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*Hispanic Review* is currently published by University of Pennsylvania Press.
ON THE METATHESIS OF LABIALS + /J/
IN HISPANO-ROMANCE

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1. Introduction

URING the period of time extending from the spoken Latin of the Iberian Peninsula, at the time of the Roman Empire, until the dawn of Old Spanish and Old Portuguese, several word-medial intervocalic consonant + palatal-glide sequences underwent metathesis to glide + consonant. In Spanish, this glide metathesis occurred regularly in the Latin /sj/ and /rj/ sequences, and additionally with Latin /s:j/ and in certain stem allomorphs of two verbs, caber and saber. This is shown by the data in (1a).

(1) (a) CASEU > *[kazju] > *[kajzo] > *[kejzo] > Sp. queso 'cheese'
BASIU > *[bazju] > *[bajzo] > *[bejzo] > Sp. beso 'kiss'
QUASSIARE > *[ka.sjare] > *[kaj.sar] > *[kej.far] > Sp. quejar 'complain'
AREA > *[arja] > *[ajra] > *[ejra] > Sp. era 'threshing floor'
SAPIAT > *[sapja] > *[sajpa] > *[sejpa] > Sp. sepa 'that s/he know'
As one may ascertain through comparison of the consonant + palatal glide (henceforth /Cj/) sequences in (1a) to the labial + glide sequences in (1b), metathesis of the latter sequences never achieved the regularity of the former: /pj/ > /jp/ was restricted to two verbal stems, thus leaving nonverbal /pj/ intact, as with the Spanish reflex of APIU.

The Portuguese metathesis data, shown in (2), are similar to the Spanish data in the sense that the same sequences, /sj/, /s:j/, /rj/, and /pj/, also underwent metathesis in Portuguese.

(2) CASEU > *[kazju] > *[kaj3o] > *[kej3o] > Ptg. queijo ‘cheese’
   BASIU > *[bajzu] > *[baj3o] > *[bej3o] > Ptg. beijo ‘kiss’
   QUASSIARE > *[ka.sja.re] > *[ka.jsar] > *[kej.jar] > Ptg. queixar ‘complain’
   AREA > *[arja] > *[ajra] > *[ejra] > Ptg. eira ‘threshing floor’
   SAPIAT > *[sabja] > *[sajba] > Ptg. saiba ‘that s/he know’
   APIU > *[apju] > Ptg. aipo ‘celery’
   RABIA > *[rabja] > *[rajva] > Ptg. raiva ‘anger, rage’
   RUBEU > *[rubju] > *[rujvo] > Ptg. ruivo ‘red-haired’
   NOVIU > Ptg. noivo ‘fiancé’

It is interesting to note that, while the inversion of /sj/ and /rj/ was regular in both Spanish and Portuguese, one of the major differences between the two languages concerns the development of the labial + /j/ sequences. First, /a/ was fronted and closed to /e/ in Spanish, while in Portuguese it remains a low central vowel. Second, metathesis of the labials with the semivowel was regular in Portuguese, in contrast to its restriction to only two verb stems in Spanish. In line with the conservative nature of Luso-Romance (Rini 1991:121–123) one may postulate a later metathesis in Portuguese, after the demise of the /aj/ > /ej/ > /ej/ shift, to explain the retention of /aj/, but a
Metathesis in Hispano-Romance

major question still remains: Why was labial + yod metathesis early and sporadic in Spanish, and later and regular in Portuguese?

In this article I first argue that regular diachronic /Cj/ metathesis must be a gradual change with a palatalized intermediate stage. From this basis, I then argue that the Portuguese cases of labial + yod metathesis were a gradual change that progressed through a palatalized intermediate stage, while the metathesis of /pj/ in the history of Spanish was an abrupt inversion due to analogical influence from other first-person verb stems.

2. Is /Cj/ Metathesis Gradual or Abrupt?

Many studies have accepted, either implicitly or explicitly, that metathesis is by nature a sudden sound change. One reason, perhaps, is that some studies of metathesis are more concerned with achieving a descriptive account that focuses on the input and the output of the change, rather than the exact mechanisms involved in diachronic metathesis. This is no doubt the aim in Lloyd (1987), Penny (1991), Menéndez Pidal (1940), and Williams (1962), among others. A second possible motive is analogy with cases of non-adjacent or "long distance" metathesis, which by their nature cannot be gradual, e.g., PARABOLA > Sp. palabra, Ptg. palavra 'word'; MIRACULU > Sp. milagro, Ptg. milagre 'miracle'. Third, a sudden approach is the explicit aim of the investigator, as exemplified by the following passage:

Another difficulty [with the gradual approach] has to do with a class of sound changes (e.g., metatheses, certain dissimilations; the—largely subphonemic—replacement of lingual by uvular r in many European languages) for which a continuous articulatory shift cannot well be imagined, but many of which occur nevertheless with the same regularity that characterizes other sound changes. (Hoenigswald 1960:72–73)

In response to this abrupt approach, either because, as Lipski (1992:99) states, sudden metatheses (nonlinear or linear) are "marked processes which require powerful phonological machinery, and which place severe strains on information transfer," or because the available data strongly suggest the presence of an intermediate step, many studies consider diachronic metathesis to be gradual. Although the input and the output of the change give the appearance of a sudden shift in articulatory order, there were in a diachronic sense actually one or more intermediate stages. In the case of
consonant + yod metathesis, the primary intermediate step would be a palatal or palatalized consonant, which eventually ceded an epenthetic off-glide, e.g., BASIU > *[bazju] > *[ba3jo] > *[ba3o] > *[baj3o] > *[bej3o] > Ptg. beijo ‘kiss’.

