SPANISH /il/ AND RELATED SOUNDS: 
AN EXERCISE IN PHONEMIC ANALYSIS

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In this paper a classic problem in the phonemic analysis of Spanish, that of the status of glides and various palatal sounds, is considered anew. It is argued that in the most adequate analysis of Castilian Spanish a single phoneme /il/ is recognized, with contextually conditioned glide and consonantal realizations. This analysis nevertheless requires the marking of some lexical items as exceptions to the general allophonic distribution, or, rather, as exceptions to the general rules of syllabification. On the other hand, it is claimed that other Spanish dialects have undergone phonemic split and now oppose to /il/ a consonantal phoneme historically derived from syllable-initial non-nuclear realizations of /il/.

1. Basic distribution and preliminary analysis

Spanish displays a number of complex alternations involving the vowel /il/ and several palatal sounds. The facts are furthermore somewhat different in different dialects. In this paper, I will concentrate on the dialects of northern and central Spain; that is, those varieties commonly known in English as ‘Castilian Spanish’, although some reference will be made to other dialects as well. Navarro Tomás 1977 distinguishes the following five sounds in his standard description of standard Castilian Spanish, the prestige dialect of Spain:

(1) Surface phones in Castilian Spanish

- voiced palatal fricative (non-strident): ma[y]lo 'may'
- voiced palatal affricate: in[ʃ]ección 'injection'
- palatal semiconsonant (on-glide): pe[ʃ]eno 'I think'
- palatal semivowel (off-glide): pel[ʃ]ene 'comb'
- palatal vowel: pe[ʃ]eno 'pine tree'

The symbol [y] represents a more constricted articulation than that of a glide: an obstructed glide or non-strident fricative. [ʃ] is a noncontinuant palatal, with complete occlusion (a stop with possibly affricated release). In IPA transcription, [y] = IPA [j] and [ʃ] = IPA [ʃ] or [ʃ]. In this paper we will use the symbols [y] and [ʃ], which are well-established in the Spanish phonetic and phonological tradition and are typographically simpler.

The sounds in (1) participate in various alternations:
(2) Alternations:

\[ l_\text{[i]} \text{ / [i]} \text{ mi[i] i\text{io} 'my uncle'} / m[i] \text{ amigo 'my friend'} \]
\[ l_\text{[i]} / [i] \text{ Juan [i] María 'Juan and María'} / \text{ Ana [i] María 'Ana and María'} \]
\[ [y] / [\text{f}] \text{ de [y]eso 'of plaster'} / \text{ con [\text{f}]eso 'with plaster'} \]
\[ [j] / [\text{y}] \text{ perd[j]eron 'they lost'} / \text{ cre[y]eron 'they believed'} \]
\[ [i] / [\text{y}] \text{ le[i] 'law'} / \text{ le[y]ex 'laws'} \]

On the other hand, we also find some unusual contrasts in the same phonetic environment:

(3) Some contrasts

\[ [i] \text{ vs. [y]} \text{ cl[i]ente 'client' — pl[i]egue 'fold'} \]
\[ [j] \text{ vs. [y]} \text{ ab[i]erto 'open' — ab[y]ecto 'object'} \]

The question naturally arises of how many phonemes these five surface phones represent. This is an issue which has been hotly debated and for which different authors have provided quite different answers over the decades. For two different perspectives within American structuralism, cf. Bowen & Stowell 1988, 1956, Stockwell, Bowen & Silva-Fuenzalida 1956, on the one hand, and Saporta 1956, on the other — all reprinted in Joos 1958. A Prague-school view is presented in Alarcos Llorach 1965:145-160. For more recent views, cf. Halla 1973, Cressey 1978:75-83, Harris 1969, 1971, 1983, 1995, Monroy 1980, Morgan 1984, Hualde 1989, 1991, Quilis & Fernández 1990, Whitley 1995, and most recently Harris & Kaise 1997). Here I will not review the lengthy literature on this topic, for which Morgan 1984 and Whitley 1993, among others, may be profitably consulted. Instead, I will simply sketch the analysis that seems most plausible to me.

To begin with, it must be noted that in all contexts where [y] appears in the standard description the articulation may vary in constriction degree from a glide [i] to complete occlusion [i], depending on style and emphasis (Navarro Tomás 1977:129-30). We will use the symbol [y] in those contexts where this nonstrident fricative or obstruentized glide represents the neutral standard pronunciation, but it should be kept in mind that its degree of constriction can be either greater or smaller depending on style and speaker. On the other hand, there are contexts where only a glide is possible or only the noncontinuant [f] is found. In these cases, the corresponding symbols will be used.

Both [y] and [f] are restricted to the syllable-initial position. In the standard Castilian pronunciation described by Navarro Tomás 1977, the noncontinuant [f] occurs in two contexts: after a heterosyllabic noncontinuant consonant ([n], [m]) and optionally and for emphatic purposes also in absolute utterance-initial position. In all other syllable-initial contexts, [y] is preferred:

(4) Distribution of [y] and [f] in standard Castilian

\[ \text{con [y]eso 'with plaster', cn[y]esado 'plastered'} \]
\[ [y] \text{o no ~ [f]o no 'not me'} \]
\[ \text{para [y]eso 'for plaster', por [y]eso 'for plaster', des[y]elo 'thawing'} \]

Other Castilian dialects differ from this description in favoring [f] after all heterosyllabic consonants; e.g.: \( \text{des[y]elo}. \)

It is clear that we can safely reduce these two surface phones to a single phoneme with two allophones, partly in complementary distribution and partly in stylistic variation.

