

STAGE-LEVEL AND INDIVIDUAL-LEVEL DISTINCTION IN MORPHOLOGICAL VARIATION: AN EXAMPLE WITH VARIABLE *HABER* AGREEMENT

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ABSTRACT. This work examines the role of the stage-level (SL)/individual-level (IL) distinction applied to nouns in a case of morphosyntactic regularization in Spanish: variable reanalysis of the NP argument as subject in the presentational *haber* construction (*había/habían perros*). We conduct variationist, quantitative analyses on all instances of existential *haber* with a plural NP in corpora of spoken Puerto Rican Spanish (>500,000 words) to determine the linguistic factor groups that promote reanalysis and, hence, pluralized forms. Results of variable rule analyses reveal that the SL-IL distinction constrains the regularization. IL predicates significantly favor *haber* regularization (e.g., *habían muchas personas de las Antillas* ‘there were a lot of people from the Antillas’) whereas SL predicates significantly disfavor pluralized forms (*este año hubo menos tiros que en años pasados* ‘this year there were fewer shots fired than previous years’). These results are interpreted from within a usage-based framework in which the status of the noun introduced in the [*haber* + NP] construction, as either a likely or unlikely subject for *haber*, influences the analogical leveling. IL predicates are more prototypical nouns than SL predicates because the former are temporally persistent. IL predicates promote nouns’ candidacy as subjects over direct objects because prototypical subjects present two temporally-persistent characteristics: independent existence and referentiality. As a result, IL predicates increase the likelihood of reanalyzing the direct object as subject, thus triggering agreement of the verbal form with plural NPs. SL predicates, on the other hand, because they display low temporal stability, inhibit regularization.

Key Words. stage-Level/Individual-Level distinction; existential constructions; synchronic variation; *haber* regularization; Puerto Rican Spanish.

ABSTRACT. Este trabajo examina el papel de la distinción entre predicados de estadios y predicados de propiedades aplicada a los nombres en un caso de regularización morfosintáctica en español: reanálisis variable de la frase nominal argumental como sujeto en la construcción de *haber* existencial (*había/habían perros*). Realizamos un análisis cuantitativo variacionista de todos los ejemplos de *haber* existencial con una FN en plural en corpus de español puertorriqueño (>500.000 palabras) para determinar qué factores lingüísticos propician el reanálisis y, por lo tanto, las formas verbales en plural. Los resultados de los análisis de la regla variable revelan que la distinción entre predicados de estadios y predicados de propiedades restringe la regularización. Los predicados de propiedades favorecen significativamente la regularización de *haber* (p. ej. *habían muchas personas de las Antillas*), mientras que los predicados de estadios desfavorecen significativamente las formas en plural (*este año hubo menos tiros que en años pasados*). Estos resultados se interpretan desde una perspectiva basada en el uso en la que el estatus de los nombres que se introducen en la construcción [*haber* + FN] como sujetos probables o improbables de *haber* influye en la nivelación analógica. Los predicados de propiedades son nombres más prototípicos que los predicados de estadios porque son persistentes desde el punto de vista temporal. Los predicados de propiedades propician la reinterpretación del nombre como sujeto porque los sujetos prototípicos presentan dos características relacionadas con la persistencia temporal: existencia independiente y referencialidad. Por este motivo, los predicados de propiedades aumentan la probabilidad de reanalizar el objeto directo como sujeto y por lo tanto dan lugar a la concordancia de la forma verbal con las frases nominales en plural. Los predicados de estadios, por otra parte, inhiben la regularización porque presentan una estabilidad temporal baja.

Palabras clave. distinción entre predicados de propiedades y predicados de estadios; construcciones existenciales; variación sincrónica; regularización de *haber*; español de Puerto Rico.

ABSTRACT. Este traballo examina o papel da distinción entre predicados de estadios e predicados de propiedades aplicada aos nomes nun caso de regularización morfosintáctica en español: reanálise variable da frase nominal argumental como suxeito na construción de *haber* existencial (*había/habían perros*). Realizamos unha análise cuantitativa variacionista de todos os exemplos de *haber* existencial cunha FN en plural en corpus de español portorriqueño (>500.000 palabras) para determinar que factores lingüísticos propician a reanálise e, xa que logo, as formas verbais en plural. Os resultados das análises da regra variable amosan que a distinción entre predicados de estadios e predicados de propiedades restrinxe a regularización. Os predicados de propiedades favorecen significativamente a regularización de *haber* (p. ex. *habían muchas personas de las Antillas*), mentres que os predicados de estadios desfavorecen significativamente as formas en plural (*este año hubo menos tiros que en años pasados*). Estes resultados interprétanse dende unha perspectiva baseada no uso na que o estatus dos nomes que se introducen na construción [*haber* + FN] como suxeitos probables ou improbables de *haber* inflúe na nivelación analóxica. Os predicados de propiedades son nomes máis prototípicos cós predicados de estadios porque son persistentes dende o punto de vista temporal. Os predicados de propiedades propician a reinterpretación do nome como suxeito porque os suxeitos prototípicos presentan dúas características relacionadas coa persistencia temporal: existencia independente e referencialidade. Xa que logo, os predicados de propiedades aumentan a probabilidade de reanalizar o obxecto directo como suxeito e polo tanto dan lugar á concordancia da forma verbal coas frases nominais en plural. Os predicados de estadios, por outra parte, inhiben a regularización porque presentan unha estabilidade temporal baixa.

Palabras chave. distinción entre predicados de propiedades e predicados de estadios; construcións existenciais; variación sincrónica; regularización de *haber*; español de Porto Rico.