It should be noted that such a gradual process of segment inversion is not, strictly speaking, metathesis—the transformational inversion of segment order, e.g., ab > ba—but rather a distinct type of diachronic change that achieves the same results as metathesis (Pensado 1986:330). One could simply refer to this process as a sequence of changes, e.g., palatalization followed by resegmentation of an off-glide; alternatively, we may follow Hock (1985:531, 538) and label this process “glide epenthesis,” thus placing emphasis on the latter stages of the change, which comprise the resegmentation of the glide in preconsonantal position.¹

Most studies appear to follow one approach to the exclusion of the other; for example Hock (1985, 1991:118–121, 133–135), Pensado (1986), Straka (1979), Lausberg (1965:390–391), and Grammont (1933:244–245), advocate a gradual approach to /Cj/ metathesis through partial or full palatalization of the consonant, while Menéndez Pidal (1940) and Torreblanca (1988, 1992) put forth an abrupt interpretation. Logically, however, there is no reason to discard the possibility that Hispano-Romance /Cj/ metathesis could be a combination of abrupt and gradual inversions. The question is, how can one decide whether a given instance of /Cj/ metathesis was gradual or abrupt?

The answer lies with the issue of regularity. Unlike /pj/ in Spanish, /Cj/ metathesis was a relatively regular change in Hispano-Romance; how this regularity was achieved sheds light on the abrupt vs. gradual dilemma. From the gradual perspective, regularity poses no problem. Each component sound change—palatalization + absorption, off-glide /j/ epenthesis, and depalatalization—are empirically proven to be regular sound changes; thus, barring any interference from one or more competing sound changes somewhere along

¹ One can make a further distinction, within the gradual approach, between glide epenthesis and pseudo-metathesis. With the former, a vestige of the glide is preserved as a secondary articulation on the consonant, while with the latter the vocoid articulation is completely lost, causing the consonant, often a liquid like /t/, to become syllabic for a time before anaptyxis, e.g., Breton > [br.tô] > Le Havre bertô (Tuttle 1997:271; also Lyche 1995, Blevins and Garrett 1998:539ff).
Metathesis in Hispano-Romance

the line, the sum of regular sound changes in sequence is by definition also regular.

On the other hand, regularity is much more problematic for abrupt metathesis. From a synchronic point of view, there do exist cases of regular abrupt metathesis, for example Rotuman keleŋa ~ kelyaŋ (/ea/ > [ya]) 'to appear to' (Besnier 1987:214), and Central Sierra Miwok tuaŋŋeŋ 'I recently jumped' ~ tujaŋ 'to jump' (Wanner 1989:434), and the existence of such rules would seem to provide a vehicle for the regularization of diachronic metathesis. The problem, however, is that abrupt synchronic rules of this type do not seem to exist without morphosyntactic conditioning. As Janda (1984:99) points out, in spite of Chomsky and Halle's claim that "metathesis is a perfectly common phonological process" (1968:361), there are very few, if any, synchronic metathesis rules that are not conditioned morphosyntactically. Thus, synchronic metathesis does not appear to be a purely phonological process, and we are therefore led to conclude, as does Webb (1974), that synchronic, strictly phonological metathesis rules apparently do not exist, or at most are extremely rare. Strong empirical evidence to the contrary is simply absent.

One way of overcoming this obstacle is to appeal to Labov (1981, 1994:541–543; also Kiparsky 1988), who reconciles the Neogrammarian view on sound change as exceptionless, with the lexical diffusionist model of regularity in the outcome of the change, by postulating two mechanisms of change. On the one hand there are those types of sound change that tend to apply across the board, with few if any lexical exceptions, thus achieving regularity rather quickly; on the other hand, some sound changes seem to progress from one lexical item to another, as a sort of phonological analogy, and achieve regular application only at the outcome, after the word-by-word diffusion has managed to wend its way across the lexicon.

2 Though Hume considers Leti metathesis to be "pervasive and regular, as well as driven by purely phonological considerations" (1998:148, 184), the fact that it occurs either (1) at a morpheme boundary, or (2) phrase finally, strongly suggests there is something other than purely phonological phenomena at work. Following Trubetzkoy (1969, Pt. II) the restriction of metathesis to a morpheme boundary and to phrase final position is indicative of the existence of a diachronic precursor to the Leti situation, in that a gradual case of diachronic inversion (Blevins and Garrett 1998:541ff) has since been reanalyzed as synchronically abrupt, and has taken on word or morpheme (morphosyntactic) demarcation functions (cf. Hyman 1978).
Therefore, in spite of the apparent lacuna of empirical support for an across-the-board style phonological metathesis rule, one might still postulate a diffusionist-style metathesis, whereby the metathesis progresses from lexical item to lexical item, e.g., BASIU > Hisp.-Rom. *[baj.zo] ‘kiss’ through analogy with CASEU > Hisp.-Rom. *[kaj.zo] ‘cheese’ (Wireback 1997:124). To posit such a theory, however, one must show exactly how such a lexical change is propelled beyond the sporadic stage. That is, we know that metathesis can be a sporadic process (Lehmann 1992:204); examples of this are legion, and presumably regular metatheses begin as sporadic processes. What exactly allows these sporadic inversions to become regular, in the absence of a general synchronic rule?

