PHONOLOGICAL ANSWERS TO ORTHOGRAPHIC PROBLEMS.
ON THE TREATMENT OF NON-SIBILANT OBRUESTENT + LIQUID GROUPS IN HISPANO-CELTIC

Joseph F. Eska

Preliminary matters

§1. The large majority of the corpus of Hispano-Celtic linguistic records is engraved in an adaptation of the Iberian script, which has segmental characters for vowels, sonorants, and sibilants, and moraic characters — which do not code voicing1— for non-sibilant obstruents. The typical character shapes of the eastern school of writing and their transcriptions are as in (1):2

(1)
\[
\begin{array}{cccc}
\text{a} &= \text{A} & \text{Pa} &= \text{L} \\
\text{e} &= \text{E} & \text{Pe} &= \text{K} \\
\text{i} &= \text{I} & \text{Pi} &= \text{Í} \\
\text{o} &= \text{O} & \text{Po} &= \text{X} \\
\text{u} &= \text{U} & \text{Pu} &= \text{U} \\
\text{Ta} &= \text{X} & \text{Ca} &= \text{H} \\
\text{Te} &= \text{H} & \text{Ce} &= \text{J} \\
\text{Ti} &= \text{J} & \text{Ci} &= \text{H} \\
\text{To} &= \text{X} & \text{Co} &= \text{X} \\
\text{Tu} &= \text{X} & \text{Cu} &= \text{X}
\end{array}
\]

§2. As has long been recognised, one of the principal difficulties that arises in the script is that it is not possible to spell /TL/ groups straightforwardly.3 The orthographic convention which was developed to spell such groups is to write a moraic character whose vocalic colour copies that of the following etymological vowel, i.e., to spell a so-called ‘dead’ vowel, a system familiar from the Linear B script (see Woodard 1994 and Bartoněk 2003: 109–110), e.g.g.:
Jospeh F. Eska

(2) a. nom. sg. a-re-ku-tu-ru-wo; cf. ἄλεκτρονός ‘cock’.
b. acc. sg. ka-ra-te-ra; cf. κρατήρα ‘mixing vessel’.
c. nom. sg. ko-no-so; cf. Κίνωσις ‘a toponym’.

Some tokens of this convention in Hispano-Celtic are:

b. ConśCiliTom (MLH K.1.1 A3; acc. sg.) /konsklitos/ ‘cut up’ < *sklítós-.
c. ColouńioCu (MLH A.67.1; gen. pl.) /klownioku/ ‘an abbreviated derivative of a toponym’; cf. CLOVNIOQ (MLH A.67.2) in Roman characters.
d. aPulu (e.g., MLH K.1.1 A11; nom. sg.) /ablu/ ‘an idionym’; cf. Latinised ABLO (AE 1979, 377 = 1983, 602 = 1984, 586).
e. enŤařa (MLH K.1.1 A6; prep.) /entra/ ‘within’; cf. Lat. intrā.
f. ŠeCoPirıČea (MLH K.0.3; nom. sg.) /segobrigia/ ‘an adjective derived from a toponym’; cf. SEGOBRIGA (MLH A.89.5) in Roman characters.

It is important to note that some combinations of non-sibilant obstruent + liquid making use of a dead vowel are not securely attested, or, indeed, not attested at all.

(4) a. Xele for /Tle/ is not attested.5
b. Xeře for /Tre/ is not attested.6
c. Xořo for /Tro/ is not certainly attested. The only potential token is a form which is uncertainly read as anŤıřoś or anŤořoś (MLH K.0.10). Should the latter be correct, it is not certain that it would necessarily represent /antroś/ or /androś/.
d. Xuřu for /Tru/ is not certainly attested. TuřumoCum (e.g., MLH K.1.3 i 24) is obscure, and it appears likely that TuřunTaś (Bot. IV A3) contains /tur(r)u/-.  

§3. In addition to this convention, all previous commentators recognise two other, much less common, techniques for writing /TL/ groups (Lejeune 1955: 58–60; Schmoll 1959: 8 & 101; Untermann 1997: 380–381; Wodtko 2000: xxiii–xxiv; Jordán Cólera 2004: 31). The first posits an orthographic metathesis of the liquid and following etymological vowel; thus, e.g., 〈Ťıřa〉= /tri/ or /dri/. The clearest token is:

Many other likely tokens are based upon *trito-*, the ordinal ‘third’.