1. Introduction

In its original formulation (Carlson 1977), the semantic distinction between Individual-Level (IL) and Stage-Level (SL) predicates describes a cross-linguistic commonality in which some predicates express more permanent, immutable properties than others in which the properties expressed are more transient or changeable. This conceptual distinction has repercussions at the morphosyntactic level. Carlson (1977) shows that two predicates such as *naked* and *intelligent* provide different degrees of acceptability when combined with perception verbs, as is illustrated in examples (1) and (2).

- (1) He saw John naked
- (2) *He saw John intelligent

As can be seen in example (1), *naked* is acceptable after the object of a perception verb (*John*), while *intelligent* yields an unacceptable sequence in the same syntactic slot in (2). This difference in grammaticality judgments is argued to be a result of the SL-IL distinction.¹ The adjective *naked* expresses a transient property that is spatio-

¹ In fact, Milsark (1974) had already pointed out that some predicates, which he called *state-descriptive*, were compatible with existential *there*-constructions in English, whereas others, which he called *property* predicates, yield the existential construction as ungrammatical. Compare in this respect two of his examples: *there were people sick* and **there were people intelligent*. State-descriptive predicates correspond with what Carlson (1977) will call SL predicates, whereas property predicates correspond with Carlson's IL predicates.

temporally located even in the absence of explicit locative and temporal adverbials, and thus SL, while *intelligent* refers to a more permanent property, and thus IL.

In addition to secondary predications, cross-linguistic research has shown that the SL-IL distinction is relevant to account for the distribution of alienable and inalienable possession (Ogawa 2001), auxiliaries (Benedicto 2002; Koontz-Gaborden 2012), and copulas (Sulger 2011). Indeed, in Spanish this distinction has been used to explain grammatical phenomena such as small clauses² (Fernández Leborans 1995; Hernanz and Suñer 1999), secondary predicates (Demonte and Masullo 1999), and the *ser-estar* ('to be') contrast in copulative constructions (Clements 1988; Fernández Leborans 1999; Escandell-Vidal and Leonetti 2002; Marín 2004; Camacho 2012; Gumiel-Molina and Pérez Jiménez 2012). *Ser* typically combines with IL predicates while *estar* introduces SL predicates. However, as Camacho (2012: 471) notes, certain IL predicates can be contextually coerced³ into expressing a SL meaning. For example, *guapo* 'handsome' typically expresses an IL property and thus often combines with *ser*. However, a SL meaning can be coerced out of this form to express a transient property with *estar* (i.e.; *Paco no es guapo pero está guapo hoy* 'Paco is not handsome, but he looks handsome today').

McNally (1994, 1998) and Escandell-Vidal and Leonetti (2002) argue the permanent/transitory distinction that is generally associated with the SL-IL distinction (Carlson 1977) is actually a pragmatic inference. Rather than permanent properties, Escandell-Vidal and Leonetti (2002) maintain that IL predicates denote classificatory properties, whereas SL predicates denote episodic states. By classificatory properties, these authors mean "properties that are used to categorise individuals as belonging to a specific class" (Escandell-Vidal and Leonetti 2002: 160). Properties that are associated with a class tend to be long-lasting, but they are not necessarily permanent. For example, *young* is an IL predicate, since it refers to a classificatory property, but it is not a permanent property. In addition, Kratzer (1995), Chierchia (1995), and Maienborn (2004) note that locative and temporal adjuncts, which are typically associated with SL predicates, may also combine in discourse with IL predicates. For example, *blonde* is an IL predicate. However, it may be anchored in time, as in the following example: *when I was a child, I was blonde (but then my hair darkened)*.

The SL-IL distinction has been described as belonging to the category of inherent lexical aspect or Aktionsart (Leonetti 2004; Marín 2004, 2009; Camacho 2012), which can characterize lexical items such as adjectives, verbs and common nouns. SL predicates are bounded, that is to say, they refer to episodes with a beginning and an ending, whereas IL predicates are unbounded, i.e., they are temporally-persistent. From this perspective, the goal of this study is to explore the relevance of the SL-IL distinction in cases of morphosyntactic variation in Spanish and its potential role in

² Only SL predicates may occur in small clauses in Spanish. Compare (Fernández Leborans 1995: 378) *Muy triste Juan por todo lo ocurrido, decidió emprender un largo viaje* 'Being very sad because of everything that happened, Juan decided to take a long trip' with **Muy inteligente Pedro, rápidamente dio con la solución* '*Being very intelligent, Peter found the answer quickly'. *Triste* 'sad' is a SL predicate and hence may occur in small clauses, whereas *inteligente* 'intelligent' is an IL predicate and therefore cannot appear in small clauses.

³ The phenomenon of *coercion* is explained by Lauwers and Willems (2011: 1219) as "a *mismatch* [...] between the semantic properties of a selector (be it a construction, a word class, a temporal or aspectual marker) and the inherent semantic properties of a selected element, the latter being not expected in that particular context. The resulting semantic effect [...] is a compromise between the combinatorial constraints imposed by the language system and the flexibility (and creativity) allowed by the same system." Applied to the SL-IL distinction, coercion has been discussed by Kratzer (1995), Fernald (1999), and Escandell-Vidal and Leonetti (2002), *inter alia*.

language change. In this way, this work contributes to the body of research on the semantic SL-IL distinction through novel application to a case of synchronic variation. In line with Ogawa (2001), we will apply the SL-IL distinction to nominal predications, as they occur in the existential construction with *haber* in Spanish. In many varieties of Spanish, existential constructions with *haber* present two variants: in one, *haber* does not display verbal agreement with its noun phrase (NP) argument, whereas in the other, *haber* agrees in number and person with its NP argument. We will discuss this phenomenon of morphosyntactic variation using Puerto Rican data.

