

Spanish diphthongization as a non-derivational phenomenon

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In a previous study on derivational morphology (Eddington 1996), the alternation between the unstressed mid-vowels /e/ and /o/, and the stressed diphthongs /je/ and /we/ was seen to escape straightforward explanation in rule-based analyses. Diphthongization in Spanish was instead attributed to the influence of other lexical items which contain the same derivational suffix.

The purpose of the present study is twofold. First, an experiment was carried out to test the validity of the findings of the previous study. Spanish speakers completed a questionnaire in which they decided between neologisms containing mid-vowels or diphthongs (e.g. *hielo* 'ice' + *-azo* 'augmentative suffix' could yield either *hielazo* or *helazo*). The high correlation between the findings of the two studies validates the original study and lends further support to the idea of lexical influence.

The second goal is to determine if lexical influence can account for diphthongization in inflectional morphology. In a nonce study by Bybee and Pardo (1981), the relationship between stress and diphthongization was "correctly" utilized by subjects in only 76% of the cases. An improved version of their experiment was carried out which resulted in an increase in "correct" responses (81%). The fact that predicted responses did not reach near 100% is attributed to lexical influence. Diphthongization in Spanish verbs is not as regular as it has been assumed. There is a small group of verbs in which diphthongs appear in all verbal forms regardless of the stress pattern or verbal suffix. This probably influenced subjects' responses.*

1. Introduction

In the course of historical phonetic evolution, the open mid-vowels /e/ and /o/ of Romance were diphthongized in stressed position to /je/ and /we/ in Spanish. This resulted in the characteristic alternation between stressed diphthongs and unstressed mid-vowels, as seen in *prefiéren* 'they prefer', and *preferimos* 'we prefer', and in *puérta* 'door', and *portéro* 'doorman'.¹ This alternation, however, is complicated by other word formation processes which often allow diphthongs to occur without word stress (e.g. *fiestéro* 'partier', *pueblito* 'small town'), or which allow stressed mid-vowels to occur where diphthongs are found in other related words (e.g. *desiérto* 'desert, noun', *desértico* 'desert, adj. '; *diéz* 'ten', *décimo* 'tenth'; *Manuél* 'a given name', *Manólo* 'nickname for Manuel').

Exactly how to account for diphthongization from a synchronic point of view has been the subject of many studies (Carreira 1991; García-Bellido 1986; Halle, Harris and Vergnaud 1991; Harris 1969, 1977, 1989; Quicoli 1995). These analyses account for diphthongization by assuming that the diphthongs /je/ and /we/ are derived from underlying vowels and/or syllable structure. There are, however, two difficulties with derivational accounts of diphthongization (see Eddington 1996). The first involves the use of cyclicity in accounting for Spanish diphthongization, which may be considered ad hoc since it lacks independent motivation and is hard to justify in terms of psychological validity. The second concern is relevant to analyses which relate diphthongization to suffix types. Certain suffixes, such as *-ito*, are thought to allow diphthongs in the word root as in *pueblito* the diminutive of *pueblo* 'town' (cf. *poblar* 'to inhabit,' *población* 'population'). Other suffixes, such as *-oso*, are thought to prevent diphthongization in the word root: *fuérza* 'force,' *forzoso* 'obligatory.'

In order to examine diphthongization more closely, I compiled a corpus of words ending in ten derivational suffixes based on all of the entries in the *Diccionario de la Lengua Española* (1970) along with about 15,000 words added from other available electronic corpora.² All of the words had diphthongizing roots. The corpus shows that the relationship between the suffixes and diphthongs is not clear-cut but gradient. Some suffixes, such as *-al*, *-(i)dad*, and *-ero* never contain a diphthong in the most common words of the corpus. There are also suffixes, such as *-oso* and *-ista*, that appear both with and without diphthongs: *huesoso* 'bony', *gubernoso* 'methodical', *huelguísta* 'striker', *dentista* 'dentist'. In the face of such variability, an absolute correspondence between the diphthongs and suffixes is impossible to maintain. For this reason, the validity of analyses of diphthongization which incorporate suffix types is questionable.

The gradient nature of diphthongization may be best accounted for in the non-derivational framework of Bybee (1985, 1988, 1991). According to Bybee, all simple, as well as morphologically complex words, have individual representation in the mental lexicon. However, individual words are not completely autonomous from each other. Words that are semantically or phonetically similar are linked with associative connections. In this way, all words that share phonological shape, morphemes, affixes, or meaning are interconnected. The organization and associations between lexical items are responsible for rule-like behavior that other theories attribute to morphological parsing, morphological concatenation, and phonological rule systems.

