meaning and usage from other languages. As mentioned above, frequency likely plays a role in this process. Tener has become part of several common expressions that could be considered “chunks” of words that are stored and used together as units (Bybee, 2010). Some of those expressions (not all) include the following:

- Tener hambre/sed
- Tener frío/calor
- Tener sueño
- Tener suerte
- Tener razón
- Tener ganas
- Tener prisa
- Tener celos
- Tener cuidado
- Tener miedo

Expressions with tener are so common that they are often preferred over a construction with a copulative verb (i.e., ‘to be’) and an adjective, as in English, to describe both physical and psychological states.

- I’m hot/cold.
- I’m hungry/thirsty.
- She’s jealous.
- You’re lucky.
- You’re right.
- They’re afraid

For that reason, they are widely considered to be idioms:\ “fixed expressions . . . whose figurative meaning is not clear from the literal meaning of their individual words” (Abel, 2003, p. 329). The individual words do not contribute to the overall meaning and are not syntactically

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1 Saporta (1990) suggests that this belief is erroneous; the fact that the Spanish phrases do not have a structure parallel to that of the English equivalents does not mean they are idiomatic. However, they will be viewed as idiomatic in this study.
or grammatically invariable (Grant & Bauer, 2004). The idea here is that the vulnerability of tener to semantic bleaching should not be unexpected if Bybee’s (2007) claims about frequency are upheld. It is evident that the verb has come to be used in constructions that are not meant to communicate the idea of literal possession of an object. This is even more apparent when a third element is part of the construction, such as a prepositional phrase or an adjective.

(1) (a) Tenerlo en cuenta
    - Lo tendré en cuenta
(b) Tenerlo presente
    - Ténganlo presente

The most common constructions that include tener are transitive (as opposed to ditransitive) and thus have two parts: a possessor and something possessed. The basic structure could be described with the following template, containing semantic and syntactic interpretations:

<table>
<thead>
<tr>
<th></th>
<th>X</th>
<th>TENER</th>
<th>Y</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Semantics:</strong></td>
<td>Possessor</td>
<td>POSSESSES</td>
<td>Possessed</td>
</tr>
<tr>
<td><strong>Syntax:</strong></td>
<td>Subject</td>
<td>Verb</td>
<td>Direct Object</td>
</tr>
</tbody>
</table>

With these two elements, constructions like the ones below are considered complete.

(2) (a) Ella tiene un libro verde.
    (b) Los niños tienen varias tareas.
    (c) (Yo) Tengo tres carros.

However, some constructions feel incomplete without a third element. Consider the following examples:

(3) (a) Tengo a los hijos enfermos.
    (b) Me tiene por gracioso.
    (c) Esa niña me tiene enloquecida
    (d) Me tiene harto esta tarea.
In these sentences, an adjective or prepositional phrase appears to be an essential part of the construction; without them, something is lacking. If a speaker were to say only, “Me tiene,” the hearer would likely be left asking, “Te tiene . . . ¿qué?” Or perhaps they would ask, “¿Cómo te tiene?” The verb is serving different semantic functions in these contexts.

The sentences that are complete with two elements generally preserve a more concrete semantic quality associated with possession, apart from common idioms like those listed above. The idiomatic expressions, in spite of being considered examples of bleached usage, still have a two-element structure. Sentences with three elements, however, demonstrate a different type of flexibility in usage that is representative of an additional branch of grammaticalization. Despite the frequency-induced alterations, it is still possible to find possible semantic remnants of the idea of possession in these three-element examples. In the following sections, four construction types which demonstrate a continuing departure from the semantic origins of tener will be examined. In addition, comments on possible connections to the earlier or more prototypical (which will be defined in a later section) lexical content of the verb will be included.

Previous Work on Tener

Before the analysis of the four tener constructions, a brief summary of past work on tener has been included. Some of the works mentioned below are simply descriptions of the syntactic and semantic contexts in which usage of tener has been observed, and the authors of these works make little to no effort to identify overarching principles that describe such usage; therefore, they have preferred lists of rules or guidelines. However, all of the works may serve in some manner as foundational information for additional investigation.