This work is organized as follows; Section 2 outlines salient points of the linguistic problem we investigate in the current work, namely, the variable pluralization of *haber* with plural NPs. In section 3, we detail our data and methods, followed by section 4 in which we present the results of our statistical analyses and explain the role of the SL-IL distinction in this case of synchronic variation. Lastly in section 5 we present our conclusions.

2. Background

Prescriptively, Spanish presentational *haber* ‘there (be)’ is used in the singular regardless of the number of the NP it introduces, as can be observed in examples (3) and (4) with the noun *problema/problemas* ‘problem/problems’:

- Cortés-Torres, Interview 3, 128
 (3) P: ... ¿no hubo ningún problema?
 ‘P... there wasn’t any problem?’
 Cortés-Torres, Interview 16, 46
 (4) B: Sí, hubo problemas.
 ‘B: Yes, there were problems (lit.: there was problems).’

However, this construction co-occurs in many varieties of Spanish with another in which plural NPs may trigger the use of a plural form of *haber*, as can be seen in examples (5) and (6):

- Cortés-Torres, Interview 11, 37
 (5) J: ...Sabes, hubieron tiendas que cerraron a las nueve
 ‘J... You know, there were stores that closed at nine’
 Cortés-Torres, Interview 15, 157
 (6) No, pero habían muchas hormigas y esas hormigas son de las que pican bueno
 ‘No, but there were a lot of ants, and of the type that really bite’

As is shown by DeMello (1991: 468), variable *haber* agreement is a pervasive phenomenon in contemporary spoken Spanish. In the Puerto Rican data we use for this study, plural NPs combine with plural forms of *haber* (*habían*, *hubieron*, *hayan*) in 44% (N=83) of the examples, and with singular forms of *haber* in 56% (N=107) of the examples. In fact, some NPs may occur both with singular and plural forms of *haber*, as the following examples illustrate with the noun *personas* ‘people’:

- (7) Davies, Habla Culta San Juan
 y entonces allí no había protección, porque no había nadie, había pocas personas, y allí fue el... el incidente grande, donde por poco queman esta gente

‘and back then there was no protection there, because there wasn’t anybody, there were few people, and the... the big incident was there, where they almost burnt those people’

Davies, *Habla Culta San Juan*

- (8) *Habían muchas personas de las Antillas.*
‘There were a lot of people from the Antilles’

The process of *haber* regularization entails a reanalysis of the grammatical relation of the NP argument (Waltereit and Detges 2008). The NP argument of *haber* is traditionally regarded as a direct object because, as is shown in examples (3) and (4) above, it does not trigger verbal concord, that is to say, *haber* always appears in the singular regardless of whether the NP occurs in the singular or in the plural (e.g., *hubo un problema / problemas* ‘there was a problem / there were problems’). In addition, like with any other Spanish direct object, the NP argument of *haber* may, in some contexts, be replaced by a clitic in the accusative case, as in the following example:

Davies, *Habla Culta San Juan*

- (9) ...*hay unas constantes, igual que las hubo en la dramaturgia griega*
‘there are some constant themes, as there were in Greek drama’

In (9), there are two constructions with *haber*. In the first construction, *haber* is in the present tense (*hay*) and its NP argument is *unas constantes* ‘some constant themes’. In the second construction, *haber* is in the preterit (*hubo*) and its NP argument is the feminine singular accusative clitic *las*, which is coreferential with *unas constantes* ‘some constant themes’ in the first clause.

However, there is an alternative construction in which *haber* agrees in number with its NP argument (e.g., *hubieron problemas* ‘there were problems’). This shows that the NP has undergone a process of reanalysis from direct object to subject, as is evidenced by verbal agreement. This reanalysis is promoted by the existence of constructions such as (10):

Constructed example

- (10) *Hubo un problema*
‘There was a problem’

In (10), the verbal form *hubo* ‘there was’ occurs in the singular form. This fact allows the speaker to reinterpret the NP as the subject of the construction. The occurrence of examples such as *hubieron problemas* ‘there were problems’, in which both the NP (*problemas*) and the verbal form *hubieron* occur in the third person plural, may be used as evidence that reanalysis has taken place. In such cases, the plural verbal form agrees in number with the plural NP referent, indicating the noun is no longer viewed by the speaker as the object, but rather the subject. Indeed, recent work (Brown and Rivas 2012) demonstrates that nouns most often used with subject function generally are precisely the nouns to most strongly trigger *haber* pluralization. Thus, the noun’s propensity and suitability as subject plays a pivotal role in a speaker’s likelihood to regularize *haber* with plural NPs.

The phenomenon of variable *haber* agreement has received a lot of attention in the literature ((Bentivoglio and Sedano 1989; DeMello 1991; Montes de Oca-Sicilia 1994; Domínguez, Guzmán, Moros, Pabón and Vilaín 1998; Díaz Campos 1999-2000, 2003; Freitas Barros 2004; D’Aquino Ruiz 2004, 2008; Castillo-Trelles 2007;

Quintanilla Aguilar 2009). However, as is noted by Bentivoglio and Sedano (2012), very little consensus has been reached, since studies differ in the significance of linguistic factors when accounting for this morpho-syntactic variation. In what follows, we will provide a summary of the findings reported in previous studies regarding this morphosyntactic variation. We will restrict our outline to linguistic factors.