In this theory, the phonological patterns of a language are thought to exist in the network of associations between lexical items. This is the crucial difference between derivational models and Bybee's non-derivational model. Because of the binary nature of derivational analyses, they have difficulty accounting for gradient phenomena such as Spanish diphthongization. In Bybee's framework, on the other hand, gradience is merely a reflection of the patterns that exist among the words in the mental lexicon. Accordingly, speakers' intuitions about their language are thought to stem from the words, and associations between words, that exist in the mental lexicon.

2. Previous experiment

I designed an experiment to determine if there is a relationship between speakers' intuitions about diphthongization, and diphthongization as found in the corpus of Spanish words (Eddington 1996). The hypothesis was that when the need arises to create a new word, the contents of the mental lexicon will exert a "gang effect" on the form the new word will have. A gang effect may be defined as the analogical influence a group of similar words has. The larger the gang, the more influence it wields. Given this sort of influence, new Spanish words ending in *-al* or *-(i)dad* are expected to surface without diphthongs. New words with the suffix *-ista* should be equally likely to surface with or without a diphthong, since there are two competing gangs of *-ista* words, the "root diphthong gang" and the "root mid-vowel gang".

The relationship between the contents of the mental lexicon and speakers' intuitions was tested by means of a questionnaire. Spanish speakers were given a list of non-existent words containing real stems (neologisms), as well as invented words (nonce items). The 51 subjects were asked to choose between a word with a diphthong in the root, or one without a diphthong. For example:

- | | | | | |
|-----|----|--|----------|--------------------------|
| (1) | a. | NEOLOGISM
<i>Definition</i>
De piernas largas
'Having long legs' | A.
B. | piernoso
pernososo |
| | b. | NONCE WORD
<i>Definition</i>
Quien almiega
'A person who (nonce word)s' | A.
B. | almieguero
almieguero |

The corpus mentioned above was used to help choose the suffixes which would appear in the neologisms and nonce forms. However, this dictionary-based corpus probably underrepresented forms with the highly productive suffixes *-(c)ito*, *-(c)illo*, *-zuelo*, *-ísimo*, and *-azo* which are most often correlated with diphthongs in the stem. For this reason, the results of the questionnaire were only correlated with the words in the corpus with less productive suffixes. Nevertheless, I predicted that the productive suffixes would appear more frequently with stem diphthongs than words with the less productive suffixes would. A neologism and a nonce word with each of the ten suffixes was included in the questionnaire. The results support the hypothesis that the contents of the mental lexicon, as inferred from the corpus, influenced the subjects' decision about whether a test item should have a diphthong or not (see Table 1).

Table 1. Comparison of corpus contents and questionnaire results

Rank	Suffix	I	II
1.	-ero	100	mid-vowels
2.	-al	100	mid-vowels
3.	-(i)dad	100	mid-vowels
4.	-oso	83	no preference
5.	-ista	50	no preference
6.	-ísimo	*	no preference
7.	-zuelo	*	no preference
8.	-(c)ito	*	diphthongs
9.	-azo	*	diphthongs
10.	-(c)illo	*	diphthongs

I Percentage of mid-vowels in common words of the corpus.

II Preference for mid-vowels or diphthongs in the test responses (χ^2 , $p < .05$).

* corpus evidence not considered representative.

Although these results are interesting, the experiment has several drawbacks. First, the study is based on a small number of test items. Only two test items were included for each suffix. Therefore, if one of the items were unusual in some way, it could have significantly swayed the outcome. Second, the study is limited to testing correlations between the corpus and the less productive suffixes. Since words with the productive suffixes are not adequately represented in the corpus, the study does not give insight into the relationship between these suffixes and the presumed contents of the mental lexicon. However, the outcome of the questionnaire itself may be indicati-

ve of what intuitions speakers have about the relationship between diphthongs and the productive suffixes. However, further evidence is necessary to establish the validity of these findings.

A more serious challenge to the experiment involves its limitation to diphthongs in derivational morphology. If the contents of the mental lexicon influences the formation of new words, this influence should be present for inflectionally as well as derivationally related words. However, evidence from Bybee and Pardo's (1981) study on nonce verbs in Spanish appears to contradict the notion that the lexicon influences diphthongization in inflectional morphology. This objection is discussed in more detail in section 4.1.