If we consider now the distribution of the semiconsonant [j] and the semi-vowel [i], it is evident that it completely depends on the position of the sound in relation to an adjacent vowel. Navarro Tomás uses the label 'semiconsonant' and the symbol [j] for the on-glide of raising diphthongs such as [ja], [je], whereas the label 'semi-vowel' and the symbol [i] are reserved in his usage for the off-glide of falling diphthongs, [ai], [ei]. Other transcriptional systems, such as the International Phonetic Alphabet, do not distinguish these two articulations. Clearly, we have entirely predictable complementary distribution here and we could simply represent both as [i], as in the IPA system (and will do so from now on).

Minimally, then, the five phones recognized by Navarro Tomás can be reduced to three phones: the vowel [i], the glide [j] and the obstruent [y]. But this initial phonemic analysis can be further simplified. In the dialect under consideration there are no contrasts between the obstruent [y] ~ [f] and the glide [j]: the obstruent appears only syllable-initially and the glide in other positions; i.e. as an on-glide after a tautosyllabic consonant or as an off-glide. As mentioned, the glide is also possible intervocically in some styles:

(5) Distribution of glides and obstruents

a. Prevocally, in syllable initial position: Normally the obstruent, optionally the glide; e.g.: \( \text{[má.jo] 'may' ( ~ [má.jo] ~[má.jo] ), [yé.lo] 'ice'} \), \( \text{[dez.yé.lo] 'thawing'} \).

b. Prevocally, after tautosyllabic consonant: only the glide; e.g.: \( \text{[pýe]} \) 'foot' (*[paye]), \( \text{[prýe.to]} \) 'compact'.

c. Postvocally, in the rhyme: only the glide; e.g.: \( \text{[dój] 'I give'} \), \( \text{[bój.na]} \) 'beret', \( \text{[bój.na] 'beret'} \).

As was shown in (2), there are morphophonemic alternations that are in accordance with this distribution: \( \text{ley [jej] 'law' vs. leyes [lé.yes] 'laws': perdieron [per.des.rion] 'they lost' vs. creyeron [kre.yé.rion] 'they believed'} \).

It thus appears that we don’t need an independent phoneme [jy]. Rather, the obstruents [y] ~ [f] can be viewed as strengthened realizations of the glide [j] in syllable-initial position. The degree of constriction is not contrastive for this sound, just like it is not for [b, d, g]. We may note that consonantization of syllable-initial glides is an ‘automatic’ process for speakers of Castilian Spanish, which they transfer to second languages. Speakers of this Spanish dialect find it very difficult both to produce and to perceive contrasts in English such as the one between jail and Yale or major and mayor.
Some authors have come short of accepting this simplification in the phonemic inventory, in which [y] ~ [i] represent noncontrastively strengthened glides, because of surface contrasts like those in (6):

(6) Glide vs. consonantal contrasts

desiertgo [de.ʃiér.to] 'desert' vs. deshielo [de.zhé.lo] 'thawing'
herniago [er.ni.á.go] 'ruptured' vs. enyesado [en.ye.sá.do] 'plastered'
avierto [a.β.yé.ro] 'open' vs. abyecto [a.β.yé.yo] 'abject'
boniato [bo.ni.á.to] 'sweet potato' vs. conyuge [kón.ýu.ge] 'spouse'

Arguably, however, the contrasts in (6), which involve differences in syllabification, are all due to differences in morphological structure and, therefore, do not reflect a true phonological contrast. The words on the right column in (6) are few and all involve prefixation. This may be productive, transparent prefixation, as in deshielo 'thawing', cf. hielo 'ice', and enyesado 'plastered', cf. yeso 'plaster', or relatively fossilized prefixation (or *stem-level* prefixation, Harris & Kaisse 1997), as in abyecto, cf. proyecto, inyectar, etc. The word conyuge 'spouse' can also be interpreted as containing the common prefix con- 'with'. We can thus propose morphological structures containing a prefix boundary. This morphological structure is respected in syllabification and the resulting syllable-initial glides undergo consonantization.3

All four nonsyllabic phones in (1) can thus be reduced to a single phoneme /ʃ/, which is consonantized to a nonstrident palatal fricative in syllable-initial position, are all due to differences in morphological structure and, therefore, do not reflect a true phonological contrast. The words on the right column in (6) are few and all involve prefixation. This may be productive, transparent prefixation, as in deshielo 'thawing', cf. hielo 'ice', and enyesado 'plastered', cf. yeso 'plaster', or relatively fossilized prefixation (or *stem-level* prefixation, Harris & Kaisse 1997), as in abyecto, cf. proyecto, inyectar, etc. The word conyuge 'spouse' can also be interpreted as containing the common prefix con- 'with'. We can thus propose morphological structures containing a prefix boundary. This morphological structure is respected in syllabification and the resulting syllable-initial glides undergo consonantization.

