*[+ LABIAL, + PALATALIZED]

Hans Henrich Hock

(University of Illinois at Urbana-Champaign)

1. Introduction*

This paper argues for a crosslinguistic constraint against palatalized labials (*[+ labial, + palatalized]). Like other constraints, this constraint can be violated — there are clear cases of languages with palatalized labials (e.g. much of Slavic). The crosslinguistic validity of the constraint, however, manifests itself in a number of ways.

1.1. In many languages, velars and dentals are subject to palatalization, but labials are not (or, alternatively, may have been depalatalized after first being palatalized). Note for instance example [1] from Swedish.

| [1] Swed. | kön | > | [çö̈n] | 'sex' | |
|-----------|-------|---|--------|-------|-------------------|
| | tjata | > | [çāta] | 'nag' | (Haugen 1982: 77) |

1.2. In some languages, palatatalization is restricted to velars or labiovelars (e.g. early Indo-Iranian [2]), in others it is restricted to dentals (e.g. Middle Indo-Aryan [3]). But there seem to be no languages in which it is restricted to labials.

| [2] | PIE | *k ^w e | > | Skt. | ca [č-] | 'and' |
|-----|------|-------------------|---|------|---------------|--------------|
| | vs. | *terA- | > | | tar(i)- | 'cross over' |
| [3] | Skt. | padyā- | > | Pali | pajja [-jjj-] | 'path' |
| | vs. | bhāgya- | > | | bhagga | 'fortune' |

1.3. In some languages, palatalized labials are depalatalized, while other palatalized consonants are not. Thus, Polish has lost palatalization on word-final labials, but not on dentals [3]. Similarly, Old Irish regularly lost palatalization on labials before remaining word-final front vowel (but not elsewhere), while other consonants have done so with much less regularity and possibly as a result of analogy (Pedersen 1909: 351; Thurneysen 1961: 102-3). Tocharian has depalatalized

^{*} Earlier versions of this paper were presented at the University of Illinois Linguistics Seminar (Spring 2003) and the 2003 International Congress of Linguistics in Prague. I am grateful for various comments I received at these occasions, especially extensive reactions by Henning Andersen. As usual, the responsibility for any errors and mistakes remains with me.

its labials, but indirect traces of the palatalization are found, mainly in Tocharian A, in terms of raising effects on following vowels (see the data presentation in Ringe 1996: 102, 108).

| [4] | Common Slav. | Polish | cf. Russian | |
|-----|--------------------------------|--|--------------------------------|----------|
| | golǫb ^y | gołąb [gowõb] | golub ^y | 'pigeon' |
| | d ^y in ^y | dzień [dz ^y en ^y] | d ^y en ^y | 'day' |
| | (Vaillant 1950: 60; | similarly in Ukrainian | , dialectal Russi | an) . |

1.4. In addition, palatalized labials exhibit a wide range of changes that share the fact that they eliminate palatalization on labials. (Some of these changes may also affect other consonants, especially [r] which crosslinguistically likewise tends to avoid palatalization).

1.5. The focus of this paper is on the last point — changes (other than plain loss of palatalization) that serve to avoid violation of the constraint *[+ labial, + palatalized]. In terms of their specific phonetic properties these changes are quite heterogeneous; and partly as a consequence, a number of different phonetic explanations have been offered. Some of these explanations are contradictory or manage to explain only a subset of what appear to be related phenomena. Most important, explanations have been language- or phenomenon-specific, without capturing the common property of all of these changes, namely the avoidance of [+ labial, + palatalized].

Before proceeding to give a catalogue of relevant changes and discuss explanations given for these, the following remarks are appropriate:

- a. That the labials considered in this paper were palatalized earlier is either established in the historical record (Baltic and Slavic) or inferrable because of cross-the-board palatalization of all other consonants (Greek and Romance).
- b. The trigger for (relevant) palatalization may be restricted to y (Greek and Romance) or may consist of all front vocalic segments (Baltic and Slavic).
- c. Some of the processes that eliminate palatalized labials may also apply to other palatalized consonants (glide epenthesis vis-à-vis palatalized sonorants in Greek or palatalized *r^y* in Romance); others are limited to labials.

2. A catalogue of relevant changes

2.1. "Glide Metathesis", as in example [5]; i.e., an apparent metathesis of the glide [y] and the preceding labial — if the intervening stage with palatalized labial is ignored.