One of the linguistic factors that has been argued to account for variable *haber* agreement is the human vs. non-human referent of the NP. Using data from Venezuelan varieties, Bentivoglio and Sedano (1989), Domínguez, Guzmán, Moros, Pabón and Vilaín (1998) and Díaz-Campos (1999-2000) report that an NP with a human referent tends to occur with pluralized forms of *haber*, whereas NPs with non-human referents typically occur with *haber* in the singular. According to DeMello (1991: 462) the same result also applies to San Juan, Santiago and Bogotá. However, more recent studies based on multi-regression analyses using Varbrul (Díaz-Campos 2003; D'Aquino Ruiz 2004) argue that the factor group +/- human NP does not significantly constrain variable *haber* agreement in Venezuelan Spanish. Similar results are reported for other varieties of Spanish such as México (Castillo-Trelles 2007) and El Salvador (Quintanilla-Aguilar 2009).⁴ Additionally, DeMello (1991) shows that in La Paz and Lima, non-human NPs pluralize more often than human NPs.

In addition to the factor +/- human NP, Bentivoglio and Sedano (1989) report that *haber* pluralization also correlates with the reinforcement of plurality markers (indefinites, quantifiers and coordinated NPs) in the NP argument, especially when the NP is inanimate. However, other authors such as Domínguez, Guzmán, Moros, Pabón and Vilaín (1998), and Díaz-Campos (1999-2000, 2003) do not find this factor to have an impact on the use of plural forms of *haber* in their Venezuelan corpora, and nor does Quintanilla-Aguilar (2009) in his corpus of casual conversation from El Salvador. In contrast, Castillo-Trelles (2007) indicates that the absence of quantifiers favors pluralization of *haber* in her corpus of Mexican Spanish.

D'Aquino Ruiz (2004) shows that polarity is also a conditioning factor for variable *haber* agreement in Spanish. Her Varbrul results, which are based on an oral corpus of Venezuelan Spanish, show that affirmative clauses favor the use of a plural form of *haber*, whereas negative clauses disfavor it. This linguistic factor has not been used in other studies with the exception of Quintanilla-Aguilar (2009), who reports that Varbrul does not select polarity as significant in his analysis of Spanish from El Salvador.

Finally, verb tense is the linguistic factor that has been almost consistently mentioned as conditioning regularization of *haber*.⁵ The imperfect tense (*había*) is argued to favor pluralization in different varieties of Spanish (Bentivoglio and Sedano 1989; DeMello 1991; Domínguez, Guzmán, Moros, Pabón and Vilaín 1998; Díaz-Campos 1999-2000, 2003; Quintanilla-Aguilar 2009), whereas preterit (*hubo*) and present (*hay*) tenses highly disfavor pluralized forms. Explanations for this cross-dialectal tendency are varied. Waltereit and Detges (2008) argue that regularization takes place in tenses with a low token frequency because high token frequency forms are more conservative due to their increased lexical strength and, therefore, less prone to participate in regularization processes (Bybee and Thompson 1997). According to

⁴ The result we report here corresponds with Quintanilla-Aguilar's (2009) analysis of casual conversations.

⁵ An exception is Castillo-Trelles (2007), who reports that tense is not selected as significant by Varbrul in her analysis of Mexican Spanish.

Waltereit and Detges (2008), the imperfect is the less frequent tense in the past, and hence regularization is more frequent with imperfect than with the preterit. Differences in paradigmatic relationships have also been implicated in this process of *haber* regularization (Del Rosario 1970; Bentivoglio and Sedano 1989; Hernández Díaz 2006). The difference in morphological shape of singular vs. plural in third person is more subtle in the imperfect (*había~habían*) than in the preterit (*hubo~hubieron*) in which considerably more phonetic material is added, and thus pluralization is said to be more easily applied to this imperfect paradigm.

Both of the previous arguments (role of word frequency, paradigmatic relationships) are supported by the lack of pluralized forms in the present indicative (*hay*) in varieties of Spanish with plural *haber* forms. On the one hand, the present tense form *hay* has a very high token frequency relative to the other forms, and such strong lexical entrenchment does not favor analogical extensions via regularization. Further, the form *hay* is already irregular (García 1986) within not just the *haber* paradigm, but within the inflectional morphology generally, and thus *hay* lacks an obvious plural counterpart.⁶

Nevertheless, the frequency explanation loses strength considering two facts. It is not at all clear that the preterit has a higher token frequency than the imperfect in Spanish. In fact, according to the *Corpus del español* (Davies 2002-), in oral Spanish the imperfect actually has a higher textual frequency (11,174 per million) than the preterit (10,576 per million). Indeed, if we only consider uses of *haber* as an existential verb (and not as an auxiliary), greater textual frequency of the imperfect over the preterit is even more apparent. In the Cortés-Torres corpus of Puerto Rican Spanish, the token frequency of the imperfect is considerably higher (619 per million) than the token frequency of the preterit (176 per million). In this same line, the paradigmatic explanation also presents some weaknesses since it has not been demonstrated that analogical changes are necessarily shaped in any predictable way by the addition of phonetic material. What, then, could account for the recurrent pattern of significant differences in rates of regularization across tenses?