I would argue that the role played by perception is the determining factor. Blevins and Garrett (1998:510–517) account for cases of consonant + vowel metathesis that are similar to those exemplified above in (1) and (2) with the concept of perceptual metathesis. From their perspective, CV and /Cj/ metatheses originate when the consonant and the (semi)vowel contain an acoustic or perceptual feature with a rather long duration. For the Spanish and Portuguese cases of /Cj/ metathesis cited thus far, the feature in question would be palatalization.

Ohala (1993:252; 1995:89–90) observes that while some articulatory features, like occlusive or affricate, are associated with rather rapid acoustic cues, other secondary articulations like palatalization, labialization, and glottalization tend to be relatively slow to develop in an acoustic sense, and thus temporally spread out. As a result, such slow-developing acoustic cues lend themselves to a type of sound change that Ohala calls “hyper-correction.” According to Ohala (1993:250), speakers possess an ability to “undo or reverse the predictable perturbations found in speech,” a corrective ability which in the case of an elongated acoustic effect like palatalization or glottalization includes “depalatalizing” or “deglottalizing” a palatalized or glottalized segment in order to recover its corresponding non-palatal or non-glottal phoneme.

In Ohala’s view, hyper-correction occurs when a speaker perceives the need to apply this phonemic correction to a phonetic sequence that contains an elongated acoustic cue like palatalization, when in fact no allophonic rule has applied to the phonemic representation. For example a speaker, upon perceiving the phonetic sequence [j3] < /j3/, might mistakenly assume that the acoustic
effect on the consonant that cues palatalization is not due to phonemic /3/, but is instead due to the palatalizing effects of the preceding /j/. As a result, the speaker (mistakenly) hyper-corrects the [j3] phonetic sequence back to /jz/.

The ease with which such hyper-corrections occur in sound change must be partially due to what we might call the “dampening” effect of secondary articulations like palatalization, glottalization, or pharyngealization. According to Stevens and Keyser (1989:81), the distinctive features [continuant], [coronal], and [sonorant] occur in the vast majority of the world’s languages because they are salient acoustically and thus more effective than other features in marking phonological contrasts. These contrasts are then enhanced further by specific combinations of secondary features like [voice], [stressed], and [nasal].

Some secondary articulations like palatalization, velarization, and pharyngealization, however, can instead have the opposite effect in that they decrease the saliency of the primary features; this is because the secondary constrictions occur at a point of articulation distinct from that of the primary articulation, and effectively diminish its acoustic saliency (Stevens and Keyser 1989:101–102). Palatalization thus decreases the saliency of certain robust acoustic cues, making perception and accurate reconstruction of phonemic structure and sequencing more difficult. As a result, a series of misperceptions over time, if they occur in the proper chronological order, could give the appearance of metathesis, e.g., after /zj/ palatalizes to [3j], [3j] could be misperceived as /3/; subsequently, [3] could be incorrectly reconstructed to /j3/; finally hyper-correction of [j3] to /jz/ would complete the “metathesis.”

The consequence of the acoustic approach to metathesis outlined above is that it renders highly unlikely the abrupt metathesis of consonant + glide sequences on the basis of acoustic factors alone. Otherwise stated, the key to the hyper-corrective or misperceptual basis of metathesis is the elongated nature of the palatal articulation, i.e., its ability to spread out to adjacent consonantal segments (through palatalization) and reduce the acoustic saliency of the consonantal articulation, coupled with the apparent increase in perceptual difficulties associated with such articulations that have a slower release (Ohala 1995:90, Laver 1994:323). In contrast, if the palatal gesture is confined to the yod in a /Cj/ sequence, the potential of palatalization to complicate perception or lead to hyper-correction
is markedly reduced or absent, making it very unlikely that a [Cj]
sequence be misperceived as /jC/.