We must now determine the relationship between /ʃ/ and the vowel /i/. Could it be that nonsyllabic /ʃ/ (with consonantal and glide realizations) and the vowel /i/ are reducible to a single phoneme? In principle this is indeed what we would expect given the fact that predictable glide/high vowel alternations are exceedingly common in the languages of the world and, as shown in (2), Spanish also has such alternations (as in m[i] abuelo 'my grandfather' vs. m[i] padre 'my father'). In spite of all of this, the fact is that the Spanish dialect under consideration has surface diphthong/hiatus contrasts which do not seem to be always reducible to differences in morphological structure, position of the stress or any other factor (Real Academia Española 1983:47-58, Navarro Tomás 1977:149, Hualde 1991, 1994, among others). Many speakers make a contrast between the two classes of words in (7), for instance:

(7) Diphthong

diente [djén.te] 'tooth'
mediante [me.djén.te] 'by means of'
miel [míel] 'honey'
barriendo [ba.ɾjen.do] 'sweeping'
pie [pi.ɾ] 'foot'
dio [djó] 's/he gave'

Hiatus

cliente [kli.én.te] 'client'
Viña [bi.á.na] 'a town'
riel [ri.ɾ] 'rail'
riendo [ri.én.do] 'laughing'
pie [pi.ɾ] 'I chirped'
rio [ri.ɾ] 's/he laughed'

As for the phonetic realization of this contrast, spectrographic analysis has shown that when a sequence is produced as a diphthong there is a smooth transition, whereas in a hiatus there is a more abrupt discontinuity in vowel formants (Quilis 1988:179). Additional evidence, which confirms this description, can be found in Monroy Casas (1988:116) which contains spectrograms for the minimal pair está barr[j]endo 'she is sweeping' vs. esta b[a].ɾ[j]endo 'she was laughing' and in Quilis (1981:180-4, 1993:187-8), where spectrograms are offered for diphthong/hiatus pairs such as c[w]a.ɾro 'four' vs. si[t].u.ɾ[a]lo 'placed', c[w].d[a] 'she cares for' vs. h[u].ɾ[a]lo 'flight' and v[i].ɾ[a]lo 'widow' vs. d[i].ɾ[a]lo 'diurnal'. In word-initial position, the contrast is represented by [j]de te 'yacht' vs. h[i].ɾ[a]lo 'hiatus', with consonantization of the word-initial glide in the former. Most speakers of Castilian Spanish have clear intuitions about the contrast, which is the only phonemic contrast not made in the orthography of the language, but there is some idiolectal variation on whether or not some specific words belong to the hiatus class.5 All of this appears to indicate that high vowels and glides are, after all, in phonological contrast. We shall return to this issue in the following section.

A complication in the facts is introduced by the existence of a postlexical process of syllable contraction. At normal and fast conversational rates, sequences of two vowels across word boundaries tend to be reduced to a single syllable in Castilian Spanish (Navarro Tomás 1977:148).6 In this context, unstressed high vowels become glides:

(8) Syllable contraction

mi amigo [mi] 'my friend' tu amigo [wa] 'your friend'
mi honor [mi] 'my honor' tu honor [wo] 'your honor'
toda Italia [a] 'all Italy' toda unión [aw] 'every union'
té indicó [te] 'I indicate to you' te hundías [e'] 'you were sinking'
algó ingrato [o] 'somewhat ungrateful' algo usado [ow] 'somewhat used'

Syllable contraction can also affect word-internal heterosyllabic sequences, although less frequently. What this means is that the diphthong/hiatus contrasts in (7) may disappear in fast speech, especially in intonationally nonprominent position. The distinction is thus one between words that allow a pronunciation with a sequence in hiatus (such as cliente 'client', which is [kli.én.te] in citation form, but may be [kli.én.te] under syllable contraction) and words where the sequence is always pronounced as a diphthong (such as diente 'tooth', which is always [djén.te] and never *[djén.te]). Syllable contraction is a phrase-level or postlexical process, which neutralizes lexical distinctions.

To summarize our analysis so far, we have recognized the existence of a vowel/glide contrast which we may (provisionally) interpret as the existence of two phonemes with partially overlapping allophonic realizations: /ʃ/ and /i/. The vowel phoneme /i/ has [i] as its single lexical allophone, but is realized as a glide [i]
in contexts of syllable contraction. On the other hand, the glide phoneme [j] is consonantized to [y] or [w] in syllable-initial position and is realized as a glide after a tautosyllabic consonant (semiconsonant or on-glide) and after a tautosyllabic vowel (semivowel or off-glide):

(9) Summary of analysis (provisional)

Phonemes allophones

\[f\] [j] by postlexical syllable contraction, e.g.: mi amigo

[j] elsewhere, e.g.: pino, cliente

[y] syllable-initial, after noncontinuant consonant, e.g.: con yeso, con hielo (also in other syllable-initial contexts depending on style)

[j] other syllable-initial, e.g.: oye, de hielo, de yeso

[i] elsewhere, e.g.: tiene, peine (also in the same contexts as [y] in certain styles)

In the next section, I argue that it is preferable to reduce the phonemic inventory from \[f\]-\[j\] to a single phoneme \[l\], at the cost of introducing a certain amount of lexical marking.

2. Diphthongs vs. hiatus

We have concluded in the previous section that in Castilian Spanish there is a phonological contrast between diphthongs and hiatuses or, what amounts to the same thing, between glides and high vowels. Given this, we would in principle expect to find the two relevant configurations with approximately the same frequency. Let us first clarify what the relevant sequences are. To begin with, obviously no diphthong/hiatus contrast is possible if the high vocoid is stressed. A stressed vocoid is always syllabic, as in Maria [ma.ri.a]. A vocoid can be realized as a glide only if it is unstressed and is adjacent to another vocoid. We may have a contrast in cases like cliente [kl[i.en.te] 'client' vs. diente [d[jen.te] 'tooth', where the stress falls on the vowel adjacent to the high vocoid or (less commonly) in cases like huidizo [u.i.6[d.0] 'shy' vs. cuidado [ki.i.d.a.d.o] 'care', or reir6 [re.ir.6] 'I will laugh' vs. reinar4 [re.i.na.r6] 'I will reign', where neither of the two adjacent vocoids bears the stress.