The Real Academia Española has produced extensive documentation of constructions involving tener and some accompanying explanation in its Nueva gramática de la lengua
Española (2009). Contributors have written on tener as a “verb of support,” the polarity items that appear with the verb in positive and negative expressions, grammatical rules for its use with participles and gerunds, its appearance in temporal expressions, its use in periphrastic constructions (as explained in the discussion of haber, which includes the presence or absence of agreement between participles and direct objects), its use with que as a unit (also covered thoroughly by Olbertz, 1998), and a vague description of the unit tener a in “construcciones presentativas encabezadas por complementos locativos” (p. 2642). The role of word order in interpretation is also addressed in several sections dealing with tener usage.

Olbertz (1998) presents tener within a functional grammar frame. In addition to contributing historical information, she discusses synchronically the periphrastic and lexical readings of grammatical constructions involving tener and describes the semantic modifications that come with changes in the prepositions or conjunctions accompanying it. She also explains how word order can contribute to the type of reading (periphrastic or lexical).

Cecil Miles and Romelia Arciniegas (1983) present a list of contexts in which the use of tener a is mandatory (e.g., before redundant personal pronouns or indefinite pronouns) or in which there is a strong tendency to use it (e.g., before possessive adjectives); their analysis, however, is largely based on syntactic considerations. They only mention one example set at the end of their article to introduce semantic considerations, on which they do not elaborate. The work of Laca (1987), referenced in Torrego Salcedo (1999), further discusses the subtle differences between the contexts in which tener and tener a would be used. Future investigations of more abstract uses of tener in situations with a less obvious semantic quality of possession would contribute to our understanding of the conditions surrounding such usage. One phrase in
particular that does not easily fit in any of the templates proposed in this work, and therefore warrants additional investigation, is tener a alguien olvidado\(^2\).

Some work has examined tener with both semantic and syntactic considerations that go beyond simple descriptions. Harre (1991) offers a thorough exploration of all the types and interpretations of the tener + participle construction, including those that are not directly relevant to the construction types examined in this work (however, the analysis here and that of Harre do not share the same theoretical framework). Saporta (1990) provides a brief treatment of the relationship between dar and tener, highlighting the conditions that permit or prohibit parallel structures with the verbs. Another previous study (Hilferty & Valenzuela, 2001) examined the complements of tener and the forms of those complements which have been deemed “grammatical” or “ungrammatical.” This study was based on Lakoff’s (1987) concept of the idealized cognitive model (explained in more detail below), and the authors therefore used the idea to discuss the syntactic and semantics constraints on the kinds of arguments and accompanying determiners that can be used as complements with tener. All of the examples in the study, however, were of the two-element variety described above (i.e., those in which tener retains a clearer semantic meaning of possession in the typical transitive format).

_Haber: An Example from the History of Spanish_

Historical analyses are a particularly illustrative part of the previous work on tener and are usually presented along with details of the development of its predecessor haber. Before examining tener constructions, a discussion haber can be helpful as a demonstration of a verb of possession’s process of grammaticalization. Both Penny (2014) and Olbertz (1998) call attention

\(^2\) Although Harre (1991) does not propose Construction Grammar templates, the list of semantic categories she proposes (pp. 7-11) may be useful as a foundation for creating one for this particular tener structure. Olbertz (1998) may also serve a supporting role in this respect (pp. 352-357).
to four main steps or stages in this development, in which the transition from verb of possession to morpheme of perfect aspect took place (and consequently produced a loss of the concept of possession).

According to Penny’s (2014, pp. 193-195) detailed description of Latin’s transformation into Spanish, the introduction of forms that could indicate perfect aspect—that is, one in which a past action still has present relevance—without ambiguity was the result of a multi-step aspectual development that began in spoken Latin. This process, which gave rise to the periphrastic perfect form, began with transitive verbs and consisted in the structure HABEŌ (*tengo*) + participle. The example that Penny (2014) uses to illustrate this change is HABEŌ CULTELLUM COMPARĀTUM, which translates approximately to *el cuchillo lo tengo comprado*. The direct object (CULTELLUM) had a participle that agreed with it (COMPARĀTUM), indicating that the participle described the resulting condition of the object from a former action (in this case, *la compra*). The use of a present tense expression of possession (expressed by HABEŌ) implied that the action (COMPARĀTUM) still had some relevance in the present period of time. It therefore roughly translated to *he comprado el cuchillo*, the equivalent of one of the meanings of COMPARĀVĪ (*compré*; ‘I bought’) CULTELLUM; therefore, the introduction of the periphrastic construction with HABEŌ made possible the explicit distinction between HABEŌ COMPARĀTUM (*he comprado*; ‘I have bought’) and COMPARĀVĪ, widely translated as the preterit (*compré*; ‘I bought’).