[5] Lat. sapiat > PRom. $*sapya(t) > *sa^{y}(p)p^{y}a > Span.$ (*)saipa [saypa] (> sepa) 'would know' (TYPE A)

2.2. "Segmentalization" of the palatalizing offglide, as in [6]. Note also Span. *rabia* > $ra^{y}b^{y}a$ > *rabia* 'rage' (vs. Port. *raiva*). Similar developments are found in Modern Czech, Polish, Ukrainian (Bidwell 1963: 50, 56, 58, 73; but in the case of the labial nasal, Czech changes palatalized m^{y} to $m\bar{n}$. For Polish dialects see further below).

[6] (pre-Balt. *spēuti- >) *sp^yaut^yi > Lith. spjauti [spyaut^yi] 'to spit' (TYPE B)

2.3. "Change of palatalized labial to dental", as in Andersen's (1973) famous case of "Tetak" Czech in [7a] or the Greek example in [7b]:

[7] a. Cz. [p^yet] > dial. [tet] 'five' [p^yīvo] > [tīvo] 'beer'
b. Greek *g^wmyō > *bamyō > ba^ym(m)^yō > bainō 'I go' (TYPE C)

2.4. "Change of palatalized labial stop to (non-palatalized) labial + palatal", as in [8] and [9]. Note also Polish dialects, where palatalized non-nasal labials change to $p\dot{s}$, $f\dot{s}$, $b\dot{z}$, $v\dot{z}$ (Vaillant 1950: 46), presumably via $pt^y > p\ddot{c}$ etc., comparable to the French development of $p\ddot{c} > (p)\ddot{s}$ in *sâche*.

- [8] Gk. *klepy \bar{o} > *kle^y(p)p^y \bar{o} > *klepč \bar{o} > klept \bar{o} 'I steal' (TYPE D)
- [9] Lat. sapiat > PRom. *sapya(t) > *sa^y(p)p^ya > Gallo-Romance (*)sapča > Romantsch sapčə, Fr. sâche 'would know'

2.5. "Insertion of a palatalized lateral", with depalatalization of the labial; see [10].

[10] Slav. *lewbhy $\bar{o}(-) > *l^y ub^y \bar{o} > l'ubl' o 'I love' (TYPE E)$

2.6. Finally and most significantly, in many languages or language families we find that two or more of the changes just enumerated occur complementarily, in different phonological contexts or in different dialects.¹ Consider for instance the examples in [11]-[16].

- [11] Lat. sapiat > PRom. *sapya(t) > *sa^y(p)p^ya 'would know' > Span. (*)saipa > sepa (TYPE A)
 vs. Gallo-Romance (*)sapča > Romantsch sapčə, Fr. sâche (TYPE D)
- [12] Slavic developments
 - a. Czech p^y, b^y, v^y > py, by, vy vs. m^y > mñ (Bidwell 1963: 56) (TYPE A and D)
 - b. Pol. dial. $p^y > ps'$ beside $m^y > m\overline{n}$ (Vaillant 1950: 46) (TYPE D)
 - c. W Ukr. p^y > pt^y (Andersen 1974: 38) (TYPE D)

(Note also the Polish depalatalization of final labials in [4] above.)

¹ As Andersen points out (p.c. 2003), the line of argumentation pursued here is similar to his notion of "bifurcating changes" (1974, see also 2002). The idea has, of course, been employed in many different contexts, by many different researchers, in other historical discussions; see e.g. Hock (1976a) (where the approach is used to justify considering apparently very different processes to be, in fact, variants of a single process — weakening or lenition) or Hock (1976b) (where a similar approach is used to argue for analogical explanations of apparent grammatically conditioned changes in Finnish); both of these publications were roughly contemporary with Andersen 1974 and no doubt reflected similar ideas floating around in phonology at that time. Note also the general notion of "conspiracies" (e.g. Kisseberth 1970, Lass 1974) and its important foundational role in the development of Optimality Theory.