The present work addresses this question by exploring the potential role of the SL-IL distinction in relation to tense in this phenomenon of morphosyntactic variation using naturally occurring data from Puerto Rican Spanish. We will show that the tense difference noted in previous research also holds in our data, but that it is indeed masking an underlying, more general, SL-IL distinction in the nominal predicates. We will show that IL nominal predicates favor pluralization. This is due to the fact that pluralization entails a change from direct object to subject grammatical relation, and IL predicates are better candidates to act as subjects. For this reason, IL predicates tend to trigger 'subject-verb' agreement (eg. *Habían gatos* 'there were cats') more often than SL predicates, as will be shown in more detail in our discussion. We outline our data and methods below.

3. Data and Methods

To elucidate this SL-IL distinction in the analogical extension of *haber*, we take a variationist approach (Poplack and Tagliamonte 2001) and, owing to the low textual frequency of presentational *haber* with plural nouns, use two oral corpora of Puerto Rican Spanish. One corpus is the online *Corpus del español* (Davies 2002-). Our examples are all taken from the oral section of Puerto Rican Spanish, which amounts

⁶ Some varieties of Spanish (Montes Giraldo 1983) do include pluralized forms in the present (e.g.; *hayn/hain, haen*), but these forms are not frequent and there are no instances in the Puerto Rican corpora we examine.

to 200,000 words. The other corpus we employ (Cortés-Torres 2005) is made up of casual, recorded conversations between native speakers of Puerto Rican Spanish and totals approximately 370,000 words representing 27 hours of speech. From both corpora, we extract all the examples of *haber* with a plural noun phrase (i.e.; those nouns that could possibly trigger pluralization). We exclude instances of the present indicative form *hay*, because it does not display variation. Altogether, this yields 190 examples of *haber* used with a plural NP.

In order to facilitate comparisons of our results with previous research, we code for linguistic factors found to be significant in some of the analyses of other varieties of Spanish mentioned above. These are the following:

a) +/- human NP: Comrie (1989: 191) points out that there is a cross-linguistic tendency for NPs occupying higher positions in the animacy hierarchy to trigger verbal agreement more often than less animate NPs. Human NPs are more salient than non-human NPs, and therefore more likely to trigger agreement, since agreement acts as an index for the salient participants of the construction (Croft 1986: 43). Thus, in order to determine if this characteristic of the noun motivates the regularization of *haber*, we code each noun as either human or non-human.

b) Definite vs. indefinite NP: Bentivoglio (1993: 222) points out that lexical subjects tend to be definite in Spanish. In this same line, Keenan (1976: 319) mentions that in some Bantu languages, such as Kinyarwanda, subjects must be definite. Since *haber* pluralization entails a reanalysis of the NP as subject (as outlined in section 2) we predict that definite NPs will be more likely to trigger pluralization than indefinite NPs. We thus code each of our examples as definite or indefinite. Following Du Bois (1980), we consider definiteness to be a grammatical category. NPs preceded by the definite article, a demonstrative or a possessive pronoun are definite NPs. All the other NPs are indefinite.

c) +/- numeral or indefinite quantifier in the NP: If *haber* pluralization is favored by increased saliency of plurality, the presence of plural markers such as numerals or indefinite quantifiers such as *algunos* ‘some’ would favor regularization. Conversely, the absence of such surface-level plural markers would not increase the probability of a pluralized form. For this reason we code each example for the presence or absence of numeric or indefinite quantifiers.

d) Tense of *haber* (preterit vs. others): we code each example for the tense of the verbal form of *haber*. For the quantitative analyses, we distinguish preterit vs. others, on the basis of their aspectual meanings. Preterit forms convey perfective aspect, whereas all the other tenses (the vast majority of which are imperfect forms) convey imperfective aspect.

e) Polarity: Du Bois (1980) indicates that negative clauses contain non-referential NPs, that is to say, NPs used to talk about the noun as a class and not as an object. Non-referential NPs are not sensitive to the singular/plural distinction. Therefore, in line with D’Aquino Ruiz (2004), we predict that affirmative clauses are more likely to trigger *haber* pluralization than negative clauses. For this reason, we code each example as affirmative or negative.

f) We also code each NP for a factor best understood from within the usage-based framework from which we approach this analysis: proportion of noun use as subject. Within the exemplar model (Bybee 2001), we assume that instances of use in both production and perception influence lexical representations of words and that speakers’ knowledge includes linguistic probabilities including the likelihood of a noun to be used in subject function. On this basis, we consider every noun that appears with *haber* in our corpora and its proportion of use with subject function

generally in the language (Brown and Rivas 2012). This calculation is determined by dividing the number of occurrences of a noun with subject function by the total number of times it appears in the corpus⁷ (tokens of use in subject function/total tokens of the noun). This data is discretized into three groups: high, medium and low. Tokens with values falling in the highest third are categorized as *high* (the noun is proportionally often used with subject function), those in the lowest third are categorized as *low*, and those in between are categorized as *medium*. Brown and Rivas (2012) show that the proportion of use as subject significantly predicts *haber* regularization. The more likely a noun is to be used in discourse with subject function generally, the more likely it is to trigger *haber* regularization. Brown and Rivas (2012) conclude the noun plays a pivotal role in the regularization of *haber*.

g) Given the importance of the noun in constraining this variation, the present study further explores the potential role of other characteristics of the noun by considering the role of the SL-IL distinction manifested in the nouns. We limit this classification to specifically the semantic characteristics of the noun, as either bounded (SL) or unbounded (IL). For example, event nouns are SL (Ogawa 2001), because they are temporally bounded, that is to say, they refer to events that have an understood beginning and ending. Consider in this respect examples (11) and (12) with the event nouns *elecciones* ‘elections’ and *ataques terroristas* ‘terrorist attacks’:

- Davies, Habla Culta San Juan
- (11) porque fue cuando hubo, este... las elecciones
‘because it was when there were, uhm... the elections’
Cortés-Torres, Interview 15, 67
- (12) Se cree que haya más ataques terroristas,
‘People believe there are going to be more terrorist attacks’

Other types of SL nouns include temporal nouns such as *días* ‘days’ and *años* ‘years’, nouns of communication or speech acts such as *anuncios* ‘announcements’, *comentarios* ‘comments’ — as in example (13) — and *chismes* ‘gossip’, as well as other deverbal nouns that also refer to bounded activities, such as *contradicciones* ‘contradictions’, as example (14) illustrates:

- Davies, Habla Culta San Juan
- (13) ha habido algunos comentarios
‘there have been some comments’
Davies, Habla Culta San Juan
- (14) Entonces hubo muchas contradicciones de los testigos
‘Then there were a lot of contradictions among the witnesses’

Conversely, nouns that have a preferential interpretation as beginning prior to and continuing past the point of reference of the predication are classified as IL. Some examples include *personas* ‘people’, *casas* ‘houses’ as well as *directores* ‘managers’, *superintendentes* ‘supervisors’ (example (15)) and *carros* ‘cars’, as example (16) illustrates:

⁷ For nouns whose overall token frequency was over 500, we only considered the first 500 occurrences.

- Davies, Habla Culta San Juan
- (15) pero también habían directores, superintendentes, ...
 ‘but there were also managers, supervisors, ...’
 Cortés-Torres, Interview 6, 106
- (16) habían ciento cincuenta mil carros en Puerto Rico
 ‘there were one hundred and fifty thousand cars in Puerto Rico’

Other nouns categorized as IL include animals such as *caballos* ‘horses’, concrete objects such as *baterías* ‘batteries’ and *empanadas* ‘empanadas’, and others such as *lavanderías* ‘laundrymats’.

We also find in the corpus some nouns that are not easily classifiable as IL or SL. Examples include: *cambios* ‘changes’ (N=2), *agencias de gobierno* ‘government offices’ and *puestos* ‘positions’. These nouns only constitute 2% of the data (N=4) and were excluded for this category from the quantitative analyses. The following section outlines the results of our quantitative and multiple regression analyses conducted on the *haber* + plural NP examples extracted from the two Puerto Rican corpora.

4. Results and Discussion

In order to determine which linguistic factor groups may favor pluralization of *haber* in Puerto Rican Spanish, we submit our data to a variable rule analysis using Varbrul (Rand and Sankoff 2001). This enables us to determine if a factor group makes an independent contribution to the analysis while controlling for all the other independent variables (Guy 1993). Through this analysis, we are able to determine the independent statistical significance of each factor group – determined by both a ‘p’ value and by the log likelihood (Sankoff 1988). Further, Varbrul enables us to determine the relative strength of each factor group. The greater the range of the factor group, the greater the magnitude of effect. The factor group with the greatest range, therefore, is the group that contributes most significantly to constraining the occurrence of a pluralized form of *haber*. Lastly, we can determine a constraint hierarchy through the Varbrul analyses. Within each factor group, the individual factors are ranked according to their factor weight. These weights reflect the degree to which they favor (> .50) or disfavor (< .50) the application of the dependent variable (in this case, pluralization of *haber*).

Table 1. *Linguistic factors favoring haber pluralization in the Puerto Rican corpora*

<i>Input</i>	.43		
Total:	190		
	% plural <i>haber</i>	Factor weight	% data
Proportion of use as subject			
High	56	.60	34
Medium	45	.54	34
Low	30	.36	32
	<i>Range</i>	24	

SL-IL distinction

IL	53	.59	55
SL	33	.40	45
	<i>Range</i>	<i>19</i>	

Log likelihood -118.414, χ^2 per cell = 1.0328, $p=0.032$

As is evident in Table 1, of the factors considered in the analysis (+/- human, definite vs. indefinite NP, +/- numeral or indefinite quantifier in the NP, tense, polarity, proportion of use as subject, SL-IL distinction), Varbrul selects as significant just two: proportion of noun use as subject and the SL-IL distinction. The usage-based factor group, proportion of noun use as subject, significantly constrains pluralization in our data. A noun frequently used as subject (e.g.; *estudiantes* ‘students’) favors pluralization at 56% and has a factor weight of .60, whereas nouns falling in the low range of percent use as subject (e.g.; *fraternidades* ‘fraternities’) highly disfavor pluralization (30%) with a factor weight of .36. Those nouns used with *haber* that fall in the mid-range (e.g.; *juguetes* ‘toys’) pluralize at a rate of 45% and only very slightly (factor weight .54) favor regularization. This result, which reflects syntactic probabilities, suggests the lexical representation of nouns contains grammatical relation probabilities in addition to other semantic information such as gender and number. This probabilistic knowledge of grammatical relations impacts *haber* regularization. The theoretical implications of this finding are discussed in Brown and Rivas (2012).

Importantly, the only other factor group that Varbrul selects as significant is the SL-IL distinction. The rate of pluralization of IL predicates is 53%, whereas SL predicates only pluralize in 33% of the cases. IL predicates favor pluralization with a factor weight of .59, whereas SL predicates disfavor pluralization with a factor weight of .40. Why would this be the case?

Our quantitative results show that the reanalysis of the NP from direct object to subject is promoted by IL nouns. The reason, we argue, is that IL nouns are more prototypical nouns than SL nouns. As is noted by Givón (2000), prototypical nouns have temporal stability, that is to say, “the properties of prototypical nouns change only little over repeated perceptual scans” (Givón 2000: 51). This characteristic is shared by IL nouns. IL nouns are also temporally stable, since they exist prior to and after the point of reference of the predication. In contrast, SL nouns are less prototypical nouns, since they show a low degree of temporal stability; they correspond with entities of relatively short duration.