It is evident that there are several difficulties with the previous study, and further research into the matter is called for. Therefore, the present paper has two goals. The first is to learn if the results can be replicated with a similar questionnaire in order to test their validity. In particular, more evidence on the relationship of the productive suffixes to diphthongization is in order. This is the focus of the first experiment. The second goal is to determine if analogy to the contents of the lexicon can account for diphthongization in inflectional morphology.

3. Experiment one: Derivational morphology

3.1. Stimulus materials

In the previous study, more significant results were obtained for neologisms than for nonce words (Eddington 1996: 21-22). For this reason, all test items used in the present experiment were neologisms.³ In a written questionnaire, four neologisms, each with different stems, were included which ended in ten derivational suffixes: the nominals *-ista*, *-(i)dad*, and *-ero*, the adjectivals *-oso*, and *-al*,⁴ the diminutive *-(c)ito*, *-(c)illo*, and *-zuelo*, the augmentative *-azo*, and the superlative *-ísimo*. This resulted in a questionnaire consisting of 40 test items. The roots of all of the neologisms were potentially diphthongizing roots, that is, each root has a morphological relative with a diphthong as well as without (e.g. *travesúra* 'mischievous act', *traviésu* 'mischievous').

3.2. Procedure

The 40 resulting neologisms were incorporated into the questionnaire and appeared in this format:

- (2) Por supuesto, trabajar con estiércol no era agradable. Pero si el único trabajo que había consistía en estercolar los campos, él trabajaría de _____.
- (a) estiercolero
(b) estercolero
- 'Of course, working with manure wasn't pleasant. But if the only work there was consisted of manuring the fields, he would work as a _____'.

The fact that the neologism had a diphthongizing root was made plain by including two morphologically related words in the context paragraph. One of the words contained a mid-vowel and the other a diphthong (e.g. *estiércol*, *estercolar*).

The subjects were told that all of the words they were to respond to were actual words chosen from an unabridged dictionary. Their task was to choose which of the two possible answers was the correct one. The only difference between the responses was the existence of a diphthong or mid-vowel in the root of the neologism. The questionnaire appears in the appendix in its entirety.

3.3. Subjects

A total of 69 Spaniards volunteered to participate in the experiment, 30 women and 39 men. Their ages ranges from 15 to 40 years of age. Forty of the subjects were attending or had graduated from secondary school. Twenty-seven subjects were college students or graduates, and two had done postgraduate work.

3.4. Results and Discussion

Responses to all test items with the same suffix were combined. The third column in Table 2 indicates the percentage of responses in which the word with a mid-vowel was preferred over the one containing a diphthong. The fifth column contains the same data from the earlier experiment.

Although the outcomes of the two experiments are similar, they do differ somewhat. A Spearman's correlational analysis was performed to determine the degree of similarity between the two studies. It indicates that the outcomes are significantly similar ($\rho(8) = .758$, $p < .011$, two-tailed). This correlation corroborates the results of my previous experiment, and lends further support to the idea

Table 2. Percentage of responses with mid-vowels.

Suffix	Experiment One		Eddington 1996	
	Rank	Percentage	Rank	Percentage
-oso	1.	86.2	4.	59.8
-ero	2.	75.4	1.	72.5
-ista	3.	67.8	5.	50.0
-al	4.	62.7	2.	66.7
-(i)dad	5.	47.8	3.	64.7
-azo	6.	44.2	9.	24.5
-zuelo	7.	40.9	7.	48.0
-ísimo	8.	19.2	6.	49.5
-(c)illo	9.	6.1	10.	22.5
-(c)ito	10.	4.7	8.	25.5

that the lexicon exerts an analogical influence on linguistic behavior. One finding that is of particular interest is that the productive suffixes are more likely to occur with roots containing diphthongs than all of the less productive suffixes are. I had predicted this to be the case, but was unable to find evidence from the corpus to support it. However, the fact that both studies concur on this bears out the prediction.

In spite of this high degree of correlation, the evidence of lexical influence is limited to diphthongization in derivational morphology. As the corpus illustrates, the alternation between mid-vowels and diphthongs is gradient in derivational morphology. The general tendency is for diphthongs to appear in stressed position, and for mid-vowels to appear without stress, but there are also many cases of unstressed diphthongs among attested Spanish words (see Table 3). Moreover, the degree to which unstressed diphthongs occur, seems to be related to the derivational suffixes.