This is not to say that abrupt metatheses of a perceptual nature
are not possible, because certain diachronic cases of regular me-
tathesis might be more plausibly explained if an abrupt aspect to the
inversion were judiciously motivated. For example, in order to ac-
count for Old Spanish inversions of the type /n.r/ > /r.n/, e.g.,
vienres > viernes ‘Friday’, yenro > yerno ‘son-in-law’; /d.n/ > /n.d/,
e.g., cadnado > candado ‘padlock’, *riedna > rienda ‘reins’; /d.l/ >
/l.d/ e.g., espalda > espalda ‘back’, cabildo > cabildo ‘chapter’, we
could appeal to the three articulatory and perceptual options given
in (3):

(3) (a) speakers might mistime the articulation of certain key
features like [±sonorant] or [±nasal], resulting in a transi-
tional articulation like [^n^d] or ["d"] (the “superseg-
ment” of Wanner 1989) that could be perceived as /nd/;
(b) given the existence of /n.d/, /l.d/, and /r.n/ sequences in
Old Spanish, for example (d)onde ‘where’, sueldo ‘coin’,
pierna ‘leg’, which could function as analogical models,
plus the high degree of articulatory similarity between
both elements of the /dn/ sequence, speakers might
hyper-correct for the opposite order, e.g., perceive the
nasalization at the offset of /d/ in the [dn] sequence, but
attribute it to perturbation from a /n/ preceding the /d/;
or
(c) also due to the relatively high degree of articulatory
similarity (e.g., in point of articulation, [+cons], and voic-
ing) between the segments in each sequence, speakers
could simply misperceive [d.n] [d.l], and [n.r] as /nd/,
/l.d/, and /rn/ respectively.

During language acquisition, speakers could implement (3a–c) as a
shift toward a more unmarked segment order—the marked /d.n/
sequence creates an “unpreferred syllable contact or sonority pro-
file” (Vennemann 1988:40, 55; Wanner 1989:437–441; Holt 1994; Clem-
ents 1990). Alternatively, after the period of language acquisition,
speakers have been exposed much more frequently to /n.d/, /l.d/, and
/r.n/ sequences in comparison to /d.n/, /d.l/, and /n.r/ (I assume
that the former set was lexically much more frequent); the higher
frequency of /n.d/, /l.d/, and /r.n/ could thus cause misperception of
Metathesis in Hispano-Romance

/d.n/, /d.l/, and /n.r/ through the weight of analogical influence—[d.n] or [\(^{\text{n.d}}\)] is hypercorrected to or perceived as /n.d/ in a given lexical item because the speaker is much more accustomed to hearing [n.d].

In the sense of (3b–c), metathesis is not abrupt through the mechanism of a synchronic rule /d.n/ → [n.d], transformational or otherwise, nor gradual due to a supersegment intermediate stage; rather, the abruptness is mediated through misperception: The output of /d.n/, as [d.n], is hyper-corrected or perceived as /n.d/, and if this misperception occurs with enough frequency, the /d.n/ sequence in a word such as cadnado could be abruptly restructured to /n.d/ (cf. Hoenigswald 1960:73). In short, in cases like /d.n/, where there is a relatively high degree of articulatory and perceptual similarity across the syllable boundary, there is the possibility of abrupt restructuring to /n.d/, due solely to misperception and without any sort of articulatory intermediate stage. Though such a restructuring would most plausibly progress on a word-by-word basis (Labov 1994:543), it could nonetheless join the articulatory factors cited above (intermediate stages such as [\(^{\text{d.n}}\)], [\(^{\text{d.n}}\)]) in leading to a regular inversion of segment order over time. In contrast, given the broader articulatory and perceptual gap between non-palatal /C/ and /j/, such a perceptually-based abrupt restructuring, as depicted above, is highly unlikely, at least as the basis for a regular sound shift.

In view of the above reasoning, the greatest problem for those studies on Hispano-Romance /Cj/ metathesis that postulate an abrupt inversion centers on exactly how to motivate the sudden shift in sequence. Menéndez Pidal (1940:68, 83, 147) cites attraction to the preceding syllable, e.g., “PY, SY, RY dejan atraer la y a la sílaba anterior (comp. tras otra consonante el vulgarismo naide por na-

3 Kiparsky (1995:655) suggests that, at an initial stage of acquisition, knowledge of the phonotactics of the language in question may help to guide the language learner in choosing a more unmarked (in language-specific terms) ordering of segments, e.g., /nd/ over /dn/. As Blevins and Garrett (1998:519–520) observe, however, there is no clear evidence regarding the order in which key phonological components are acquired at this initial stage; as a result, one cannot claim that structure preservation of a language’s phonotactics could influence the learner’s acquisition process—it is possible that when the language learner is acquiring lexical items with /dn/, /nr/, or /dl/, language-specific syllable contact preferences have not been fully acquired either.
die)” (1940:147); Torreblanca considers it to be a tendency for yod to move to the preceding syllable, “hubo una tendencia al paso de la yod a la sílaba anterior, en contacto con varias consonantes de distintos lugares de articulación” (1992:289, cf. 297) or a spontaneous phenomenon, “de todos modos tenemos otros casos donde el paso de la yod a la sílaba precedente puede ser explicado únicamente como un fenómeno espontáneo…” (1992:296). It is apparently assumed that such an abrupt inversion is natural, cf. Menéndez Pidal’s (1940:147) and Torreblanca’s (1992:289) mention of dialectal Spanish nadie > naide ‘no one’.

One cannot equate, however, nadie > naide with the Hispano-Romance cases of /Cj/ metathesis for the simple reason that the former is sporadic and the latter were regular. There is no regular inversion /dj/ > /jd/; if there were, there should be (or should have been) a dialect in which we find something like odio > *oido, medio > *meido, or perhaps adiós > *aidós, as the product of a regular phonological process. Granted, one cannot deny the possibility of a sporadic inversion of /dj/, or any /Cj/ sequence, but abruptness and regularity for /Cj/ are much more difficult to reconcile given the paucity of data motivating regular abrupt metatheses (as a bona fide phonological rule), and the condition on having a fair degree of articulatory or perceptual similarity.