- [13] Greek *gwmyō > *bamyō > baym(m)yō > bainō 'I go' (TYPE A and C)
- [14] (pre-Balt. *spēuti- >) *sp^yaut^yi 'to spit' > Lith. spjauti [spyaut^yi] (TYPE A) > Latv. spl^yaut [spl^yaut] (TYPE E)
- [15] Ruman. p^y > p^y, py, ph^y, pt^y, pč, k^y, č, t^y, depending on the dialect b^y > bg^y, bğ, bd^y, d^y, g^y, ğ, depending on the dialect m^y > m^y, mh^y, mñ, ñ, depending on the dialect²

(Nandriş 1963: 108, 112, 118)

Note further the general Romance developments (beyond those in examples [11] and [15]), which exhibit various alternatives, within and across the languages, in some cases even variant outcomes in the same language, for the same input combinations, but in different words; see [16].

| [16] | Labial plus | y in Romance | languages | | | | | |
|------|----------------------------|---------------------------|---------------------|----------------|-----------------|-------------------|--------------------------|------------------------------|
| | PRom. sapia(t) rabia | Ital. sappia rabbia | So. Ital. saccia | Rom. sapcha | Prov. sapcha | French sache | Spanish sepa rabia | Portuguese saiba raiya |
| | (h)abio labia | Tabbia | aggiu | lavgia, labja | Tatge | lage | labla | lavia |
| | vindemia simiu | vendemmia scimmia | venneñña | vindemgia | | vendange singe | vendimia jimia | vendima (*im) simia (*mi) |

Catalan shows similar variation for *mi* as Portuguese; Romantsch dialects also offer [mñ] and [my] (Data from Zauner 1944 and Lausberg 1967).

3. Questions

Given the parallelism of these changes, as well as their apparent shared goal the elimination of palatalized labials, it is legitimate to raise the following questions.

- 3.1. How are the changes to be explained? For instance, is the common label "glide metathesis" appropriate for the TYPE A?
- 3.2. What is common to the changes and what explains their complementarity in examples such as [11]-[16]?
- 3.3. How do the changes relate to the earlier-stated generalizations 1 and 2 (labials often are not palatalized, and if palatalized, they frequently are depalatalized)?
- 3.4. Why do the changes occur in languages with evidence for cross-the-board palatalization of consonants?
- 3.5. Why do the changes appear to apply to palatalized labials, but not to phonetically very similar sequences of labial + segmental *y*? (For apparent exceptions to this generalization, see the appendix.)

² Nandriş notes that the developments of m^{y} are not completely parallel to those for p^{y} and b^{y} .

4. Explanations and Problems

4.1. The most common account for developments of TYPE A is that these involve glide metathesis; see e.g. Kiparsky (1967).³ This account, however, does not explain the fact, noted by Semiloff-Zelasko (1973), that "glide metathesis" seems to be restricted to languages with independent evidence for cross-the-board palatalization. (See also Hock 1985).

Moreover, in the case of Greek, it is curious that "Glide Metathesis" is limited to the position after *a*- and *o*-vowels; see [17].⁴

| [17] (| Greek | *kharyō | > | *kha ^y rr ^y ō | > | khairō [ay] | 'rejoice' |
|--------|-------|----------|---|--------------------------------------|---|-------------|------------|
| | | *morya | > | *mo ^y rr ^y a | > | moira [oy] | 'portion' |
| В | BUT | *tenyō | > | *te ^y nn ^y o | > | teinō [ē] | 'stretch' |
| | | *krinyō | > | *kri ^y nn ^y ō | > | krinō [ī] | ʻpick out' |
| | | *otrunyō | > | *otru ^y nn ^y ō | > | otrunō [ū] | 'urge on' |

A more adequate account seems to be the notion of "Epenthesis"/"Osmosis"/ "Infiltration" proposed by Danielsson (1903; see also Schwyzer 1939, Grammont 1939) and taken up under the heading "Segmentalization of palatal on- or offglide" by Hock (1986/1991). Under this account we are simply dealing with another instance of TYPE B. Following Danielson, we may formulate the change as in [18].