Although both subjects and direct objects are typically realized by nouns (or NPs), temporally-stable (i.e., prototypical) nouns are more likely to occur in subject than in direct object function. As is noted by Keenan (1976: 312-313), one of the characteristics of prototypical subjects is independent existence, that is to say, subjects exist prior to the process expressed by the verb. In this respect, they differ from direct objects, which may be created by means of the activity expressed by the verb (e.g., *Pedro hizo un pastel* ‘Peter baked a cake’. *A cake* exists as a consequence of the activity of *baking*). In addition to this, discourse-based studies such as Thompson and Hopper (2001: 33) show that in casual conversation many nouns in direct object position are actually part of V-O compounds, that is to say, a lexicalized combination of a low-content verb and a non-referential noun. Examples are *have fun*,

*get sleep, make sense, have time, have a green card, etc.*⁸ As Du Bois (1980: 209) points out, non-referential nouns make reference to “the quality defined by the noun” and are in opposition to referential nouns, i.e., nouns that are “used to speak about an object as an object, with continuous identity over time.” Therefore, unlike non-referential nouns, referential nouns are also temporally-stable. And, as is noted by Keenan (1976: 319), prototypical subjects are referential nouns.

Two of the characteristics of prototypical subjects, namely, independent existence and referentiality, are concerned with temporal stability. Since temporal stability is the defining criterion of IL nouns, IL nouns are therefore better candidates to act as subjects than SL nouns. As a result, when IL nouns occur in the plural, they are more likely to trigger pluralization of *haber*, because verbal agreement is one of the defining characteristics of subjects in Spanish. Plural SL nouns, on the other hand, will tend to occur with singular forms of *haber*.

Unlike in previous studies, our analyses do not select tense as significantly constraining variation of *haber*. Although results regarding the significance of tense are to a certain extent different according to the study,⁹ the following are recurrent results: i) the imperfect is the tense that is most frequently reported to favor pluralization cross-dialectally (Bentivoglio and Sedano 1989; DeMello 1991; Díaz-Campos 2003; Quintanilla-Aguilar 2009), ii) the preterit is the tense that is most frequently reported to disfavor pluralization, especially in Venezuelan varieties (Díaz Campos 2003; D’Aquino-Ruiz 2004).¹⁰

In line with previous studies, our results also suggest that the imperfect tends to occur frequently in the plural (*habían*), whereas the preterit tends to occur in the singular (*hubo*). As Table 2 illustrates, the imperfect occurs in the plural in 56% of 108 examples, whereas the preterit occurs in the singular in 70% of the 37 examples. However, as shown in Table 1, the logistic regression which measures the contribution of independent factors while controlling the effect of the other factor groups does not select tense as significant. Why would this be the case?

Table 2. % of *haber* pluralization according to tense in the Puerto Rican corpora

TENSE		SG		PL	
		N	%	N	%
Imperfect (<i>había/n</i>)	108	48	44	60	56
Preterit (<i>hubo/hubieron</i>)	37	26	70	11	30
Periphrastic tenses (<i>puede/n haber, ha/n habido..</i>)	29	21	72	8	28
Present subjunctive (<i>haya/n</i>)	10	9	90	1	10
Other (<i>habrá/n, habría/n, hubiese/n</i>)	6	3	50	3	50

We suggest that tense correlates with the SL-IL distinction. Studies that report a significant effect of tense may, in fact, be reporting a masked SL-IL effect. For instance, 62% of the preterit forms of *haber* (N = 37) combine with SL nouns, while only 33% of imperfect forms (N = 109) occur with SL nouns. Thus a study making only a tense distinction will detect a difference in rates of *haber* pluralization that may, in fact, be reflecting the semantic distinction instead.

⁸ Rauch (2009) arrives at similar conclusions in her analysis of Spanish casual conversation.

⁹ This discrepancy in finding may be attributed to coding differences within the category of tense. For example, Díaz-Campos (2003) distinguishes between imperfect vs. present perfect vs. preterit vs. other tenses; D’Aquino Ruiz (2004) distinguishes between compound tenses vs. simple tenses, vs. preterit and Quintanilla-Aguilar (2009) distinguishes between preterit vs. imperfect vs. other.

¹⁰ None of these studies reports variation for the present tense (e.g. *hay-hayn/hain/haen*).

Table 3. A comparison of relative effects of SL-IL distinction (on left) and tense distinction (on right) on haber regularization in Puerto Rico

Input	.43			Input	.43		
Total	190	% plural	Factor	Total	190	% plural	Factor
		<i>haber</i>	weight			<i>haber</i>	weight
Proportion of noun use as subject			% data	Proportion of noun use as subject			% data
High	56		.59	High	56		.63
Medium	45		.55	Medium	45		.52
Low	30		.36	Low	30		.35
	<i>Range</i>		23		<i>Range</i>		28
SL-IL distinction				Tense			
IL	53		.58	Other	47		.54
SL	33		.36	Preterit	30		.34
	<i>Range</i>		22		<i>Range</i>		20
	Log-likelihood		-118.587		Log-likelihood		-120.892