In principle, the contrast should be found in unstressed intervocalic position, but in fact it is not. We find words like [ma.yo] 'may', but there are no words like hypothetical tautosyllabic *[ma.ii.o], where an unstressed intervocalic high vocoid is syllabic. An intervocalic high vocoid will be syllabic if stressed as in bahia [ba.i.a] 'bay' and nonsyllabic (and consonantized) otherwise, as in mayo [ma.yo] 'may'. We must conclude that if we have a phonemic contrast between \[f\] and \[j\], it is neutralized in word-internal intervocalic position.

If we restrict our attention to sequences of only two adjacent vocoids where at least one is high and unstressed, what we find that diphthongs are far more common than hiatuses. Sequences in hiatus, like those of the examples in the right column of (7) constitute a marked configuration in Spanish. Words like d[i]nte 'tooth', m[i]ntras 'while', v[i]nte 'belly', s[i]nte 'she feels', p[i]gue
very restricted distribution) and would not adequately capture the markedness relation between diphthongs and hiatuses (i.e., the fact that hiatuses with unstressed high vowels are relatively rare).

I suggest that in the most adequate analysis all five phones in (1) are related and correspond to a single phoneme /l/. In this analysis, all surface forms in (1) are largely predictable: /l/ is nonsyllabic if unstressed and adjacent to another vowel: /píno/ [píno] 'comb', /diente/ [djénte] 'tooth'. Words like [kliénte] 'client' are lexical exceptions to this rule, with lexically-specified syllabification /kli.énte/. The nonsyllabic realizations of the phoneme /l/ are furthermore consonantized to a nonstrict palatal fricative or even a(n) (affricated) stop if syllable initial: /hésol/ [jesol] 'plaster', /máio/ [máyo] 'may', con /[yeso] 'with plaster'. A word like /kén.iuxe/ [kén.uxe] 'spouse' (in standard orthography enyesar, deshielo, inyectar, asentir) would have to be indicated in words like /en.iesdr/ 'to plaster', /des.i6lo/ 'ice', /lésol/ 'plaster' (in standard orthography enyesar, deshielo, inyectar, asentir). A second complication is that in a relatively small group of specified exceptional syllabification: /kén.iuxe/. The consonantization of /l/ in this word follows from its syllable-initial postconsonantal position.

I would argue that the most adequate phonemic orthography for Castilian Spanish would make use of the single symbol /l/ for all surface realizations we are concerned with: /píno/ 'pine', /diente/ 'tooth', /desierto/ 'desert', /béinte/ 'twenty', /baía/ 'bay', /máio/ 'may', /i6lo/ 'ice', /lésol/ 'plaster' (in standard orthography: /píno/, /diente/, /desierto/, /vénte/, /báiya/, /máio/, /i6lo/, /lésol/). In addition, the prefix boundary would have to be indicated in words like /en.iesdr/ 'to plaster', /des.i6lo/ 'thawing' and especially (semi)-opaque formations such as /in.iestárt/ 'to inject', /kén.iuxe/ 'spouse' (in standard orthography enyesar, deshielo, inyectar, cónyuge) in order to make clear that there is a syllable boundary between consonant and /l/, which causes these words to be realized as /en.iesár/, /deziénto/, /con.ieso/ 'with plaster'. A second complication is that in a relatively small group of words (such as [kliénte]) the fact that /l/ is a syllable nucleus would have to be diacritically indicated: /kli.énte/ 'client', /di.ablo/ 'devil'.

Postlexically, as we saw, there is a process of syllable contraction applying both to vowel sequences across word boundaries and, less consistently, also to the exceptions to the lexical rule of gliding.

The analysis is summarized in (12):

(12) Final analysis

a. Phonemes: There is a single phoneme /l/. Surface allophonic realizations other than syllabic [l] arise in the following manner:

b. Lexical allophony:

b 1. Glide Formation: High vowels are nonsyllabic (glides) if unstressed and adjacent to another vowel. This rule has both morphologically-motivated and idiosyncratic lexical exceptions: /bóna/ [bóna], /dién.te/ [djén.te] Exceptions: morphological: /tien.do/, related to [t-e]; idiosyncratic: /kli.énte/ [kli.én.te].

b 2. Consonantization: Nonsyllabic instances of /l/ (and /h/) are furthermore consonantized if syllable initial. Consonantized /l/ is realized as a voiced palatal noncontiguous segment after a (heterosyllabic) noncon-

tuant consonant (and, for emphasis, also utterance-initially) and as a voiced palatal continuant segment with variable constriction otherwise: /en.iesdr/ [en.ye.sárr] 'to put plaster', /hésol/ [yéso] ~ [yeso], /máio/ [má.yo] 'may'.

c. Postlexical rules:

- Syllable Contraction: unstressed high vowels become glides if adjacent to another vowel.\[11\] applies across word boundaries and also to lexical exceptions to lexical Glide Formation: /mi amor/ [mja.mór] 'my love'.

3. Stress and the hiatus/diphthong contrast

Harris 1969, 1983, 1989, 1995 and Harris & Kaise 1997 present a view in which the hiatus/diphthong distinction plays a more extensive role in Spanish than I have shown here. They claim that Spanish has a well-established underlying distinction between /l/ and /l/ (or notational variants thereof). The arguments have to do with the interaction between stress and the syllabic properties of high vocoids.