3. Metathesis of Labials + /j/ in Hispano-Romance

Malkiel (1969:261), in reference to Cabraniego (Central Asturian) cabia < CAPIAT ‘(that) it fit’, notes that, given the reticence of Castilian and other Romance dialects to meddle with the labial + /j/ sequence, it is not the Asturian form that demands an explanation; rather, Spanish quepa and Portuguese caiba are the anomalous forms that must be explained. However, given the gradual approach as outlined in the preceding section, the Portuguese reflexes of labial + /j/ are almost as unexceptional as the Asturian reflexes. Hock (1991:133) states that secondary palatalization is less easily acquired by labials, and once achieved, more easily lost. From this perspective, the Portuguese labial + yod data are not problematic in the least: the greater difficulty in undergoing secondary palatalization delayed the gradual inversion process to a sufficient extent that, even though the glide eventually surfaced in preconsonantal position (before the expected depalatalization), it was too late to close a
preceeding /a/, e.g., CAPIAT > *[ka.pja] > *[ka.p'Ia] > [ka.p'Ja] > [kaj.pJa] > Ptg. caiba ‘(that) it fit’ (Rini 1991:127). Thus, after an initial round of palatalization + off-glide epenthesis affecting Hispano-Romance /sj/, /zj/, and /rj/, a second round subsequently inverted labial + /j/ in Old Portuguese. If Pensado (1986) is correct in her evaluation of mh, vh, and bh as representing palatalized consonants, e.g., CAPIAT > cabha, rather than a [mj], [vj], or [bj] sequence (Malkiel 1969:261), then the palatalization of the labials and subsequent epenthesis of an off-glide were occurring during the transition from Old to Medieval Portuguese.

The most salient aspect of the labial + /j/ inversions in Portuguese is that they have the classic hallmarks of a gradual inversion: (1) graphical evidence of a palatalized intermediate stage, and (2) an extremely high degree of regularity, so regular in fact that the first stage of the process, secondary palatalization, and in some cases epenthesis as well, applied for a time to secondary labial + /j/ sequences that developed from lenition and loss of an intervocalic consonant, e.g., LIMPIDU > *[lim.pjo] > limpho ‘clean’, COMEDO > *[ko.mjo] > coimo ‘I eat’ (Williams 1962:82; Pensado 1986:335).

Against the backdrop of regularity provided by the Portuguese data, the two Spanish cases, SAPIAT > *[saj.pa] > sepa and CAPIAT > *[kaj.pJa] > quepa, are indeed a rather egregious exception that, as Malkiel observed, “clamors for some plausible explanation” (1969:261). First, there is no hint of regularity, as the non-verbal cases remain intact, e.g., APIU > apio ‘celery’, RABIA > rabia ‘anger’. Second, in contrast to the intact /aj/ diphthongs of Portuguese, which are to be expected (instead of /ej/) given the delaying effects of the labials’ resistance to palatalization, the Spanish cases show closure of the /a/ to /e/. This fact suggests that the inversion from /pj/ to /jp/ in Spanish occurred during the first phase of palatalization + epenthesis, and was therefore coetaneous with the development of Hispano-Romance /zj/, /rj/, and those /sj/ sequences that managed to cede an off-glide via partial or full palatalization. In view of these two observations, I believe that we are forced to reject the possibility of a gradual inversion for /pj/ > /jp/ in Spanish. That is, all other cases of consonant + yod metathesis in Hispano-Romance, whether, /rj/, /sj/, /zj/, or Portuguese /p b v f m/ + /j/, were phonologically regular, especially the initial shift to a palatal or palatalized articulation, which is broader than the scope of metathesis. Thus it will not do to propose a secondary palatalization of /p/ >
[pj] for SAPIAT > sepa and CAPIAT > quepa because we have no credible way of restricting this palatalization to two verb forms. Granted, at first glance one could invoke analogical pressure, from other verb conjugations or from the verb paradigm, to eliminate the glide from stem-final position (Lloyd 1987:162–163; Penny 1991:150–151; Lenfest 1993). It is likely, however, that a reanalysis of this type should depend upon the prior palatalization of the labial. That is, in line with the non-teleological approach of Vincent (1978), the desire to eliminate stem-final glides did not cause palatalization + subsequent off-glide epenthesis; rather, palatalized labial variants would have been subsequently selected by speakers because these variants fit the non-glide pattern that was forming from various related changes, e.g., TENEIO > *teño/*teno > Sp. tengo ‘I have’, AUDIO > OSp. oyo ‘I hear’. Thus if the selection of non-glide stems in Spanish depended upon the prior appearance of palatalized labial variants, the palatalization of labials ought to have been regular (as was the case in Portuguese) before any chance for morphological pressure to restrict palatalization to the two verbs in question. Corroboration is provided by other cases in which the stem-final glide was lost via palatalization, as the result of regular palatalization processes that were not restricted to verbs, e.g., AUDIO > OSp. oyo ‘I hear’ along with PODIU > poyo ‘stone bench’, HODIE > hoy ‘today’, RADIU > rayo ‘ray’; FUGIO > OSp. fuyo ‘I flee’ alongside ARRUGIA > arroyo ‘stream’, FAGEA > haya ‘beech tree’; TENEIO > pre-Castilian*teño ‘I have’ (cf. Ptg. tenho) along with ARANEA > araña ‘spider’, VINEA > viña ‘vineyard’. Therefore, if there had been a secondary palatalization upon /p/ in SAPIAT > sepa and CAPIAT > quepa, we should expect the same broad scope for palatalization here as well. The fact that there was none argues against partial palatalization, and therefore against a gradual approach to /pj/ inversion in Spanish.