Despite this introduction of a less-prototypical usage of HABEŌ, the prototypical meaning of possession was not lost immediately. The second stage in the semantic departure of HABEŌ occurred when this structure began to be used with participles that were logically incompatible with the notion of possession, as in HABEŌ ILLUD AUDĪTUM (*lo he oído*). The
existence of examples of HABEÔ + participle that do not have a tangible direct object (what Penny would call *patente*), such as HABEÔ INTELLECTUM instead of INTELLEXĪ (*he entendido* instead of *entendi*), demonstrates a grammaticalized use of HABEÔ, and consequently a separation from the prototype.

However, for a few centuries, speakers did not forget that the participle had historically been related to or connected with a direct object and therefore needed to agree in gender and number with it. Therefore, the spoken Latin structure HABEÔ VACCĀS COMPARĀTĀS was maintained in medieval Spanish as *he compradas unas vacas* and was abandoned only gradually.

Once the HABEÔ + participle structure was established in spoken Latin to express the perfect aspect for transitive verbs (and the *ser* + participle structure was established for intransitive verbs3), speakers were free to use these structures in other tenses, modes, and numbers. The extension of the HABEÔ + participle structure to other tenses, such as the pluperfect, caused a replacement over time of old synthetic forms with new periphrastic forms. To illustrate, Penny (2014) uses the example of CANTĀVERAM (the synthetic pluperfect) becoming HABĒBAM CANTĀTUM (the periphrastic pluperfect, an imperfect conjugation with a participle); both are expressions of the modern Spanish (*yo*) *había cantado*. This transition was not complete until the end of the 15th century.

The next step in the change of *haber* was its extension to use with intransitive verbs. Since the transitive nature of verbs of possession is a key factor in their prototypical usage, their use with verbs that take no direct object represented further abstraction in meaning. Very few examples of intransitive participles with *haber* appear in texts from before the 16th century;

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3 The use of *haber* + participle was restricted to transitive verbs during the Middle Ages, during which time the perfect aspect of intransitive verbs was expressed by *ser* + participle, where the participle normally agreed with the verbal subject (e.g., *salida es, venidos son, llegadas son*) (Penny, 2014).
therefore, that century was the primary period during which the *haber* + participle construction became the standard for the perfect aspect expression of all Spanish verbs (see Penny, 2014, pp. 193-195; Olbertz, 1998, p. 314; see also Harre, 1991, pp. 113-119; Torroja de Bone, 2006, pp. 561-564).

Although *tener* seems to be following in the footsteps of *haber*, Olbertz (1998) says that *tener* might actually be a counterexample of the unidirectionality of grammaticalization, an idea presented by Hopper and Traugott (2003). “Unidirectionality” implies that words only shift from lexical usage to grammatical usage; however, *tener* serves as an example of how it is possible for a semantically bleached word to become less bleached. According to Olbertz (1998), it once behaved more periphrastically, like the Portuguese cognate *ter* (which had become the predominant auxiliary at the expense of *haver*, the Portuguese cognate of *haber*4), at one point even being used with participles that no longer agreed in gender and number with the direct object. This was due to increased contact between the two languages during the 14th and 15th centuries, but *tener* later “backtracked” in its grammaticalization journey. This reduction of periphrastic usage in Spanish seems to have resulted from a decrease in contact between kingdoms after a period of greater interaction. This reversal, therefore, means that linguistic units are capable of semantic movement towards prototypical usage after previously moving away.

Harre (1991) also calls attention to the fact that cognates in other Romance varieties have appeared to follow similar paths of development but are still distinct synchronically due to their differential positions along a lexical-grammatical use continuum.