Given the fact that stress in Spanish always falls on one of the last three syllables of the word, in a word like /sudo/ all vocoids cannot be vocalic, the argument goes, because that would place the stress outside of the 'stress window'.

A related argument is provided by the existence of contrasts such as /amplio/ 'I widen' vs. /cambio/ 'I change', in the present indicative. Spanish verbs, unlike nouns and adjectives, are all stressed in exactly the same manner. In particular, in the present indicative the stress always falls on the penultimate syllable. Thus, whereas, for instance, nouns such as /regálo/ 'gift' and /número/ 'number' contrast in their accentuation, the contrast is lost in the related verbs (yo) regalo 'I give a gift' and (yo) número 'I number'. Quite clearly *(yo) número is impossible in Spanish. If stress in the present indicative is always penultimate, the contrast between (yo) amplio and (yo) cambio must reflect a contrast in underlying structure: /ampliol vs. /cambio/. These arguments crucially rely on the assumption (standard among generative phonologists) that stress in Spanish is assigned by means of a rule or set of rules to underlying representations unspecified for this feature. I see no reason, however, for adopting that point of view (which in any case requires extensive lexical marking to derive the stress of non-verbs and of different verb tenses). I will assume instead that stress in Spanish is a lexical property of words (cf. Aske 1990 and also Mascaró 1978 for a different but somewhat related view regarding Catalan), which is, nevertheless, subject to restrictions in its distribution, such as the following:

(13) Restrictions on stress in Spanish

a. Stress falls on one of the last three syllables of the word
b. There is no antepenultimate stress when the penultimate is heavy
c. Stress is final when the word ends in a glide
d. Stress falls on the penultimate in the present indicative
My position is that these generalizations are not the result of the application of any set of rules of stress assignment but, rather, represent word-level phonotactic constraints (generalizations that speakers make about the relative acceptability or frequency of different patterns in the lexicon of the language). These constraints, furthermore, are not absolutely inviolable but rather represent preferred configurations or 'poles of attraction', using Mohanan's 1992 metaphor. Thus, the constraint in (13b) presents exceptions such as Frömista 'name of a town', limiste 'a type of cloth' (see Corominas & Pascual 1981, s.u. Frömista), Röchéstér (and other foreign names) and, in some dialects, subjunctive forms such as limpiemos '(that) we clean'. In a language with essentially the same stress facts as Spanish such as Italian, there are more exceptions, including words such as mändorla 'almond', polizza 'policy', Lépanto and Órrantino. But the existence of a few exceptions is not an obstacle for recognizing (13b) as a strong attractor in this language. In another sister language, Brazilian Portuguese, this constraint is somewhat stronger since even a borrowing such as Röchéstér is automatically converted to Rochéstér. Similarly, the three-syllable window in (13a) allows in Italian the single exception of third plural verbal forms such as abitanò 'they live', considerano 'they consider' (cf. Saltarelli 1997 for a comparison of Spanish and Italian in this respect). A representation will be 'harmonic' (see Goldsmith 1993) to the extent that it respects the phonotactics of the language. A word like Frömista in Spanish is less harmonic that taxista from the point of view of its stress contour. (In a similar way, the word [kli.6n.te] is less harmonic than a word like [dj6n.te], since it contains a less preferred configuration of vocoids—it is an exception to the generalization that unstressed hl and lu/ belong to the same syllable as an adjacent vowel). Words such as Càucaso or sàúrio are perfectly harmonic from the point of view of their stress pattern, since they do not violate any of the constraints on the position of the stress. In particular, the stress falls on the antepenultimate syllable in the case of Càucaso and on the penultimate in sàúrio; thus, within the stress window. The fact that the stressed syllable would be the fourth from the right if we were to syllabify in a different manner than we actually do is immaterial. Similarly, both verbs cambia 'I change' and amplio 'I widen' conform to the pattern of presenting penultimate stress. In the view presented here, the restrictions on stress placement apply to lexical outputs, not to underlying representations. The existence of words like sàúrio or contrasts like (yo) amplio vs. (yo) cambia does not necessarily lead us to recognize the existence of underlying glides.

4. Some aspects of dialectal variation

In this final section, I want to consider the facts of some other Spanish dialects, especially regarding consonantization. I will argue that some dialects require a different phonemic analysis from the one I have proposed for Castilian.

In the dialect described by Navarro Tomás, which we may dub Standard Traditional Castilian, there is a palatal lateral pheme corresponding to orthographic l/. This sound is in phonological contrast with the nonlateral palatal consonant [j], written y, hi-. There are some minimal pairs such as pollo [pólo] 'chicken' vs. poyo [póyo] 'stone bench' or calló [kaló] 'she was silent' vs. cayó [kayó] 'she fell'. In the last few decades this distinction has been rapidly losing ground and now only a minority of Castilian speakers under 50 years of age have the palatal lateral (Hernández Alonso 1996:200, Moreno Fernández 1996:219). This development has brought Standard Neo-Castilian in line with most other Spanish dialects, where the distinction was lost a long time ago in many cases. The pronunciation of orthographic l/ as [y] (or [j]) is known as 'yeismo' in Spanish dialectology.14

For the phonemic analysis that we have proposed, what this sound change implies is that in the Neo-Castilian standard all words with orthographic l/, formerly pronounced with l/, have now been reinterpreted as having phonemic l/ l/ábe/ 'key', /láel/ 'street', /légal/ 's/he arrives', etc.