The alternative, an abrupt inversion, is not problematic in itself, inasmuch as the /pj/ > /jp/ inversion was not regular in Spanish. Thus, similar to dialectal Spanish nadie > naide, it is not controversial to postulate a sporadic abrupt inversion from /pj/ to /jp/ in two verb stems. The real problem is to explain why there was metathesis rather than some other method of handling the stem-final glide. For example, if analogical pressure from third conjugation stems, without [jj], e.g., VENDER/ VENDO ‘sell/I sell’, was partially responsible for changes to the i-stem glide, then it is pertinent to ask why the glide was not simply eliminated, as was the case with FACIO >
Metathesis in Hispano-Romance 323

*FACO > OSp. fago, MSp. hago ‘I do’, and as Lenfest (1993) has argued, with TENE > *ten and VENIO > *veno. Ultan (1978:373) states that metathesis is a conservative process in that apart from an inversion of segment order the segment content itself is left unaffected; in this sense, it counteracts the “destructive” effects of other phonological processes: “a process of or tendency toward reduction is arrested or prevented by metathesis of the reduction-prone segment or feature with another one. Thus . . . metathesis serves as a vaccine or preventative medicine” (Ultan 1978:384). One might therefore hypothesize that metathesis occurred instead of glide elimination in order to preserve segment content.

Unfortunately, this teleological approach contradicts other aspects of Ultan’s analysis. According to Penny (1991:150), there were three major ways of eliminating stem final [j]: (1) outright elimination through analogy, (2) palatalization of the preceding consonant plus subsequent “absorption” of the glide, and (3) metathesis. Clearly, palatalization was the dominant process, such that, if the consonant was rather easily palatalized, e.g., coronals and velars like /n d g/, then palatalization was the obvious choice; this ties in with Ultan’s second observation, that metathesis is a recessive process that is often overpowered by more dominant ones (1978:373). Were it the other way around, then we would have derivations like FUGIO > *[fuj.go] or AUDIO > *[oj.do]. The problem is that the conservative nature of metathesis runs counter to its recessive nature. If the conservative nature of metathesis were strong enough to effect an inversion, like SAPIAT > *[saj.pa], and prevent loss of segment content, then metathesis should not be a recessive process, but rather a dominant one that is able to block other processes like palatalization. Conversely, as a recessive process, metathesis should not be strong enough to compel segments to invert their sequencing in order to avoid some other impending change. Thus, while the recessive nature of metathesis is well corroborated by the data, the teleological corollary to the conservative characterization is not. It is true that metathesis is a conservative process because the segments

4 Technically speaking, /dj/ and /gj/ > /y/, e.g., FAGEA > haya ‘beech tree’, could be considered cases of obstruent deletion + spirantization of /j/ to /y/, rather than palatalization (Dworkin 1974), but I include them in with other examples of palatalization because in both cases the result was a stem-final palatal consonant.
do not undergo any changes beyond a change in sequencing, but this conservative nature could conceivably be a product of the change, not the driving force behind the desire to preserve segmental content through metathesis. In short, if the conservative side of metathesis gave it teleological power, then it would not be a recessive process; this conservatism, had it been a viable force, ought to have rivaled /j/ elimination (outright or through palatalization) more effectively.

If the glides were not metathesized in SAPIAT > sepa and CAPIAT > quepa in order to prevent their loss, nor were they the eventual product of secondary palatalization plus epenthesis, then the only other major source for the metathesis of /pj/ > /jp/ in Spanish is through analogy. Again, i-stem endings were reduced through palatalization if the consonant was easily palatalized or deleted, or through deletion of /j/ via analogy with third conjugation verbs that were not part of the i-stem class, verbs such as DICO and VENDO, or through metathesis, as with our CAPIAT and SAPIAT reflexes, as well as PLACEAT > *[pla.ka] > *[plaj.ka] > OSp. plega 'that it please'. If outright deletion in FACIO > *FACO stemmed from analogy, then a parallel case of analogy might explain the development of /kj/ in PLACEAT. But analogy with what other verb class or construction?