4. Diphthongization in inflectional morphology

In contrast to the gradient nature of diphthongization in derivational morphology, diphthongization in inflectional morphology appears to be a discrete phenomenon. In Spanish verbs, diphthongization is predictable on the basis of word stress. Verbs with diphthongizing stems have mid-vowels when unstressed and diphthongs when stressed (see Table 4).

Table 3. The non-discrete nature of diphthongization in derivational morphology.

Examples with the suffix -oso:				
ci <u>e</u> no	'mud'	ci <u>e</u> no <u>s</u> o	'muddy'	
ni <u>e</u> ve	'snow'	ce <u>n</u> o <u>s</u> o	'muddy'	
ver <u>g</u> u <u>e</u> ncia	'shame'	ne <u>v</u> o <u>s</u> o	'snowy'	
hu <u>e</u> so	'bone'	ver <u>g</u> on <u>z</u> o <u>s</u> o	'shamefaced'	
		hu <u>e</u> s <u>o</u> s <u>o</u>	'bony'	
mi <u>e</u> do	'fear'	os <u>o</u> s <u>o</u>	'bony'	
		mi <u>e</u> d <u>o</u> s <u>o</u>	'afraid'	
Examples with the suffix -ito:				
pu <u>e</u> blo	'town'	pu <u>e</u> bl <u>i</u> to	'small town'	
ti <u>e</u> nda	'store'	ti <u>e</u> ndec <u>i</u> ta	'small store'	
vi <u>e</u> jo	'old man'	vi <u>e</u> jec <u>i</u> to	'little old man'	
cali <u>e</u> nte	'hot'	calent <u>i</u> to	'pleasantly hot'	

Table 4. The discrete nature of diphthongization in inflectional morphology.

more#	Third person singular		1 pl.	
pres. ind.	pres. subj.	pret.	pres. ind.	gloss
tu <u>e</u> sta	tu <u>e</u> ste	tostó	tostá <u>m</u> os	'toast'
su <u>e</u> na	su <u>e</u> ne	sonó	soná <u>m</u> os	'sound'
ci <u>e</u> ga	ci <u>e</u> gue	cegó	cegá <u>m</u> os	'blind'
ti <u>e</u> nde	ti <u>e</u> nda	tendió	tendé <u>m</u> os	'hang'

This fact, coupled with the large number of verbs with diphthongizing stems, would presumably exert a strong gang effect on novel verbs. In fact, the gang effect in verbal morphology should arguably be more powerful than it is in derivational morphology. However, a study by Bybee and Pardo (1981) casts doubt on this assumption.

4.1. Bybee and Pardo's experiment

In their study, native Spanish speakers were shown pictures from a children's book. At the same time, they were read a narrative relating to the pictures. At certain points in the narrative, the subjects were asked to complete sentences with a conjugation of a nonce verb. Several of the nonce verbs they used involved diphthongization:

- (3) *La mamá de Osito lo bierca mucho. Cada vez que se enferma lo bierca. Ayer, Osito se enfermó y su mamá _____.*
'Little Bear's mother nonce word him a lot. Every time he gets sick she nonce word him. Yesterday Little Bear got sick and his mother _____ him'.

The context in (3) clearly calls for the preterit form of the verb which would move the stress off of the diphthong, and should result in *bercó*. However, only one subject responded this way. The most common response (73%) was *biercó* with an unstressed diphthong.

It is possible that subjects needed to be presented a verbal form with a unstressed mid-vowel (e.g. *monár*), as well as a verbal form with a stressed diphthong (e.g. *muéna*) before they realized that the verb undergoes diphthongization. Bybee and Pardo's subjects were presented a series of narratives in which both allomorphs of the nonce verb were heard. For example:

- (4) *Osito muena sopa todos los días. Le gusta mucho monar la sopa. Ayer en la tarde se _____ un plato grande.*
'Little Bear nonce word soup every day. He likes to nonce word soup. Yesterday afternoon he _____ a big dish of it'.

The allomorph with the unstressed mid-vowel, *monó*, would be predicted if a rule of diphthongization were applied in this context. In test items of this sort, 76% of the subjects answered 'correctly' by providing a verb with a unstressed mid-vowel. However, 24% still responded with a verbal form containing an unstressed diphthong (e.g. *muenó*). Since the subjects did not consistently respond with mid-vowels as predicted, Bybee and Pardo concluded that a rule of diphthongization does not have an independent existence in the minds of the test subjects.