[18] $C^{y} = [{}^{y}C^{y}] > yC \text{ or } Cy$

Independent evidence for this change, involving structures where palatal or palatalized articulation was not induced by segmental *y*, can be found in examples such as [19].

| 19] a. | Palat | al onglide | seg | mentalizati | ion | | | |
|--------|-------|-------------|-----|-------------------------------------|-----|------|----------------|-------------|
| | Lat. | plangit | > | *pla ^y ñ ^y it | > | Fr. | plaint | 'complains' |
| | | pugnum | > | *po ^y ñ ^y u- | > | | poing | 'fist' |
| | | vocem | > | *vo ^y k ^y e- | > | | voiz | 'voice' |
| Ь. | Palat | al offglide | seg | mentalizat | ion | | | |
| | Lat. | carum | > | *k ^y æru- | > | OFr. | chier [čy-] | 'dear' |
| | | canem | > | *k ^y æne- | > | | chien [čy-] | ʻdog' |
| | (vs. | mare | > | *mære- | > | | mer (not mier) |) 'sea') |

In addition to being independently motivated, this account also provides an explanation for the restriction of "glide metathesis" in [17] to the position after *a*-and *o*-vowels: Segmentalization evidently can be restricted to positions where the palatal onglide (or offglide) is maximally different from the neighboring vowel and thus auditorily more salient, as in the dialectal American English (near-)parallel

³ A variant is offered by Sheets (1975), namely "transfer" of the palatal color of the consonant to preceding vowels. Sheets's account has the advantage that he restricts the process (for Greek) to vowels that are maximally different; hence the process is correctly restricted to *a*-, *o*-vowels (see further below).

⁴ For a more comprehensive discussion of Kiparsky (1967) see Hock (2003) (with references).

in [20]. (Note that both in [20] and in [17], *u*-vowels behave aberrantly—either because the pattern for the corresponding front high vowel has been extended to *u*-vowels, or because of restrictions on the diphthong [uy]).

| [20] Am. Engl. dial. | mash [mæyš] |
|----------------------|---|
| C C | measure [meyžər] |
| BUT | fish [fiš]; OK if = [fiyš] |
| | push $[p\bar{u}\check{s}] = [puw\check{s}], not [puy\check{s}]^5$ |

4.2. TYPE B, then, is in principle the same phenomenon as TYPE A, except it involves the segmentalization of the palatalization offglide. This, too, is independently motivated, in contexts without earlier segmental *y*, see [19b] above.

4.3. TYPE C, the "Change of palatalized labial to dental", as far as I know attested only in the famous Czech "Tetak" case, has been motivated as a reinterpretation, on the basis of a possible acoustic/auditory ambiguity between palatalized labials and dentals. Given that we have independent evidence for a change of $p^y > pt^y$ (etc.), as well as the possibility of cluster simplification, it is tempting to explain the apparent replacement of p^y by t^y as in [21a], that is, as a special subcase of TYPE D. In support we may point to the fact that palatalized m^y changes to $m\bar{n}$ in Standard Czech, no doubt via mn^y ; see [21b]. A near-parallel is found in Greek, except that here it is the oral consonant that has a cluster outcome, while the nasal shows up with simplification; see [22]. However, as pointed out by Andersen (1973, w. references), Tetak palatalized m^y has the same fate as palatalized p^y , yielding a simple dental nasal; and more significant, it is only the palatalized labials that result in simple (palatalized) dentals; original clusters of labial + (palatalized) dental do not. It therefore seems to be necessary to recognize TYPE C as a distinct development, different from Type D.

| [21] | a. b. | Czech | p ^y m ^y | > > | pt ^y mn ^y | > > | t ^y mñ | (> t) |
|------|----------|-------|----------------------------------|--------|---|--------|--|---|
| [22] | а. Ь. | Greek | *g ^w ṃyō *klepyō | > > | *bamyō *kle ^y (p)p ^y ō | > > | ba ^y mn ^y ō *klept ^y ō | > bainō 'I go'> kleptō 'I steal' |

4.4. TYPE D, "Palatalized labial stop > (non-palatalized) labial + palatal(ized)", as found in [21b] and [20a] and, with cluster simplification, in [21a], has given rise to a number of different explanations, in addition to Andersen's account for the Type C.