To test this proposal we conduct separate Varbrul analyses; one excluding the SL-IL factor group from analysis and the other including the SL-IL factor group but excluding tense. We present the results of these two separate Varbrul analyses in Table 3. As is evident on the right-hand side of Table 3, when the SL-IL factor group is excluded, tense is selected as significantly constraining the variation. Preterit forms strongly disfavor plural *haber* with a factor weight of .34 and low rates of pluralization (30%). Other tenses analyzed together (imperfect, present subjunctive, future) favor pluralization with a factor weight of .54 and higher rates of pluralization (47%). However, as is evident on the left-hand side of Table 3, when the data are analyzed including the SL-IL distinction, but to the exclusion of tense, the same finding is apparent as listed in Table 1. A comparison of the log-likelihood of the analyses (Paolillo 2002: 89-91) demonstrates that the semantic distinction (the SL-IL analysis on the left) yields a log-likelihood closer to zero (-118.587) than the analysis including tense (-120.892). Thus, the SL-IL analysis provides a better fit for the data. The SL-IL distinction better predicts the appearance of pluralized forms than the tense distinction in line with our current proposal (as is evident in Table 1).

Is there a connection between tense and the SL-IL distinction analyzed in this analogical variation? We suggest that the preterit vs. other distinction is the morphological counterpart of the SL-IL distinction.¹¹ Although, as is shown in Table 4, we find examples of other tenses in our corpora (present subjunctive, perfect tenses, future, conditional), the majority of our examples are in the imperfect (57%) or

¹¹ This analysis follows Leonetti's (2004) proposal that the imperfect is the morphological counterpart of IL predicates.

preterit (20%). In other words, 77% of the examples we find in our corpora are concerned with the preterit vs. imperfect distinction, which, rather than a tense distinction, is actually an aspect distinction, namely, perfective vs. imperfective. As is noted by Comrie (1976: 16), “perfectivity indicates a view of a situation as a single whole, without distinction of the various separate phases that make up the situation, while the imperfective pays essential attention to the internal structure of the situation.”

Table 4. *Percentage of tenses found in the corpora*

	N	%
Imperfect (<i>había/n</i>)	108	57
Preterit (<i>hubo/hubieron</i>)	37	20
Periphrastic tenses (<i>puede/n haber, ha/n habido..</i>)	29	15
Present subjunctive (<i>haya/n</i>)	10	5
Other (<i>habrá/n, habría/n, hubiese/n</i>)	6	3
Total	190	100

In this same vein, as mentioned above, the SL-IL distinction has been included within the category of inherent lexical aspect or Aktionsart. Both the imperfect and IL predicates are unbounded, the imperfect, by focusing on internal structure of the situation and IL predicates, by referring to temporally-stable entities. In contrast, both the preterit and SL predicates are bounded, because the former focuses on the situation as a whole and the latter are short-duration entities, and thus, temporally delimited.

Our quantitative results show there is a strong connection between preterit and SL predicates, on the one hand, and other tenses (especially imperfect) and IL predicates on the other. The preterit forms of *haber* predominantly (62%) combine with an SL predicate. As noted previously, SL predicates have fewer characteristics of prototypical nouns (e.g., they are non-temporally persistent), and thus do not highlight the noun as a possible subject candidate. Thus, we suggest that the disfavoring effect of preterit forms noted for *haber* regularization cross-dialectally could reflect the predominance of SL predicates in combination with this tense. Similarly, the nouns with an IL designation mostly combine with tenses other than preterit. Indeed, 77% of the imperfect forms occur with IL nouns, which, as has been shown, favor pluralization. Thus, the tendency for imperfect forms to favor pluralization that has been repeated in multiple studies may be a reflection of this correlation with IL predicates. As such, the incorporation of the SL-IL distinction provides an explanation of the tendencies described in previous analyses regarding tense.

5. Summary and Conclusion

This work addresses a widely studied phenomenon in Hispanic Linguistics from a new perspective, examining *haber* pluralization through the lens of the semantic stage-level ~ individual-level distinction. Such an approach enables us to identify a correlation between IL nominal predicates and pluralization. We examined all the tokens of *haber* with a plural NP extracted from two corpora of naturally occurring oral Puerto Rican Spanish (Davies 2002-; Cortés-Torres 2005) and submitted these tokens to variable rule analyses using Varbrul.

We find that *haber* pluralization in Puerto Rican Spanish is favored by two linguistic factors: proportion of noun use as subject, and the IL-SL distinction. Nouns

that are frequently used as subjects generally in the language strongly favor pluralization of *haber*, as has been shown in Brown and Rivas (2012). The other linguistic factor to significantly constrain this morphosyntactic variation, the IL-SL distinction, has not been previously considered in a case of synchronic variation of this type. Results show that IL predications favor regularization. Unlike other accounts, tense (in particular, preterit) was not found to predict pluralization when considered in conjunction with this semantic distinction. Although the correlation between imperfect and IL predicates on the one hand, and preterit and SL predicates on the other, may partially explain the significance of tense in other studies, this present analysis finds that the SL-IL distinction is a more powerful predictor of this phenomenon of regularization.

We argue this significant result can be explained by appealing to the semantic differences between SL-IL nominal predicates. IL predicates are more prototypical nouns than SL predicates because the former are temporally persistent. IL predicates promote nouns' candidacy as subjects over direct objects because prototypical subjects present two temporally-persistent characteristics: independent existence and referentiality. As a result, IL predicates increase the likelihood of reanalyzing the direct object as subject, thus triggering agreement of the verbal form with plural NPs. SL predicates, on the other hand, because they display low temporal stability, inhibit regularization. Future analyses may be able to determine whether this distinction also holds for *haber* regularization in varieties other than Puerto Rico and for other cases of morpho-syntactic variation generally.

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