From one perspective, however, their conclusion seems unwarranted. A Chi-squared analysis of their data,⁵ reveals that the subjects' choice of mid-vowels over diphthongs was by no means random; there was a highly significant preference for unstressed mid-vowels over unstressed diphthongs in this context ($\chi^2 (1, N = 141) = 36.77, p < .0001$). They may have viewed the 76% 'success' rate as inadequate because the purpose of their study was to determine if the alternation between diphthongs and mid-vowels was rule-governed, and rule-governed behavior is expected to be close to exceptionless. The subjects supposedly had all that was required to determine that nonce verbs, such as those in (4), obeyed the rule of diphthongi-

zation, therefore, a failure rate of 24% seemed too high to support the existence of a rule of diphthongization. Of course, part of this failure to follow the rule can be attributed to the unnatural task of manipulating nonce words. Schnitzer (1996) discovered that large numbers of errors occur when subjects are asked to conjugate completely regular nonce verbs that involve absolutely no stem allomorphy.

Bybee and Pardo's study was undertaken to test for the existence of a rule of diphthongization. However, from an analogical perspective, there is no rule of diphthongization. Instead, there is a lexicon which contains gangs of items that behave in a similar fashion. From this standpoint, Bybee and Pardo's findings are not unexpected. It is true that the great majority of verbal forms a Spanish speaker encounters and uses adhere to the pattern of stressed diphthongs alternating with unstressed mid-vowels. Nevertheless, this large gang of verbs does not go unchallenged. It competes with a smaller gang of verbs in which stressed diphthongs alternate with unstressed diphthongs (e.g. *frecuéntan* 'they frequent,' *frecuentámos* 'we frequent'). The *Diccionario de la Lengua Española* (1992) contains 97 verbs of this type (e.g. *secuestrar*, *despiezar*, *adistrar*, *amueblar*). Of these, 38 are common enough that they appear in a frequency dictionary based on a corpus of 3 million words (Alameda & Cuetos 1995). Given the contrived task of conjugating nonce words, combined with the influence of this smaller gang of verbs with unstressed diphthongs, it is not surprising that in 24% of the cases Bybee and Pardo's subject's responded with verbs containing unstressed diphthongs.

Another factor that may also be partially responsible for the 24% 'failure' rate is the type of experimental paradigm they used. Their study was essentially a free-response morpheme combination experiment. The subjects' task was to add a suffix onto the stem of a nonce verb in order to produce a new verbal form. They were not provided with a choice between possible responses. A number of morpheme combination experiments of this sort were carried out to test the English vowel shift (Myerson 1976; Ohala 1974; Steinberg and Krohn 1975). For example, subjects were asked to combine *maze* and the suffix *-ic* to form the word *mazic*. Based on the vowel alternation in words such as *insane/insanity*, the outcome predicted was [mejz] ⇒ [mæzIk]. However, the most common way subjects handled these questions was to leave the vowel unchanged (i.e. [mejz] ⇒ [mejzIk]). This is similar to the way in which many of Bybee and Pardo's subjects allowed diphthongs to remain in an unstressed stem (*muenó*).

Although morpheme combination experiments on the English vowel shift provided negative evidence for the synchronic relevance of the shift, other experimental methods have provided some positive evidence. Evidence in favor of certain aspects of the vowel shift rule has been found in preference experiments, learning experiments, memory experiments, and concept formation experiments (Jaeger 1986). What this suggests is that the free-response morpheme combination paradigm may not be an adequate tool for probing morphophonemic alternations. Therefore, the subjects' use of unstressed diphthongs may be due, in part, to the design of the experiment.

4.2. Experiment two

The purpose of experiment two is to determine if an experimental design which involves guided-responses, instead of free-responses, will result in a smaller preference for unstressed diphthongs in nonce verbs.

4.2.1. Stimulus materials and procedure

A slightly modified version of Bybee and Pardo's nonce word test was used in the present study. Of the 25 test items, six involved cases of diphthongization in which both allomorphs of a stem were presented (see Table 5). The remaining test items were included as distractors.

Table 5. Nonce words in questionnaire and expected responses.