Several of these have been proposed for Greek and do not involve an intermediate palatalized stage. Grammont's analysis (1948) assumes wrong timing in the transition from the stop to the (originally) following *y*; see [23a]. Lejeune (1947) postulates a strengthening of [y] to [t'] (considering [t] to be closer to [y] than [p]); [23b]. Allen (1958: 119-20, fn. 36) invokes devoicing/fricativization of [y]

⁵ This observation holds for the Midland dialect area; as pointed out to me by several colleagues, including Jared Klein and Calvert Watkins, Southern dialects do have the expected [puyš].

to $[\mathring{y}]$ to $[\check{s}]$ and a further change (by assimilation, presumably) to $[\check{c}]$ or [t']; [23c].⁶

[23] a. py > p^ty > pt' (Grammont 1948)
b. py > pt' (Lejeune 1947)
c. py > pÿ > pš > pč/pt' (Allen 1958)

While these proposals may "work" for Greek, on the assumption that the input was labial plus segmental *y*, rather than palatalized labial, it will fail for developments such as the Slavic ones in [12], which operate on labials that had been palatalized before front vowels, precluding the assumption of an input of labial plus segmental *y*.

It could, of course, be claimed that the change can just as well be formulated as affecting the *non*-segmental *y*-like offglide of palatalized labials. But in that case we have to ask why the change appears to be restricted to this non-segmental glide.

An acoustic account, similar to Andersen's but broader in scope, is proposed by Ohala (1975), namely a claimed 'acoustic similarity of palatalized labials (or labials followed by or coarticulated with palatal vowels) and dentals' (373), a similarity which in his view motivates reinterpretation of the transition noise as palatalized dental.

While, to judge by his examples, Ohala's hypothesis would account both for Andersen's Tetak (TYPE C) and for all the examples of TYPE D, the same question arises as for the articulatory explanations of Grammont, Lejeune, and Allen, namely why the changes in question seem to be restricted to palatalized labials. In fact, Ohala's account would, I believe wrongly, predict the same developments not only for labials plus segmental *y*, but even for non-palatalized labials preceding front vowels.

4.5. Moreover, as far as I can see, neither Andersen's and Ohala's acoustic hypotheses nor Grammont's, Lejeune's, and Allen's articulatory accounts provide a meaningful explanation for TYPE E, "insertion of a palatalized lateral", with depalatalization of the labial; see example [10], as well as [14] (Latvian).

More than that, even if we somehow make these accounts work for TYPE E, they have nothing to say on why palatalized labials are also eliminated by changes of TYPE A and B, or why palatalized labials often are simply depalatalized (in contrast to other palatalized consonants), or why they are often not even introduced.

A first adumbration of a solution was proposed by Stang (1957: 29-30); see [24]. Note that Stang further adds a comparison to Romantsch *sapt'a* < Lat. *sapiat*.

[24] 'Les labiales palatalisées sont moins stables que les gutturales et les dentales palatalisées. Il est difficile de synchroniser parfaitement l'articulation labiale et palatale d'un p', b'. En slave p', b' ont donné pl', bl' avec l' épenthétique... On pourrait imaginer que t dans grec pt représent un ancien t' épenthétique développé entre p' et la voyelle suivante.'

⁶ As a matter of curiosity, note that Diver (1958) proposes a "structural" motivation for the Greek developments, namely that there is a near-gap for *pt* in Greek, and this gap then was filled by the outcome of palatalized *p'p*.

['Palatalized labials are less stable than palatalized velars and dentals. It is difficult to synchronize labial and palatal articulation perfectly in a p', b'. In Slavic, p', b' have yielded pl', bl' with epenthetic l... One could imagine that the t in Greek pt [e.g. $klept\bar{o}$] represents an old epenthetic t developed between p' and the following vowel.'

In a similar vein, I postulated (in Hock 1986/1991: § 5.1.5] that 'The reason ... [that labials don't palatalize as easily as other consonants and are more easily depalatalized] seems to be that the articulatory gesture for palatalization, as well as for the front vowels which give rise to it, is 'lingual' and therefore homorganic with velars and dentals, but not with labials' and that palatalized labials therefore are "marked" (§7.3.5). And I continued by claiming that what I here call the TYPE A-E processes serve to eliminate this markedness. Unfortunately, however, the nature of the publication made it impossible to furnish the arguments to substantiate this claim, and to show that it provides a better explanation than earlier attempts at accounting for one or another of these processes by itself.

This paper, I hope, has provided the missing evidence and arguments.

5. Conclusions

The conclusions of this paper can be summarized as follows. To account for the ensemble of phenomena discussed in this paper we need to invoke a universal constraint *[+labial, + palatalized].