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4 Harre (1991) explains that *haber* + participle and *tener* + participle had an overlapping period of periphrastic usage in medieval Spanish (which Torroja de Bone, 2006, affirms); however, even at its peak usage, the *tener* construction was considerably less frequent than the corresponding construction with *haber* (p. 113).
Construction Grammar

In addition to the literature summarized above, a brief explanation of Construction Grammar as a theoretical basis is useful in preparation for examining semantic templates containing tener. This framework posits that semantic elements are connected to syntactic forms in form-meaning pairs and therefore contribute to the shape that grammatical structures take. The concept of Construction Grammar is based on a Cognitive Grammar theoretical framework; these ideas are further elaborated in works by George Lakoff (e.g., 1987), Ronald Langacker (e.g., 1987, 1991, 2003, 2008, 2009a, 2009b), and Adele Goldberg (e.g., 1995, 2003, 2006, 2009). Although Langacker (2009a) has treated “Cognitive Grammar” and “Cognitive Construction Grammar” as separate entities, the latter having a basis in the works of Goldberg mentioned above, the two share a perspective that opposes that of generative grammar, in which an unconstrained relationship between syntax and semantics is posited.

Chomsky (1957), to support a generative viewpoint, has argued that even if a structure is semantically nonsensical, the utterance should be considered grammatical as long as words or elements of a certain category fill the correct positions or slots in a syntactic framework. He uses the following sentence as an example:

- Colorless green ideas sleep furiously (p. 15).

In their discussion of a functionalist approach to language, Bates and MacWhinney (1989) describe a subsequent generativist argument (Chomsky, 1975) as one supporting “a kind of autonomy of syntax that would cut it off from the pressure of communicative functions,” meaning that while structure and meaning may be related, the syntactic form is not dependent on the semantic content. Lakoff (1987), however, in one of the foundational works for the Cognitive Grammar approach to linguistics, would later say in response, “no autonomous syntax (of the
sort required by generative grammar) could in principle be supplied with an adequate theory of meaning. A theory of grammar that takes syntax as the study of uninterpreted formal symbols will forever be meaningless” (p. 256). Due to this view observation (and subsequent supporting publications referenced in this paper), the generative approach is also rejected here.

This analysis utilizes principles of Construction Grammar to show how tener can be used as part of at least four different semantic templates. Goldberg (1995) explains that the meaning derived from a construction is not simply the sum of its lexical parts; certain constructions can have a meaning that has only a distant relationship, or perhaps no relationship at all, to the most common or traditionally understood definitions of its constituent parts. Linguistic theories such as those of Chomsky (1981) and Bresnan (1982) present models in which verbs take primary responsibility for the form of grammatical structures due to theta role arrays, in which a verb always calls for a specific number of arguments of particular types. Goldberg (1995), however, shows that the same verb may be used in several different argument structures. The construction itself carries a meaning, independently of the words in the sentence; therefore, the structure produced helps us understand the intended meaning (pp. 1, 11). Despite this fact, semantic connections between the individual elements of the sentence, especially the verb, and the construction template are possible (although perhaps tenuous). Goldberg (1995) elaborates on this idea in the following manner:

[A verb] is associated with one or a few basic senses which must be integrated into the meaning of the construction. . . . Instead of positing a new sense every time a new syntactic configuration is encountered, . . . a constructional approach requires that the issue of the interaction between verb meaning and constructional meaning be addressed. (pp. 11-12)
Lakoff (1987) discusses the idea of conceptual categories and prototypes in linguistics: each category has a most frequent or prototypical example at its center. These prototype effects can occur “at every level of language, from phonology to morphology to syntax to the lexicon” (p. 67). Within this framework, the prototypical use of tener involving two arguments—the “possessor” and the “possessed” (be they literal or abstract possessions)—represents the most straightforward use of the verb. As uses of tener depart further and further from this central model, the semantic value, and the syntactic structure associated with it, also depart further from the basic meaning and form. It is argued in the present work that the grammaticalization of tener is a manifestation of its distancing of form and meaning from the prototype. Although the uses of a linguistic unit (morpheme, constituent, clause, etc.) may be on the fringes of a conceptual category, and therefore may make it difficult to establish connections with the center, Lakoff posits that such extensions of meaning are “motivated.” Langacker (1988) describes what “motivation” means in this context:

. . . Each member is connected to the prototype either directly or through a series of intermediaries; members thus form chains radiating outward from the prototype. Every member-to-member link is motivated; i.e., it represents an extension that is natural in view of linguistic, cultural, or cognitive factors. Of course, when distant members are directly compared, there appears to be no basis for their belonging to the same category. (p. 386)

The RAE’s (2009) discussion of periphrastic uses of tener, while not as heavily based in linguistic theory like the publications mentioned above, also asserts that such usage constitutes a preservation, in abstract form, of remainders from its original meaning, despite the fact that such
tener constructions may have acquired a value of considerable distance (speaking metaphorically) from the notion of “possession” or “belonging” (p. 2220).