Nonce words presented	Expected response	
(1) buena, monar	monó	mid-vowel
(2) dierra, derró	derraba	mid-vowel
(3) puenza, ponzó	poncé	mid-vowel
(4) miega, megó	megué	mid-vowel
(5) niela, nelar	neló	mid-vowel
(6) ruela, roló	rolaba	mid-vowel

The questionnaire differs from Bybee and Pardo's in that a set of possible responses were provided for each test item. In (4), for instance, subjects had to choose between two different forms without diphthongs, (*monó*, *monió*) and two forms with a stem diphthong, (*muenó*, *mueniό*).

4.2.2. Subjects

A total of 39 subjects completed the questionnaire. All of them had grown to adulthood as native Spanish speakers. Of this total, 20 were males and 19 females. The subjects ages ranged from 19 to 54. Their countries of origin are as follows: Ecuador, 12; Spain, 8; Venezuela, 5; Honduras, 4; Mexico, 3; Peru, 2; Dominican Republic, Bolivia, Argentina, Nicaragua, Colombia, one each.

4.2.3. Results and discussion

In response to the six items in Table 5, the subjects chose responses with mid-vowels in 81% of the cases and responses with diphthongs in only 19% of the cases ($n=190$ and 44 respectively). Their choice of response was far from random ($\chi^2(1, N = 234) = 89.85$, $p < .0001$). On the surface, it appears that the guided-response method produced the expected outcome more often than the Bybee and Pardo's free-response method, since the percentage of expected responses increased from 76% to 81%. However, this difference does not reach significance ($\chi^2(1, N = 375) = 1.50$, $p < .25$). Therefore, the free-response and guided-response methods do not produce significantly different outcomes.

5. Conclusions

The purpose of this paper is to determine if diphthongization in Spanish can be attributed to the influence of the lexicon. My previous study suggests that it can, at least as far as derivational morphology is concerned. Experiment Icone was carried out to test the validity of these findings. The high correlation between the two studies validates the original study and lends further support to the idea of lexical influence.

Lexicon-based gang effects appear to be a factor in diphthongization in derivational morphology where there is no one-to-one correspondence between stress patterns or suffix type and diphthongization. Therefore, there should be an even stronger influence on verbal morphology where there appears to be a clear relationship between suffixes, stress and diphthongization. However, the fact that Bybee and Pardo's subjects failed to utilize this correlation in a consistent manner, led them to conclude that there is no rule of diphthongization in verbal morphology.

I entertained three potential factors as explaining their findings. The first is the unusual task of conjugating nonce verbs; this may

influence subjects to leave the stem diphthong unchanged. A second factor was the free-response method utilized by Bybee and Pardo as opposed to the guided response method. However, the results from my experiment show that the latter of these two factors was not relevant. The third factor, however, seems to be the most important; diphthongization in Spanish verbs is not as regular as it has been assumed. There is a small group of verbs in which diphthongs appear in all verbal forms regardless of the stress pattern or verbal suffix. The gang effect (i.e. analogizing effect) that these verbs exert probably influences subjects' responses.

The effect of the lexicon on neologisms and nonce words has also been demonstrated in several other studies. For example, Steriade (1997) studied phenomena from several different languages, and observed that the phonological shape of a neologism may be better described in terms of the phonological shape of existing allomorphs that are similar to the neologism rather than by recourse to underlying representations. Ohala and Ohala (1986) found that subjects' judgements on the acceptability of nonce forms as English words could not be explained by proposed morpheme structure constraints. Instead, they appear to have been made by comparison to extant words. In a similar way, Aske's (1990) Spanish speaking subjects stressed nonce words in a way that reflected the stress patterns of phonetically similar words, and not in accordance with proposed Spanish stress rules.

Rules are powerful entities that allow linguistic phenomena to be succinctly and elegantly accounted for. However, their role in cognitive processing is much more difficult to assess. When speakers are asked to determine the shape of a nonce word or neologism, they provide insightful information into what factors play a part in actual linguistic processing. It appears that their behavior is better explained in terms of lexical influence, rather than by abstract rules and underlying representations.

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Notes

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² Orthographic *ie* represents [je], and *ue* represents the diphthong [we].

³ The corpus of 90 thousand words is available via anonymous ftp on the Internet. It is located in *linguistics.archive.umich.edu* in the directory */linguistics/texts/lexica* under the file name *span-lex.zip*.

⁴ A word was considered a neologism if did not appear in any of the following dictionaries: Martínez 1958; Peñalver 1940; Real Academia Española 1984; Stahl and Scavnicky 1973; Vox 1945.

⁵ Both allomorphs of *-al* (i.e. *-al* and *-ar*) were included in the study.