Like other constraints, this one is clearly violable, as shown by the fact that in many cases it serves to eliminate palatalized labials that were introduced by an earlier cross-the-board consonant palatalization. We may speculate that such violations arise by over-extension of the (more) natural process of palatalization of non-labials. A parallel may be found in the extension of the Iranian coda metathesis in [25a] — which eliminates a violation of the sonority hierarchy, to initial position in Ossetic [25b] — where its outcome *violates* the sonority hierarchy and hence needs to be "fixed up" by prothesis (see Hock 1985).

- [25] a. Persian caxra > caxr > carx 'wheel'
 - b. Ossetic also (*)tray- > *rtä > ärtä 'three'

In a similar vein, the results of over-extension of palatalization to labials tend to be "fixed up" by straightforward depalatalization, or by one or another of the TYPE A-E processes, or by a combination of these.

This is not to deny that there is some validity to at least some of the individual phonetic explanations offered so far for the different processes that eliminate palatalized labials. This is especially true for the "Segmentalization" of palatal onor off-glides (TYPES A and B), since as we have seen, these are independently motivated processes that may affect segments other than palatalized labials. I am less certain about the articulatory and acoustic accounts for TYPES C-D, although I am willing to be persuaded by better arguments. For the time being, I believe that TYPE D is best characterized along the lines of Hock (1986/1991: §7.3.5), namely as the 'insertion of a more easily palatalized dental after the labial and by the transfer of palatalization to that segment', motivated by the markedness of palatalized labials.⁷ Since the evidence apparently does not permit a similar insertion account for Andersen's Tetak case (see §4.3 above), I would now have to postulate for this dialect a replacement, rather than an insertion account.

6. Appendix: "Special developments of labial + segmental y?"

Ohala (1978) offers several examples suggesting that labial plus segmental y may undergo similar special developments as the ones he observed for palatalized labial.⁸ Some of his examples come from language varieties for which I do not have access to historical data to judge whether his interpretation is accurate. For Ibero-Romance, however, there are good reasons for doubting the adequacy of his account. The data that he presents are of the type [26] and his interpretation is that the change from pl to ch [č] proceeded via [py] and thus is parallel to changes of the type PRom. *sapyat >> *say(p)p^ya > Romantsch sapčə.

| [26] | Span. | amplu- | > | ancho | 'large, spacious' |
|------|-------|---------|---|--------|-------------------|
| | Port. | plōrāre | > | chorar | 'to weep' |

Significantly, however, the changes in question are not limited to pl, but also affect cl [kl]; see [27]. Moreover, in other environments and/or other Ibero-Romance languages and dialects, outcomes with palatal lateral [Λ] (ll) are found for the same clusters [28]; and this palatal lateral, in turn, corresponds to an Asturian palatal stop (or a retroflex assibilated stop, depending on the source or chronology of the palatal lateral) [29]. Finally, palatal laterals of other sources and/or chronologies likewise have a tendency to become palatal stops (voiced or voiceless), or their simplified, sibilant reflexes; see e.g. [30]. (See Menéndez Pidal 1940: 126, 152, and Lapesa 1959: 313-14 for references). The palatal stops in [27], thus, are most likely the outcomes of earlier palatal laterals; and the developments in [27] therefore do not provide cogent evidence for a change of labial plus segmental y along the same lines as the changes for palatalized labials that are examined in this paper.

- [i] Tswana tl^hapi 'fish': diminutive (with palatalization) tl^hatšwana (dial. tl^hapšana)
- [ii] $p^{wy}/p^{y} > t^{wy}/t^{y} > \check{c}^{w} > \check{c}^{w}$

[iii] $p^{wy}/p^{u} > pt^{wy}/p^{u} > p\check{c}^{w} > p\check{c}^{w} > p\check{c}^{w} > p\check{s}^{w} > p\check{s}^{w}$ (extension of Ohala's account)

[iv] $p^y > pt^y > p\check{c} \approx pt\check{s} > p\check{s}$

or: $> (wtš >) wtš \approx wtšw > tšw (alternative account)$

⁷ A remaining conundrum is the fate of palatalized labials in Southern Bantu, as in [i] below. Ohala (1975) tries to account for the developments by the assumption that labials are labialized, and that the development is as in [ii]. Accepting Ohala's "labialized labials" assumption, the process could be reformulated as one involving palatalized *#*-insertion, as in [iii]. An alternative is given in [iv], which does not require the gratuitous assumption that labials are inherently labialized, but instead gratuitously invokes weakening of the labial to non-segmental, featural [^w], which in this context is realized as both on- and offglide, and subsequent resegmentation on the "wrong" side of the cluster. I am not particularly happy with any of these accounts, but cannot think of anything better at this point.