The answer lies with the palatalization process that so effectively reduced the i-stem membership. Within this group of verbs, a subset developed a stem-final /y/ mostly through reduction of /gj/ and /dj/, e.g., FUGIO > OSp. fuyo, AUDIO > OSp. oyo; apparently VIDEO > vego and SEDCET > seya before loss of the /y/ (Lloyd 1987:235); also HABEAT > haya '(that) s/he have'. This class of stem-final /y/ verbs was strong enough to play a role in the analogical extension of the /y/ to other stems that did not develop a /y/ via normal phonological channels (Lloyd 1987:235; Penny 1991:151), e.g., TRAHO > OSp. trayo 'I bring', CADO > OSp. cayo 'I fall', VADAT > vaya '(that) I go'. I believe that this stem-final /y/, with proven analogical initiative, was the likely source for the metathesis of /pj/ > /jp/.

Although in terms of syllabification the division would have been for example FUGIO [fu.yo], it is nonetheless likely that from a morphological standpoint the segmentation would have been present-tense stem allomorph /fuy/ or /fuj/ + /o/, /am/, /as/, /at/, . . . , in line with the predominant pattern of verb stem + /o/, /am/, /as/, /at/, . . . , e.g. VENDO = /βend/ + /o/ (Dworkin 1974:50–51). With the newly-created palatal consonant /y/ analyzed in this fashion, there
was in effect an analogical model available with an /j/-like segment in the verb stem. Thus, the glide in */sap/ + /j/ + /a/ < SAPIAT was abruptly relocated as */saajp/ + /a/ to conform to the V + /y/ stem pattern of FUGIO > /fuy/ + /o/, AUDIO > /oy/ + /o/, and VIDEO > /fey/ + /o/.

Three related observations support this analysis. First, given developments like CADO > cayo and TRAHO > trayo, it is clear that the /j/ (or /y/) stem extension had sufficient analogical weight that could be exerted on other verbs in the AUDIO and FUGIO class. Second, it is entirely possible that the presence of a morpheme boundary could have countered the surface syllabification, e.g., FUGIO > [fu.yo], in the sense that in spite of the CV.CV syllabification speakers perceived the /y/ as being part of the stem, similar to the way in which the awareness of a morpheme boundary in modern Spanish often blocks the development of a diphthong, in favor of a bisyllabic V + V sequence, e.g., fió ‘trusted’ as [fi.ó] in careful speech, rather than [fjó], because of the morpheme boundary /fi/ + /o/ (Dalbor 1997:170; cf. dio [djo] ‘s/he gave’, with [jo] in all stylistic levels because the glide is not part of the stem: /d/ + /io/). Furthermore, if for a certain period of time the /y/ stem extensions were ambisyllabic, as a result of the reanalysis of the glide as part of the verb stem followed by the person/number inflection, then this would have also strengthened the saliency of the V + /j/ pattern (cf. Lipski 1999). Third, the stem-final status of the /y/ ~ /j/ is confirmed by the subsequent analogical remodeling of many of these verbs through the addition of a velar stem extension, e.g., CADO > OSp. cayo > MSp. caigo ‘I fall’; AUDIO > OSp. oyo > MSp. oigo ‘I hear’. If the /j/ were not considered stem final at the inception of the velar stem extension, then instead of caigo and oigo we should expect *caguio and *ognio.

In sum, the metathesis of /pj/ > /jp/ in Spanish was actually part of a more general development of V + /y/ sequences in selected verb stems derived originally from Latin second-, third-, and fourth-conjugation verbs. The original source was /Cj/ sequences in which the consonant was weak enough to drop upon palatalization to /y/. This segment was then reanalyzed as a palatal stem extension, and subsequently extended to other related verbs like CADO > *cao > OSp. cayo, both through analogy with those verbs that developed /y/ naturally through regular phonological change, and perhaps also as a way of resolving the hiatus in verbs like CADO, TRAHO once the
intervocalic consonant was lost (Lloyd 1987:235). Most importantly, since the stem consonant in verbs like AUDIO, FUGIO, and HABEAT was weak enough that it eventually disappeared (Dworkin 1974:50–51), the remaining stem-final /y/ segment was henceforth adjacent to the tonic vowel, thereby creating stem-ending V + /y/ sequences that were formally very similar to V + /j/ sequences. This pattern then caused the abrupt metathesis of /pj/ > /jp/ in CAPIAT > *[kaj.pa] and SAPIAT > *[saj.pa], as well as PLACEAT > *[plaj.ka].