Goldberg (1995) also addresses the “profiling” of certain roles or arguments, or the emphasis on such, explaining the reasons for which they are obligatorily expressed. These roles have a particular salience due to the semantic frame presented by a verb. In other words, the prototypical scene evoked by a verb calls for these salient roles to be expressed explicitly. As mentioned above, in the case of tener, a “possessor” and a “possessed” are always expected. Although a possessor (using a semantic viewpoint) or subject (using a syntactic viewpoint) may not be overtly expressed, the conjugation of the verb provides the information necessary for awareness of some possessing party. The “possessed” role, in contrast, must always be present in a sentence. What is unique about the uses of tener highlighted in this work is that the example sentences in which the verb appears all have a third element, when only two are generally expected or necessary. Goldberg (1995) explains that when certain constructions (and therefore their accompanying templates) call for a specific number of expressed roles, they can add an element to a sentence even when the primary verb of that sentence normally emphasizes a different number of components (i.e., if tener is inserted in a construction that has three roles, it will appear with three despite its more prototypical use with two roles). This work proposes templates that express the overall meaning of constructions in which tener appears as the primary verb but which do not represent prototypical use, in addition to proposing possible semantic connections between those construction meanings and the primary lexical sense of the verb.
Tener vs. Tener a

The first three-element construction set warranting a closer look is that characterized by the use of tener a. Tener is unique in that it does not usually require personal a with human objects (or other definite animate subjects) where other verbs would require it.

(4) (a) Tengo dos hijas.
         (b) Veo a mis dos hijas.

This demonstrates that the unit tener a represents a less prototypical usage, and sentences containing the pairing are of particular interest in this work because they provide an example of a case in which the verb tener no longer has an explicitly possessive meaning when contrasted with examples that do not have the personal a. Consider the following sentences:

(5) (a) Tengo un gato.
         (b) Tengo al gato enfermo.

In the first, the idea of possession is clear and explicit, but in the second, something different is being communicated. When a speaker uses a sentence like the second one, what is programmed into such a construction semantically? Why not just say, “Mi gato está enfermo”? It is proposed here that the unit tener a is used to emphasize or declare the investment of another party in a situation, or ownership in a connection or relationship. How does this relate to the idea of possession? One possible theory is that owners invest in their possessions and therefore have some degree of interest in things that belong to them. In addition, the idea of ownership in general extends beyond just owning items to owning a connection (emotional, of responsibility, etc.) to them. The second sentence permits the expression of the owner’s role in the situation, or his or her attachment to the condition of the cat.

Besides incorporating a sense of investment, it appears that this construction also serves to promote a subject to a greater place of importance or involvement in the scenario described by
the sentence. Torrego Salcedo (1999) supports this idea, claiming that the use of tener with a assigns some responsibility to the subject of the statement (p. 1793). Consider the difference between the following sentences:

(6) (a) Tengo al gato enfermo.
(b) El/Mi gato está enfermo.

The first sentence above gives attention to the owner of the cat, while the second seems to be focused primarily on the cat; in other words, in the first, attention is drawn to the owner and his or her stake in the condition described. Put most simply, the first is about the owner, and the second is about the cat. This construction is not restricted to describing only the physical condition of the theme, but can also refer to Y’s location, as in Tengo a mi hermana en Nueva York. The subject’s connection to the sister and her whereabouts is programmed into the sentence.

A possible template for this kind of construction is found below:

<table>
<thead>
<tr>
<th>X</th>
<th>TENER A</th>
<th>Y</th>
<th>( . . . ) Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semantics:</td>
<td>Possessor</td>
<td>HAS STAKE IN THE FACT THAT</td>
<td>Possessed</td>
</tr>
<tr>
<td>Syntax:</td>
<td>Subject</td>
<td>Verb + a</td>
<td>Direct Object</td>
</tr>
</tbody>
</table>

The Real Academia Española (2005) adds that the use of a with tener denotes that the condition filling the Z slot is a transitory state. Taking into account this possible temporal element of tener a, an alternative template is:
According to the templates, the subject does end up “having” something (albeit an abstract concept): stake in the situation.