⁸ Ohala, in fact, makes the implicit claim that similar developments are to be expected for labials before front vowels.

| [27] | Span. Port. | *manc(u)la plantāre | > > | mancha chantar | | 'spot, blemish' 'to plant' |
|------|----------------|----------------------------|-------------|-----------------------------------|---|-------------------------------|
| [28] | Span. | plōrāre clāmāre | > > | llorar llamar | | 'to weep' 'call' |
| [29] | Asturian | plōrāre clāmāre lānā | > > > | chorar chamar llana > țṣana | ı | 'to weep' 'call' 'wool' |

(For the last item compare Catalan *llana* 'wool', and see Hock 1991 for the initial strengthening of Lat. *l* to *ll*):

| [30] | PRom. | Catalan | Portuguese | OSpan. | Asturian |
|------|------------|---------|------------|-----------|--------------|
| | filiu | fill | filho | fijo [ž] | fichu 'son' |
| | auric(u)la | orella | orelha | oreja [ž] | urecha 'ear' |

The case is similar for Ohala's data from Genoese Italian (with reference to Jaberg and Jud (1928-)1940). True, Jaberg and Jud (1940, map 1665)⁹ present evidence for the widespread change of **pl* to č in Ligurian and Piemontese; see e.g. [31a]. They also offer similar outcomes for much of Southern Italian; see e.g. [31b]. But map 1624 shows that the same areas offer identical outcomes for Lat. *cl* [kl], Stand. Ital. *chi*; see [32ab].

| [31] | a. | Standard Italian | Ligurian, Piemontese |
|------|----|------------------|--|
| | | più | ćü (e.g. data points 177, 184, 185, 190) |
| | b. | Standard Italian | Southern Italian/Sicilian |
| | | più | ččú (e.g. data points 639, 723, 838) |
| [32] | a. | Standard Italian | Ligurian, Piemontese |
| | | chiuso, chiudete | ćośa (data point 184) ¹⁰ |
| | b. | Standard Italian | Southern Italian/Sicilian |
| | | chiuso, chiudete | ccusə (e.g. data point 639) |
| | | | |

The comprehensive overview of Italian dialects in Rohlfs (1949: 299, 308-9) reveals that the change kl- > \dot{c} is widespread in the extreme Southeast, in Gallo-Italian, Ligurian, Lombard, Venetian, and Piemontese, and that pl- > \dot{c} occurs in a more restricted subarea — in Ligurian, parts of Piemontese, northern Lombard, and in the Southeast.

Significantly, as Rohlfs notes (309), the most common Southern Italian outcome of *pl* is k_i , i.e. identical to the outcome k_i of Lat. *cl*. This latter evidence establishes that the development of *pl* to \dot{c} is the result of an earlier merger of $pl > p_i$ with $kl > k_i$, rather than of a direct interaction of *p* with *y*.

The upshot, then, is that Ohala's Romance evidence which suggests a similar fate for labial plus segmental y to that of palatalized labials cannot be supported on historical grounds. It is an open question whether similar conclusions would apply

⁹ Correspondences for Stand. Ital. *più*.

¹⁰ The attestations for this word are not as rich, since many of the relevant dialects use a different word.

to Ohala's non-Indo-European data — this is something that can only be settled by those with greater familiarity with the historical linguistics of the relevant languages. The Romance evidence, however, suggests that without careful historical corrobaration we should be cautious about accepting Ohala's data, analyses, and claims at face value.

References

Allen, W. S., 1958, "Some problems of palatalization in Greek", Lingua 7, 11-33.