By an unrelated development, in some areas of Castilla-La Mancha, word-initial [ye] was strengthened to [gie] : hiel [gie] 'bile', hierro [giejo] 'iron', yeso [giejo] 'plaster' (cf. Navarro Tomás 1977:129 fn. 1, Moreno Fernández 1996:220, Jiménez 1996). This [gie] may still be synchronically analyzed as representing a strengthened allophone of nonsyllabic l/ in word-initial position before l/. Now, here as elsewhere in central Spain, most young speakers present 'yeismo'. For these speakers, the result of the delateralization of [x] is [y] both in medial position and word-initially. The examples given above in (14), have the following realization in this dialect (the data correspond to the variety spoken in Pinarejo, in the province of Cuenca, in Castilla-La Mancha):15

<table>
<thead>
<tr>
<th>(14)</th>
<th>Trad. Castilian</th>
<th>Neo-Castilian</th>
</tr>
</thead>
<tbody>
<tr>
<td>yeso</td>
<td>[yéso]</td>
<td>[yéso]</td>
</tr>
<tr>
<td>hierro</td>
<td>[yéro]</td>
<td>[yéro]</td>
</tr>
<tr>
<td>hielo</td>
<td>[yélo]</td>
<td>[yélo]</td>
</tr>
<tr>
<td>yunque</td>
<td>[yúŋke]</td>
<td>[yúŋke]</td>
</tr>
<tr>
<td>mayo</td>
<td>[máyo]</td>
<td>[máyo]</td>
</tr>
<tr>
<td>llave</td>
<td>[lábe]</td>
<td>[lábe]</td>
</tr>
<tr>
<td>llega</td>
<td>[léya]</td>
<td>[léya]</td>
</tr>
<tr>
<td>lluvia</td>
<td>[lúbja]</td>
<td>[lúbja]</td>
</tr>
<tr>
<td>calle</td>
<td>[káye]</td>
<td>[káye]</td>
</tr>
</tbody>
</table>

It appears that now we must take [y] as the nonsyllabic syllable-initial allophone of l/, both medially as in mayo /máyo/ [máyo] 'may', calle /káie/ [káye]...
The acoustic distance that separates the strident fricative [z] - [f] from the glide [i] is obviously very great. Unsurprisingly, the phonemic link with /i/ has been broken, in spite of the existence of morphophonological alternations. Argentinean Spanish now has a phoneme /i/ (or /f/) which is separate from /i/. That this phonemic split has taken place is apparent from the fact that a new syllable-initial nonnuclear allophone of /i/, [i] - [y], has been introduced through (a) foreign names and other loanwords, and (b) a spelling pronunciation of some words written with initial hiV- or intervocalic -i- (Lozano 1979:33). This sound is kept separate from /f/. Argentinean thus has a spelling-driven, but fully-established, contrast that Castilian does not make:

(16)

<table>
<thead>
<tr>
<th>Argentinian</th>
<th>Castilian</th>
</tr>
</thead>
<tbody>
<tr>
<td>yeso</td>
<td>[yéso]</td>
</tr>
<tr>
<td>hielo</td>
<td>[yélo]</td>
</tr>
<tr>
<td>tramoya</td>
<td>[tramóya]</td>
</tr>
<tr>
<td>paranoia</td>
<td>[paranóya]</td>
</tr>
</tbody>
</table>

One even finds that original spelling variants have been lexicalized as minimal contrasting pairs. Thus, whereas Castilian has a single word [yɜʧa] 'grass', with two alternative spellings, hierba and yerba, Argentinean has two words, hierba [yɜʧa] 'grass' and yerba [zɜʧa] 'maɪe'. In word-medial position, the contrast has been introduced by learned words like paranoia, where the nonnative spelling has been preserved, non-Spanish toponyms such as Ushuaia 'a town in Tierra del Fuego' and other borrowings. The phoneme /f/ also occurs in word-final position in loanwords such as garage [garaj]. Here the contrast is now with words such as convolf([j]).

In syllable-initial position, some Castilian speakers also attempt to produce a similar spelling-driven distinction in very careful speech, giving hiV- a nonconsonantal realization: kiena (kena) 'hyena' (Navarro Tomás 1977:49-50). But the phonetic nature of [y] in Castilian makes this distinction difficult to maintain. What we are representing as [y] is a voiced palatal sound that ranges from a glide to an articulation with greater constriction (but still non-strident). In its most fortis or constricted realizations it is noncontinuant (a palatal affricate or stop, in which case it may be transcribed as [j]), as was noticed above. The degree of constriction varies depending on the context but also on style and idiolect. A word like 

'mayo', for instance, which in the standard style described by Navarro Tomás is [majo] in non-emphatic pronunciation, can actually be heard with pronunciations that span the whole range from [majo], with a pure glide, to [majo] with moderate constriction, to [majo] with complete constriction (Navarro Tomás 1977:129-30). Given this 'free variation' (actually stylistically and sociolectally governed) in constriction degree, the contrast made in Argentinean is unlikely in Castilian. To the extent that no contrast is possible, we can maintain the analysis in which [y] is a syllable-initial nonsyllabic allophone of /i/. Crucially [majo] and [majo] are non-contrastive pronunciations in this dialect. It is simply the fact that the glide [j] in syllable-initial position can be pronounced (and is usually pronounced) with a greater degree of constriction than that of a typical glide. Words like hiato (kato) 'hiatus' are different. As mentioned above, this word is an exception to Glide Formation; that is, it belongs to the marked group represented by cliente 'client'.