⁶ Taken from Table 2 on page 942.

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APPENDIX

A continuación hay una serie de párrafos cortos en los que falta una palabra. A la derecha de cada párrafo se encuentran dos palabras. Una de esas dos palabras corresponde a la palabra que falta. Por favor, indique cuál de las dos palabras es la correcta. Las palabras que aparecen abajo proceden de *El diccionario de la Real Academia Española*, por lo tanto, hay palabras que son comunes y palabras poco comunes. En el caso de que Ud. desconozca una palabra, utilice su intuición para tomar la decisión.

- (1) No nevó mucho, y la nieve fina que sí cayó no era más que una _____ ligera. (a) nievita
(b) nevita
- (2) El espíritu festivo se sentía por todas partes. Y claro, no habría fiesta sin el baile _____. (a) fiestal
(b) festal
- (3) Escogieron una tela fina y plegable, así fue fácil hacerle tanto pliegues gruesos como _____ pequeños. (a) plieguecitos
(b) pleguecitos
- (4) “Simón, tu habitación está asquerosa. ¿No te da vergüenza vivir como un puerco? No voy a tolerar tales porquerías en esta casa. Ve a limpiarla ahora mismo, que está _____”. (a) puerquísima
(b) porquísima
- (5) Los huérfanos despertaban poca compasión en mi padre, a pesar de los años que pasó trabajando en el orfanato Santa Cruz en calidad de _____. (a) orfanero
(b) huerfanero
- (6) “En el invierno era común tener gripe con un poco de fiebre” pensó. Aunque su hermana estaba febril la semana anterior, pensaba que no tenía más que una _____ de nada. (a) fiebrecilla
(b) febrecilla
- (7) En su vida había oído tantos truenos. Tronó toda la noche. Pensó que había sido la tormenta más _____ que jamás hubo. (a) truenosa
(b) tronosa
- (8) Por supuesto, trabajar con el estiércol no era agradable. Pero si el único trabajo que había, consistía en estercolar los campos, él trabajaría de _____. (a) estiercolista
(b) estercolista
- (9) “¿Tu hijo, travieso? Hará travesuras como todos, pero el hijo de Milagros es _____. No hay ni comparación”. (a) traviesísimo
(b) travesísimo

- (10) "¡Cierra la puerta con cuidado! Otro portazo así y habrá que llamar al _____ para que nos instale una nueva". (a) portista
(b) puertista
- (11) Odiaba todos los pueblos, pero esos poblachos desérticos eran el colmo. No aguantaba la mentalidad de la gente campesina ni sus _____. (a) pobledades
(b) puebledades
- (12) El tubo de la fontanería se divide en dos. Un lado alimenta la fuente de qué beben los adultos, y el otro alimenta la _____ de los niños. (a) fuentecilla
(b) fontecilla
- (13) Por descuido, todos se habían cortado con una de las sierras pequeñas. Eran gajes de trabajar en un aserradero. Sin embargo, cuando les tocaba usar la _____ siempre ponían más atención. (a) sierraza
(b) serraza
- (14) El único oficio que conocíamos era cimentar. Sabíamos que si uno ponía mal unos cimientos, la mala fama recaería sobre todos los _____ del gremio. (a) cimentistas
(b) cimientistas
- (15) A los sarmientos diminutos que salen de las plantas sarmentosas, los trabajadores les llaman _____. (a) sarmentezuelos
(b) sarmientezuelos
- (16) Establecieron un gobierno poco capaz de gobernar, un _____ por llamarlo así. (a) gobiernillo
(b) gobiernillo
- (17) En ese tipo de negocio nunca se puede acertar el mercado. Sin embargo, él estaba tan cierto de su plan de venta que me convenció de la _____ del plan. (a) certedad
(b) ciertedad
- (18) Todos los chicos del la pandilla eran fuertes. El líder, Manolo, era de constitución forzada. Y Paco, a pesar de ser el más joven del grupo, también era _____. (a) fuertito
(b) fortito
- (19) De entre todos los huéspedes de la pensión, el dueño siempre trataba a don Jorge con despecho. Y eso que don Jorge nunca pagaba el hospedaje con retraso como otros. A pesar de ello, el dueño se refería a don Jorge como "el _____". (a) hospedezuelo
(b) huespedezuelo