- Andersen, H., 1972, "Diphthongization", Lg 48, 11-50.
- -, 1973, "Abductive and deductive change", *Lg* 49, 765-93.
- ---, 1974, "Towards a typology of change: Bifurcating changes and binary relations". In: Anderson and Jones, 17-60.
- ---, 2002, "Preglottalization in English and North Germanic bifurcation". In: Sounds and systems: Studies in structure and change --- A festschrift for Theo Vennemann, ed. by D. Restle and D. Zaeffer, 15-34. Berlin/New York: Mouton de Gruyter.
- Anderson, J. M. and C. Jones (eds.), 1974, *Historical linguistics*, 2 vols. Amsterdam: North Holland.
- Bidwell, Ch. E., 1963, "Slavic historical phonology in tabular form", The Hague: Mouton.
- Danielsson, O. A., 1903, "Zur i-Epenthese im Griechischen", IF 14, 375-96.
- Diver, W., 1958, "On the prehistory of Greek consonantism", Word 14, 1-25.
- Grammont, M., 1939, Traité de phonétique. Second edition. Paris: Delagrave.
- —, 1948, *Phonétique du grec ancien*. Lyon: AIC.
- Haugen, E., 1982, *Scandinavian language structures: A comparative historical survey*. Minneapolis: University of Minnesota Press.
- Hock, H. H., 1976a, "Final weakening and related phenomena. In: *Mid-America Linguistics Conference papers*, 1975, ed. by F. Ingemann, 215-59. University of Kansas, Department of Linguistics.
- -, 1976b, "Review article on Anttila (1972): An introduction to historical and comparative linguistics", Lg 52, 202-20.
- -, 1985, "Regular metathesis", *Linguistics* 23: 4, 529-46.
- -, 1986/1991, Principles of historical linguistics. Berlin/New York: Mouton de Gruyter.
- -, 1991, "Initial strengthening". In: *Phonologica 1988: Proceedings of the 6th International Phonology Meeting*, ed. by W. U. Dressler et al., 101-10. Cambridge U.P.
- -, 2003, "Fish, push, and Greek R + y clusters: A return to Danielson 1903". 2003 UCLA Indo-European Conference.
- Jaberg, K. and J. Jud, 1940, Sprach- und Sachatlas Italiens und der Südschweiz. Zofingen (Switzerland): Ringlier.
- Kiparsky, P., 1967, "Sonorant clusters in Greek", Lg 43, 619-35.
- Kissberth, Ch. W., 1970, "On the functional unity of phonological rules", LI 1, 291-306.
- Lapesa, R., 1959, Historia de la lengua española. 4th ed., Madrid: Escelicer.
- Lass, R., 1974, "Linguistic orthogenesis? Scots vowel quantity and the English length conspiracy". In: Anderson and Jones (eds.), 311-43.
- Lausberg, H., 1967, *Romanische Sprachwissenschaft, II: Konsonantismus*. (Sammlung Göschen, 250). Berlin: de Gruyter.
- Lejeune, M., 1947, Traité de phonétique grecque. Paris: Klincksieck.

- Menéndez Pidal, R., 1980, *Manual de gramática histórica española*. 16th ed. Madrid: Espasa-Calpe.
- Nandriş, O., 1963, Phonétique historique du roumain. Paris: Klincksieck.
- Ohala, J. J., 1975, "Southern Bantu vs. the world: The case of palatalization of labials", BLS 4, 370-86.
- Pedersen, H., 1909, Vergleichende Grammatik der keltischen Sprachen. Göttingen: Vandenhoeck und Ruprecht.
- Ringe, D., Jr., 1996, On the chronology of sound changes in Tocharian. New Haven: American Oriental Society.
- Rohlfs, G., 1949, *Historische Grammatik der italienischen Sprache und ihrer Mundarten*, v. 1. Bern/München: Francke.
- Schwyzer, E., 1939, Griechische Grammatik, 1. München: Beck.
- Semiloff-Zelasko, H., 1973, "Glide metathesis". OSU Working Papers in Linguistics 14: 66-76.
- Sheets, G. A., 1975, "Palatalization in Greek", IF 80: 118-68.
- Stang, Ch. S., 1957, "Quelques remarques sur le système consonantique du grec commun", Symbolae Osloenses 33: 27-36.
- Thurneysen, R., 1961, *A grammar of Old Irish*, transl. by D. A. Binchy and Osborn Bergin. Dublin: Institute for Advanced Studies.
- Vaillant, A., 1950, Grammaire comparée des langues slaves, v. 1. Lyon/Paris: IAC.
- Zauner, A., 1944, *Romanische Sprachwissenschaft, I: Lautlehre und Wortlehre I.* (Sammlung Göschen, 128.) Berlin: de Gruyter.