¿Qué me tiene?: Tener and Attributed Experiences

A second construction type uses tener as a verb attributing the possessor’s state or experience to another party or element. The possessed in this type of use is more abstract in nature because it represents a condition or phenomenon to which the possessor is subjected. This type of construction is part of the following examples:

(7) (a) Ya no le tenía miedo como cuando la vio por primera vez . . .
(b) Claro que [ella] le tiene cariño [a él]; no faltaba más . . .
(c) Aquí no me quieren, me tienen envidia porque soy la Reina de España.
(d) González de Moreno enfatizó que no le tiene miedo a la cárcel . . .

The possessor’s experience is connected to the third element, which may be an animate party or inanimate argument. This class of tener usage is similar to the idiomatic expressions mentioned previously (tener suerte, tener prisa, tener celos, etc.); however, the construction adds the dimension of a third element like the other structures highlighted in this study. The third component, instead of being a modifier of the direct object, is an indirect object that has a causal relationship with the subject’s situation. These ideas are laid out in the following template:
The meaning behind the sentences above could be concisely summarized in the following template:\footnote{Although the possessed/object is expressed before the verb in the list of examples, due to the placement of object pronouns in Spanish, the template places the possessed/object after tener where an explicitly expressed object (one not expressed in pronominal form) would be placed.}:

<table>
<thead>
<tr>
<th>X</th>
<th>TENER</th>
<th>Y</th>
<th>A Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semantics:</td>
<td>Possessor</td>
<td>EXPERIENCES/IS EXPERIENCING</td>
<td>Possessed</td>
</tr>
<tr>
<td>Syntax:</td>
<td>Subject</td>
<td>Verb</td>
<td>Direct Object</td>
</tr>
</tbody>
</table>

\textit{Tener por: Construction of Consideration}

The third construction of interest is that formed with the verb-preposition pairing tener por. This unit communicates the same idea as the verb considerar. Some examples of this usage are found below:

(8) (a) Me tienen por perezoso  
(b) No me tiene por hijo  
(c) Me tengo por culpable  
(d) Me tienen por venturosa  
(e) Me tengo por un defensor absoluto  
(f) Yo lo tengo por un desafío a los hechos  
(g) El mundo lo tenía por loco
In the third and fifth items, X and Y have the same referent, since the subject considers him or herself (as the object of the preposition) to be Z. The element Z may be an adjective or a noun, as is seen in the examples.

Some questions of interest also arise from the use of this construction. How does the idea of possession still linger in tener por? The entry for tener in the Diccionario de Autoridades (1739), considered the earliest predecessor of the Real Academia Española’s Diccionario de la lengua española, lists juzgar (‘to judge’), entender (‘to understand’), and estimar (‘to consider/deem’) as meanings, even adding that por commonly appeared in cases of the first two.

Another possible explanation is that the subject of a sentence “has” the notion that the modifying element Z applies to the theme (i.e., the object of the preposition); the subject has the object figuratively placed in the role or condition occupying the Z slot. This usage may also be connected to the older, archaic meaning of tener, when, as previously mentioned, it meant ‘to hold, grasp’ (Langacker, 2009b). The subject metaphorically ‘holds’ someone in the role or condition of Z. Many uses of this type of construction seem to have a negative connotation in English (e.g., ‘hold prisoner,’ ‘hold in contempt’), which could be due to the fact that ‘holding’ is viewed as firm and restrictive; the subject is preventing the theme’s escape from an undesirable condition or portrayal. If such a metaphorical connection exists, this description would contribute to additional discussion of ‘hold’ and related words as lexical items experiencing a process of grammaticalization. This can be seen in additional English expressions like ‘hold someone responsible/accountable,’ or to ‘hold’ someone or something ‘in high regard.’