In Argentinean the situation is different. In this dialect the historical fortition of syllable-initial glides has given rise to a strident sound [z] (or [], which does not sound anything like a glide. This sound has been reinterpreted as a new phoneme /f/ which now contrasts with [j] - [y], the realization of /i/ in syllable-initial nonsyllabic contexts. The fact is that Argentinean speakers have no difficulty producing a (more or less constricted) syllable-initial glide which is distinct from [z]. Presumably Basque names such as [amayə], which in Spain one can see either with its Spanish spelling Amaya or its Basque spelling Amaita, would be pronounced in two different ways by Argentinians depending on the orthographic form adopted. One historical phoneme has split into two in Argentinean Spanish.

Malmberg (1979$964):467-9) points out the close parallelism that this situation presents with the historical split that has given rise to doubles in Spanish such as junta [xunta] 'meeting' and yunta [yunta] 'yoke of draft animals', both from the same source and from nonvocalic realizations of word-initial /i/. In Medieval Spanish this segment was strengthened to [z] before a back vowel and later it underwent devoicing and velarization [i] > [z] > [j] > [x]. Exceptionally, some words (like yunta) escaped the initial fortition process and have kept /f/ to this day in Castilian Spanish. In Argentinean, a second round of fortition, which again has lexical exceptions, now largely orthographically motivated, has produced strikingly similar results: [yunta] > [∪junta] > [fjunta]. As yet there is no hint of velarization, which could produce a new merger between junta and yunta. There is no reason to expect this further development, which is a universally rather unusual process.

Argentinean Spanish preserves, of course, the morphophonemic alternations between glide and obstruent mentioned at the beginning of this paper; e.g., [lɛj] 'law', [l̪ɛjes] 'laws'; [pɾeɾjeron] 'they lost', [kɾeɾjeron] 'they believed'. These lexical alternations must be seen as involving correspondences between two phonemes in Argentinean, like so many other morphophonological alternations (for different views, cf. Lozano 1979, Harris & Kaisse 1997).
To sum up, perhaps the most interesting problem in the phonemic analysis of Spanish is that of the status of palatal glides and obstruents vis-à-vis the vowel /i/. In Castilian Spanish and other dialects, there is a surface contrast between high vowel and glide exemplified by pairs like [kiénite] vs. [djeénite], [tiénde] vs. [sjéndo], etc. In these cases, the hiatus is a much less frequent configuration than the diphthong, and, therefore, in principle dispreferred (in historical change, adoption of new words, grammaticality judgements—which we take to be a reflection of generalizations about the frequency of different patterns in the lexicon, etc.). Given the relative rarity of the relevant sequences in hiatus, in the most parsimonious phonemic analysis a single phoneme /i/ is postulated, with lexical marking of words with exceptional syllabification. However, we have also seen that in the Castilian dialect that we have considered in detail sequences in hiatus are not randomly distributed in the lexicon. Many words in #Ca, for instance, present a hiatus. This minor lexical pattern may also act as an attractor. In addition, the attraction or consistency among words in the same morphological paradigm appears to be behind the occurrence of a hiatus in words like [tiénde] ‘laughing’, related to [ré] ‘she laughs’, etc. All of this undoubtedly forms part of the knowledge edges have about their language, but cannot be captured in a phonemic analysis.

On the other hand, glide/consonant alternations appear to be largely predictable in Castilian Spanish: glides tend to acquire a greater constriction in syllable-initial position. Degree of constriction is not phonologically relevant in this case. A well-known problem is presented by a few words like *conuyge*. In these words, postconsonantal /j/ can be derived from a syllable structure, which, although seemingly anomalous, can nevertheless be assimilated to that of words with transparent prefixation.

Finally, we have argued that in some dialects with categorical and salient fortition of word- or syllable-initial glides phonemic split has taken place.

NOTES

1 *Mutatis mutandi*, the description is also valid for /u/ and related labiovelar articulations.

2 In other (less prestigious) sociolects of the same area the noncontinuant /j/ is employed also after continuant consonants and even intervocally: [jçe] ‘listen!’, [kçye] ‘street’, in stylistic variation or categorically. Noncontinuant intervocalic realizations are also found in other parts of the Spanish-speaking world, e.g. Lima, Peru.


4 Here we have in fact a minimal triplet: *[pié]* ‘(that) s/he chirp (subjunctive)’, *[pié] ‘I chirped’, *[pié] ‘foot’.

5 My intuitions on syllabification have been checked against those of other Castilian speakers and also agree substantially with those presented in the grammar of the Real Academia Española (1973:47-58) and in Quilis (1993:184-6). I disagree with the Spanish Academy’s description only in a few examples such as *viaje* and *cruel*, which for me do not allow a hiatus (although they do for other speakers I have consulted), and in some adjectives in -uar, which for me permit a hiatus, in accordance with a pronunciation described in fn. 25 of the Academy’s grammar, which differs from that given in the main text as standard. Minor factual disagreements with Quilis 1993 are pointed out below. Some differences in specific examples with the description in Navarro Tomás 1977 are discussed in Hualde 1994. The dialect described in Roca 1991 presents more differences with mine in the syllabification of specific items. A small minority of Castilian speakers do not have clear intuitions regarding this matter. Within the Castilian area this appears to be a matter of idiolect, and not to be related to geographical dialects (just like some speakers do not have clear intuitions regarding the position of the stressed syllable within the word). In some Latin American dialects, on the other hand, the hiatus/diphthong contrast appears to have been lost to a great extent.