Since this metathesis is restricted to three verb forms, and it was clearly motivated by morphological factors, the present solution does not run afoul of the regularity issues covered in Section 2 above, issues that would otherwise countenance a gradual approach. One issue that does require further commentary, however, is the question of relative chronology broached by the inclusion of PLACEAT > *[plajka] with /pj/ > /jp/, specifically how the /k/ was able to escape palatalization by yod. A partial explanation is that offered by Torreblanca (1992:306), according to which the /k/ did not palatalize due to the constraining influence of other verb forms of PLACERE that did not have a yod following /k/. Another probable explanation centers on the confusion of /i/ and /dj/ in spoken Latin, e.g., AIUTOR for ADIUTOR, MADIAS for MAIAS, AIECTUS for ADIECTUS, ZABOLUS for DIABOLUS (Väänänen 1988:106; Lloyd 1987:133). Väänänen (1988:108) states that this (especially the Z graphy) is evidence for the neutralization of /i/ and /dj/, and later /gi/, /gi/, and /ge/, to something more occlusive than fricative /y/; however, at least in the case of Proto-Spanish, there is strong evidence that /y/ (or /y:/) was the dominant variant that developed from /dj/, and later from /gi/, /gi/, and /ge/ (Lloyd 1987:133; Malkiel 1976). Inscriptional evidence dates this neutralization from the first century onward; coetaneous or perhaps slightly afterward is the inscriptional evidence for the palatalization and assimilation of /kj/, e.g., TERCIAE for TERTIAE (179 C.E.) (Väänänen 1988:109). Given these observations, it is likely that /dj/ and then /gi/ were reducing to /y/ during the same time that /kj/ was adopting a palatalized sibilant articulation, and if this is indeed true then /y/-bearing stems of verbs like /fu.yo/ < FUGIO had analogical access to */plakja/ < PLACEAT, and could thus preemptorily shift it to */plajka/ before palatalization got a foothold. Thus, seen from this vantage point, the three early, abrupt, analogically-motivated inversions of /pj/ > /jp/ and /kj/ > /jk/, and consequent fronting of /a/ to /e/, are in clear contrast to the Portuguese cases of
Metathesis in Hispano-Romance

labial + /j/ metathesis, which were regular, and occurred much later, as indicated by the preservation of the /aj/ diphthong. Although labial + /j/ inversion occurred in both Spanish and Portuguese, the respective motivating forces were independent of one another.

In sum, we have found that attributing the metathesis of /pj/ to /jp/ in the history of Spanish to the conservative nature of metathesis is insufficient, as is simply claiming that the prior application of metathesis precluded the deletion of /j/ to the hypothetically possible *capo < CAPIO and *sapa < SAPIAT. There had to have been a concrete, analogical counterweight to analogically-motivated deletion (e.g., FACIO > *FACO, DEBEO > DEBO) and I suggest that this counterweight took the form of V + /y/ sequences that were formed from the reduction of V + /dj/, /gj/, or /bj/.

4. Conclusion

In this article I have applied our current knowledge of diachronic metathesis in order to achieve a clearer understanding of labial + /j/ metathesis in Hispano-Romance. I undertook an analysis of the two basic approaches to metathesis, gradual and abrupt. I then analyzed the key role played by perception within the gradual approach, followed by the conclusion that if diachronic (phonological) consonant + /j/ metathesis was regular, then it was gradual, because there is no conclusive evidence of abrupt phonological metathesis without a morphosyntactic function. We are thus bound to a gradual analysis with palatalized intermediate stages if the change appears to have been regular. On the other hand, if the inversion was not regular, then an abrupt interpretation remains a viable option.

Within the Hispano-Romance field, it appears that many investigators assume that phonological metathesis may be abrupt, and therefore do not make a concerted effort to motivate their abrupt analyses, apart from citing single examples such as nadie > naide, or attributing metathesis to “attraction into the preceding syllable.” This, to my mind, is not sufficient to motivate an abrupt approach.

In Wireback (1997, ch. ii), I made a distinction between coronal and labial consonants, claiming that coronal consonants underwent a type of glide epenthesis based on the articulatory mistiming of individual features, while the labials were metathesized with yod as segmental units, through an abrupt metathesis. I then went on to state that one cannot base a gradual interpretation solely on the
presence of a glide, because it appeared that the labials could not have undergone the gradual inversion that characterized the coronal + /j/ data. Under the present analysis, however, we must amend this view, given the strong connection established between gradualness and regularity. Due to the regular inversion of labials + /j/ in Portuguese, I believe that this also was a gradual inversion that contained a palatalized intermediate stage, and that only the Spanish cases of /pj/ > /jp/ (and also PLACEAT > *[plaj.ka]) are examples of abrupt inversion.5

Finally, if it is true that regularity in diachronic metathesis depends in large part upon conditions that permit a gradual inversion, then the reason that morphological metathesis rules are so rare (Janda 1984) is that a gradual process is much more open to interference from other competing processes. Ultan (1978) claims that metathesis is a recessive process in that it is often overpowered by more potent diachronic processes; this quality follows naturally if diachronic metathesis is subdivided into several sequential changes, where each point of suture between two such changes may be impeded or undone by a rival phonological process. As a result, we may surmise that many would-be synchronic metatheses are thus derailed en route, and as a consequence there is no subsequent input to what might later have become a morphological metathesis rule.

WORKS CITED

5 The earlier palatalization of /s/ and /τ/, and the epenthesis of off-glide /j/ preceding these consonants, in comparison to the labial + /j/ sequences, can be attributed to the fact that coronal consonants as a rule palatalize more easily than do the labials. Even though /τ/ seems to resist palatalization quite effectively (Straka 1979:309), it is possible that the issue is not necessarily resistance to but rather long-term support of palatalization. Alternatively, it could be that [r] resists on-glide palatalization to a fair degree; however, once palatalized (through secondary palatalization), the drawn out, elongated nature of the palatal articulation, in conjunction with the rather brief, fleeting nature of the tap articulation, ensures that resegmentation of an off-glide will be relatively rapid, because the brief rhotic contact makes it much easier to (mis)perceive a /j/-like articulation.