Although not directly relevant to the discussion of tener, some additional questions regarding the use of por in this construction are worth considering here. Why is por the preposition that accompanies tener? What meaning of por would fit in this situation? One
possibility is provided here. The use of *por* as an indicator of approximate location, be it spatial or temporal, might have connections to this construction. The use of *por* is considered “less precise” than that of other prepositions, such as *en*, in certain situations (Butt & Benjamin, 2004, p. 510). The subject may metaphorically place the object in the approximate vicinity of whatever role or condition fills the Z slot. The use of this construction does not seem to offer a concrete confirmation of the subject’s consideration as fact without additional context; rather, it seems to carry the sense that the subject’s consideration or belief does not reflect the truth. The use of a verb like *saber* would imply more certainty, as in *sé que soy culpable*, when compared to the example *me tengo por culpable*. In the latter, an underlying feeling remains that any belief is only a notion, and may therefore only be “around” the truth in the same way that arguments accompanying the expressions *por aquí* and *por ahí* are ‘around here’ or ‘around there’ (Butt & Benjamin, 2004, p. 511). Another possibility for the presence of *por* is cause; one party’s consideration of another could be influenced by a previous event or pre-existing reason. Despite these potential connections, it is also possible that the use of *por* is entirely arbitrary and came about simply because of speakers’ historical preference of it over other prepositions in this construction. Further analysis of phrasal or prepositional verbs such as this one is a task best left for future study.

Future exploration of *tener por* may reveal more insight into semantic connections. However, given the considerations above, possible alternatives to the first template are:
In addition to the construction types listed above, another variety incorporates tener, now as a verb of ongoing influence. Of the four tener constructions discussed in this work, it is the one that has been discussed most thoroughly among the previous publications referenced here.

This class of construction communicates the idea of forcing or causing someone to be in a certain state or condition and has an imperfective aspect. According to Radden and Dirven (2007), the notion of possession can be dynamic and relate to action (p. 281). Consider the examples below:

(9) (a) La decadencia es un fantasma que me tiene casi obsesionado.
    (b) Eso hasta ahora me tiene más o menos contenta.
    (c) A mí lo que me tiene indignado es . . . el descuido con que se está hablando ahora.
    (d) [Él] acababa de echar el [escribiente], un sinvergüenza que lo tenía cansado . . .
In all four cases, something is causing the individuals (serving as objects in the sentences), in a continuous way, to be in a particular state. A possible template for this type of use has been included below:

<table>
<thead>
<tr>
<th>Semantics:</th>
<th>X</th>
<th>TENER</th>
<th>Y</th>
<th>( . . . ) Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>Possessor</td>
<td></td>
<td>IS CAUSING</td>
<td>Possessed</td>
<td>TO BE IN State/Condition</td>
</tr>
<tr>
<td>Syntax:</td>
<td>Subject</td>
<td>Verb</td>
<td>Direct Object</td>
<td>Predicated modifier of Direct Object</td>
</tr>
</tbody>
</table>

According to Harre (1991), the use of tener + participle has been present in Spanish from the earliest literary texts. Although it initially was restricted to a lexical function, exclusively periphrastic6 examples had appeared by the end of the 15th century and increased in frequency until a rapid decline in the 17th century (Harre, 1991, p. 121). This decline has been attributed to the previously mentioned decrease in language contact between Spain and Portugal (Olbertz, 1998).

The third element, Z, does not have to be an adjective, though, as can be seen in sentences such as the following:

(10) (a) Los tenía llorando por su cuento.
(b) La tengo escribiendo mis cartas.
(c) A la hora de tu programa me tenían haciendo turismo carcelario . . .

These two examples have a gerund, with an adverbial function (or perhaps adverbial adjectival; see Luján, 1980), in the Z slot. With that said, the third element, regardless of its type (participle, other adjective type, or gerund), should be considered an argument along with the subject and the object because the meaning of the sentence is incomplete without it (Olbertz, 1998).

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6 “Periphrastic,” in this work, is always meant as a reference to the use of tener as an auxiliary verb in perfect constructions.
The prevalence of the imperfective interpretation of the construction becomes clearer after doing a historical corpus search for the 18th and 19th centuries (Davies, 2017), which yields a high frequency of tokens containing either a present tense indicative conjugation (tengo, tiene, etc.) or an imperfect indicative conjugation (teníais, tenían, etc.) with a direct object pronoun (76.7%). According to Harre (1991), usage of the tener + past participle construction that expresses present duration (i.e., an event or situation that is ongoing) is the most acceptable type, while examples of the construction that describe a resultant state or past action are said to have an acceptability that is “significantly reduced” (p. 93). Despite this observation, instances in which a resultative state is communicated, although less frequent, are not impossible, and Olbertz (1998) provides some examples (p. 352-358). Even though cases with a preterit conjugation are very infrequent (7.9% of tokens in Davies, 2017), they do exist and usually signal the beginning of the condition filling the Z slot (e.g., hasta que me tuvo apretada); this type of use, albeit uncommon with the tener + participle construction, is still consistent with the description of the preterit presented in reference grammars like the one compiled by Butt and Benjamin (2004).