6 This process is traditionally known as *sinalefa*, and affects syllable count in poetry.

7 This preference can be noticed, for instance, in the pronunciation of names such as *Vienna, Indiana, San Diego*, which have a hiatus in English, but a diphthong in Spanish: *[bje na], [in dje na], [san dje yo] (but *Niagara* [ni a yawa], *Ruanda* [ru án da], which conform to certain minor subregularities or analogical patterns in the lexicon of the relevant Spanish dialects; respectively, a tendency to have a hiatus with /t/, in the first syllable, and a preference for hiatus after initial /r/.

8 And many others, but an exception is *lingwa*. After a velar, hiatus with /u/ is strongly dispreferred, cf. also, e.g., *congruente ‘congruous’* vs. *consecuent* ‘consequent’, with the same suffix. Quilis (1993:183) states that, as a rule, infinitives in -uar have a hiatus (*actuar, evaluar*, etc.), but with four exceptions: *evacuar, adecuar, licuar* and *oblicuar*. These four examples of obligatory diphthong have a velar before the diphthong. My intuitions coincide with Quilis’ in this point.

9 The syllabification pattern of the infinitive is preserved in the future (and conditional); e.g.: *[re el] ‘to laugh*, *[re el i] ‘I will laugh*; *[o i] ‘to hear*, *[i] ‘I will hear* (but, for instance, *[o i] ‘amos ‘let us hear*). In my idiolect this is also true for
verbs in -iar, -uar, -uir, which for Quilis (1993:185) present a hiatus in the infinitive but not in the future.

A near-exhaustive list of examples with non-morphologically-motivated hiatus in my idiolect is the following (I mark the stress in every word, whether or not it is required by Spanish orthography): ciática, diabétés, diáblo, diácono, diáfono, diagnóstis, diafragmà, diálogo, diáisis, diámetro, diàna, diàntre (but dij[a]-mànte), diáspora, diatriba, diágramà (but dij[a]gondàl), fiambre, fíasco, hiático, liana, miója, múisma, NíVGara, píano, píara, tiàra, Viàna, Viàlogo, bio..., biómbico, dioptría, frórdo, ión, piójo, piorrréa, priór, kiósco, miópe, Riójà, Sión, a priórí, ciènàe, riél (but mi[jéj, p[jéj], embrión, Suìza, ruína, Ruànda, truhán, zuavo (but z[váve], zuádeno. From the list of exceptional words given in Quilis (1993:185-6, under c, which, nevertheless includes some words where the hiatus would receive a morphological explanation in our account), I differ only in not accepting a hiatus in arriero, acusoo, cruel and gordión.

Syllable contraction is a more complicated process affecting all vowels (not only the high vowels) and with differences in frequency of application depending on whether or not the two vowels in contact are unstressed and on morphological and syntactic context. The details of the process are unimportant for our present purposes (see Navarro Tomás 1977, Roca 1991, Hualde 1994, for details).

These generalizations can be very specific (cf. Bybee & Slobin 1982). Thus, even though the vast majority of words ending is a consonant are oxytonic, words ending in -en often have penultimate stress. Aske 1990 argues that speakers access such knowledge (in stressing novel words in a experiment) by direct consultation of the lexicon.

We may note, incidentally, that in fact these two examples are related, respectively, to the noun càmbio 'change' and the adjective àmplio 'wide'. The accentual relationship between verbs and nouns and adjectives containing the relevant sequences is thus not always straightforward.

The palatal lateral and the distinction between the two articulations are still preserved outside of Spain in some places of South America (parts of Colombia, Perú, Bolivia, etc.) but everywhere the phenomenon appears to be receding (cf. Lipski 1994:139-40).

The word yegua [y6ywa] 'mare' is an exception, *[gjéywa]. Jesús Jiménez (p.c.) suggests that this could be due to dissimilation.

I want to thank Jesús Jiménez, a native of Pinarejo, for the data (cf. also Jiménez 1996). Older speakers from this town maintain the palatal lateral.

According to Lozano (1979:33) 'ti[is contrast is maintained only by educated speakers' and the pronunciation of hi- as [y] is 'an artificial pronunciation based on the spelling of these words'. Malmberg (1971[1964]:468) calls it 'une distinction historiquemment artificielle'.

The orthographic distinction between hie- and ye- in Spanish is largely made according to etymological criteria. For the most part, hie- continues Latin fe- with short iel, which diphthongizes in Spanish, as in ferru > hierro 'iron', where the h was aspirated in Medieval Spanish and still is in some dialects. In all other cases y- is employed. However, when the Latin etymon has h- (which was silent in late Latin), there are two acceptable spellings for some words, as in herba > hierba 'grass', hedera > hiedra ~ yedra 'ivy'. Finally, in a few cases, there is no etymological justification for the spelling hi-: gelu > hielo 'ice', eru > hiero 'vetch' (cf. Real Academia Española 1973:128-130).

In Hualde (1989:825), I pointed out that in some Castilian idiolects three types of words are distinguished, represented by yema 'yolk', hiato 'hiatus' and hiena 'hyena'. The word yema, which is usually pronounced [yema] represents the majority class where the word-initial vocoid is realized as nonsyllabic and undergoes Consonantization. A word like hiato represents the marked class where the two vocoids constitute a hiatus, [i.ático]. This hiatus can be reduced to a tautosyllabic sequence by postlexical Syllable Contraction, like other all such sequences. Finally, a word like hiena, can be treated as a member of the regular class and be pronounced [yéna]; but it is the type of learned word where speakers may attempt an orthographically-based nonconstricted realization of the initial glide, [jéna].

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