- (20) “Viste los dientes de ese muchacho nuevo?” (a) dientoso
“Pues claro. Es imposible no verlos, ¡destacan (b) dentoso
tanto! Le vendría bien una visita al dentista. Es
el chico más _____ que he visto”
- (21) El autobús escolar nos recogía a las seis, y (a) escuelezuela
había que recorrer 40 kilómetros de tierras (b) escolezuela
áridas antes de llegar a la escuela. La pobreza
de la región se veía en la _____ en que
aprendimos el abecedario.
- (22) A la hora de la merienda, se le podía encontrar (a) meriendales
limpiando platos en el merendero de la esquina. (b) merendales
No le daban descanso para comer, pero no le
importaba porque no le gustaban las
comidas _____.
- (23) Cada día los hombres bajaban al cenagal, y (a) cienagueros
volvían con los carros llenos de ciénaga, la (b) cenagueros
cual poñían en moldes, dejándola secar al sol.
En aquel entonces, los _____ nunca
andaban a falta de trabajo.
- (24) Siempre hacía viento en ese lugar. Durante el (a) ventitos
invierno los ventarrones del norte a menudo (b) vientitos
derrumbaban árboles. Eso contrastaba con
los _____ agradables del verano.
- (25) Todos los dueños de tienda, bien fueran de las (a) tendistas
tenduchas más miserables del centro, o de los (b) tiendistas
grandes almacenes de las afueras, todos esos
_____ se opusieron a la huelga.
- (26) En el siglo 19, el hierro era el metal más común (a) herrales
por la facilidad con que se forjaba. Eso no (b) hierrales
implica que los herreros desconocieran otros
metales con características _____.
- (27) El profesor Allende insistía en probar a fondo (a) pruebezuelas
nuestro conocimiento. Nos ponía pruebas de (b) probezuelas
15 páginas cada mes. Además de eso, nos
ponía _____ a diario.
- (28) “No hay hierba ni extracto herbario que te (a) hierbero
pueda curar” le dijo el _____ a Raúl. (b) herbero

- (29) Se puso colorada de vergüenza, "En mi vida me he sentido tan avergonzada" afirmó. "Pero cualquiera habría reaccionado así después de pasar una _____ de esa índole". (a) vergüenzaza (b) vergonzaza
- (30) Con respecto a los nudos, su lema parecía ser "mientras más prieto mejor". Había apretado ese nudo con tanta _____ que no se podía desatar. (a) prietedad (b) pretedad
- (31) "Tienes que reconocerlo por lo que es. A ese tipo de chico lo único que le motiva son los deseos corporales. Juzga a las mujeres por el cuerpo y nada más. Si yo estuviera en tu lugar, evitaría a todos los chicos _____". (a) corperos (b) cuerperos
- (32) Se encuentran trozos de agua helada en el mar del norte. A estos trozos enormes de hielo se les llama _____. (a) hielazos (b) helazos
- (33) Parecía que soñaba con los ojos abiertos. Se caía por ahí de sueño, pero negaba vehementemente su estado _____. (a) sueñoso (b) soñoso
- (34) Al cocinero se le cayó el tapón del pimentero. El exceso de pimienta en el guisado lo puso exageradamente _____. (a) pimentoso (b) pimientoso
- (35) Le dije que no soltara más la cadena. Tenía que estar más bien tirante, y no suelta, pero no me hizo caso y salió todo mal. Si no fuera por la _____ de la cadena, creo que habría funcionado. (a) soltedad (b) sueltedad
- (36) Cualquiera podría ganarse la vida con la hortaliza que salía de la huerta de los Orzábal. ¡Qué _____ más grande! (a) hortaza (b) huertaza
- (37) Sus hijos esperaban heredar todas sus tierras. Después de todo, él era el terrateniente más rico de la comarca. Sin embargo, no recibieron más que unas _____ que no se podían cultivar. (a) terrillas (b) tierrillas
- (38) El estaba lejos de perder la cordura. Estaba más que cuerdo, estaba _____. (a) cordísimo (b) cordísimo

- (39) Paquita evitaba hablar de la vejez. De hecho, no se consideraba vieja hasta que su nieto le llamó _____. (a) viejísima
(b) vejísima
- (40) El fuego siempre inspira la imaginación humana. Por ejemplo, al reunirse un grupo de amigos en torno a una fogata, no transcurre mucho tiempo antes que empiecen a contar historias de monstruos. Estos cuentos _____ nunca faltan en tales reuniones. (a) fuegales
(b) fogales