As in the case of tener a discussed above, the idea of having stake in a situation seems to be relevant here; therefore, the two construction types share the same proposed lexical remnants. However, the role of the subject in this most recent set of examples is primarily active. The examples from the earlier tener vs. tener a section have subjects in a more passive role (referring to state of activity, not sentence structure). In this third construction, the subject is actively responsible for the condition or state of Y and is therefore invested in (in the case of animate subjects), or connected to (in the case of inanimate subjects), the scenario. However, while the role of the subject(s) is apparent, our attention is easily drawn to the theme; it seems easier to say
that the sentence places the focus on the theme, or whatever is being acted upon. According to the RAE’s (2009) explanation of the tener + participle construction, the idea of possession or positive evaluation by the speaker, albeit abstract, is present (p. 2218).

Future Directions

As shown in the sections above, tener has been semantically bleached in constructions with a third element, unlike the more common transitive groupings containing only two parts. The discussion has covered how the idea of possession might still linger in the four different construction types, in addition to presenting possible semantic templates for those constructions with some related ideas of interest. A few suggestions for future directions in this area of research are found below.

Many opportunities exist for investigation within the context of cognitive linguistics. Other than Hilferty and Valenzuela (2001), virtually no work has been done on tener within the framework of Construction Grammar, largely due to the fact that the foundational literature comes from English texts (e.g., Goldberg, 1995, 2006). While offering some examples from other languages, including Spanish, these texts primarily employ English data sets to illustrate the principles discussed. Gonzálvez-García (e.g., 2009, 2010; with Boas, 2014) offers applications of principles of Construction Grammar to Spanish examples but does not specifically discuss constructions with tener; however, he does use Construction-Grammar-style templates like the ones in this work to illustrate other ideas. Harre (1991), while particularly detailed in her discussion of tener + participle, does not use a Construction Grammar approach to frame the content, leaving an opportunity to examine the concepts she includes from that perspective. Saporta (1990) does use Construction-Grammar-style templates in his treatment of
the semantic relationship between *dar* and *tener*, but the article does not focus exclusively on that topic and therefore could be examined more closely.

An additional area of possible investigation is that of *por* and other prepositions used with *tener* in chunks. Bybee (2010) has examined the phenomenon of chunking, especially as it relates to frequency of usage, but analyses specifically focusing on *tener* + preposition pairings are essentially limited to those given by the RAE (2009), which are not presented within the framework outlined by Bybee. Although a possible explanation for the use of *por* in the second construction type has been offered in this work, much more can be done to research semantic and etymological connections in fixed units. This is true not only in cases involving *tener*, but in instances of set verb-preposition units in general that fall outside of explanations of *régimen verbal*. According to Cano Aguilar (1999), *tener por* is one such case in which the verb-preposition combination is attributed to the sentence function it introduces rather than *régimen verbal* (p. 1841).

Another possible area of further investigation is that involving the types of elements or arguments that are “acceptable” in constructions with *tener*. The first type of structure discussed in this paper (*tener a*) involved only animate participants, but the others permitted a mix of animate and inanimate arguments. Additional investigation of expressions with inanimate objects (i.e., complements), which were not examined in this work, would also contribute to the dialogue. Sentences like *No la tengo hecha* (*la* referring to *una tarea*) are among the other possible types of usage of the *tener* + participle structure.7

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7 Such sentences resemble those considered to be the likely starting point for the grammaticalization of *haber* (Penny, 2014; Olbertz, 1998).
As far as *tener* is concerned, it is likely that the process of grammaticalization and semantic departure will continue in the future, although bidirectionality in semantic shifts on a lexical-grammatical usage scale is also possible. We will have to wait to see what new kinds of usage arise with the evolution of the Spanish language.
References