(6)  
   a. TiŕTanos (e.g., MLH K.16.1; nom. sg.) ‘an idionym’; Latinised nom. sg. TRITIANVS (AE 1983, 512).  
   b. TiŕTano (MLH K.1.3 ii 46; gen. sg. of (6a)).  
   c. TiŕTaniCum (e.g., MLH K.1.3 i 1; gen. pl.) ‘a family name derived from (6a)’.  
   d. TiŕToCum (Torrijo del Campo (Teruel); gen. pl.) ‘a family name’.  
   e. TiŕToPoloCum (e.g., MLH K.1.3 i 47; gen. pl.) ‘a family name’.  
   f. TiŕToTulu (Museo de Cuenca; nom. sg.); ‘an idionym’.  
   g. TiŕTouios (MLH K.1.3 ii 16; nom. sg.) ‘an idionym’; cf. Latinised PENTOVIVS (e.g., CIL ii 6338a).  
   h. TiŕTu (e.g., MLH K.1.3 ii 22; nom. sg.); ‘an idionym’; cf. TRIDONIECV (MLH K.14.2).  
   i. TiŕTunoś (MLH K.1.3 ii 42; gen. sg. of (6h)).

The second posits the orthographic suppression of the liquid character, e.gg.:

(7)  
   b. ConTePaCom (e.g., MLH A.75.1; nom. sg.) ‘an adjective derived from (5)’; cf. Latinised nom. sg. CONTREBIENSIS (AE 1979, 377 = 1983, 602 = 1984, 586).  
   d. neŕToPiś (MLH A.50.1; nom. sg.) ‘a toponym’; cf. Νέρτοβρίγα (Ptolemy, 2.4.10).

Not orthographic, but phonological, metathesis

§4. In this paper, I argue, instead, that the only orthographic convention for spelling /TL/ groups makes use of a dead vowel that copies the colour of the following etymological vowel, as in Tiŕiś = /tris/ (MLH K.1.1 A6; acc.) ‘three’. The two alternatives described in §3 do not represent orthographic conventions, but real —sporadically implemented— phonological changes.  

§5. Orthographies such as ConTePia, then, do not represent an orthographic metathesis, but a phonological one. In fact, many commentators already allow for such an analysis for the forms in ‹ Tiŕ › on the basis of orthographic variations such as those in (8) (Tovar 1949a: 274 = 1949b: 139; Lejeune 1955: 58; Untermann 1997: 381; Wodtko 2000: 395) — though not elsewhere.

8 There are numerous other possible tokens, but none with a good etymology, so I do not list them.  
9 Perhaps Latinised as DIRTANVS in an inscription from Hinojosa de Jarque (Teruel), on which see Siles 1985.  
11 See Lorrio & Velaza 2005 on this inscription of unknown provenance.  
12 Hoenigswald 1964: 205–206 notes that nasals and liquids are particularly subject to sporadic phonological changes.
(8)  a. TRITALICVM (CIL ii 5077).
    2. TIRDALICO(m) (CIL ii 6338).

b. 1. TRITAI (CIL ii 2953).
    2. TIRDAI (AE 1920, 80).

It is also to be noted, as commented upon by Wodtko 2000: 395, that the
sequence /tri/- is spelt ‘Tiŕ›- in forms such as those in (9) from the Botorrita
I (MLH K.1.1) and Botorrita III (MLH K.1.3) inscriptions:

(9)  a. Tiŕiš (MLH K.1.1 A6; acc.) /triːs/ ‘three’.
    b. Tiŕiu (MLH K.1.3 iii 31; nom. sg.) /triuː/; cf. Lat. nom. sg. TRIO
      (AE 1953, 88)

It seems highly unlikely, then, that ‘Tiŕ›- spells anything but /tir/- or /dir/- in
the same inscriptions, e.g.g.:

(10) a. TiŕTanoś (MLH K.1.1 B6; e.g., K.1.3 i 52).
    b. TiŕTu (MLH K.1.1 B4; K.1.3 ii 22).

§6. The tautosyllabic metathesis of /LV/ to /VL/ sequences between
consonants is known to occur in many languages. This occurs because
laterality (Ladefoged & Maddieson 1996: 193–197; Narayanan, Alwan, &
Haker 1997) and rhoticity (Ladefoged & Maddieson 1996: 244 & 313; Alwan, Narayanan, & Haker 1997) are features whose phonetic cues are
elongated and resonate over multisegmental strings, leaving open the
possibility for the listener to attribute the elongated feature to a non-
historical position.13

§7. Leumann 1977: 101 cites the sporadic metathesis of /rV/ to /Vr/ in
the following Plautine forms:

(11)  a. corcōtāriī ‘concerned with saffron coloured robes’ (Aul. 521); cf.
      Gk. κρόκωτος ‘saffron coloured’.
      b. phrygiō ‘embroiderer’ (Aul. 508); normally phrygiō.
      c. tarpezīta ‘money changer’ (e.g.g., Curc. 341, 406); cf. Gk.
      τραπεζητής.

A similar sporadic change is well know in Old English (Campbell 1959:
184–185), e.g.g.:

(12) a. cerse ‘cress’; cf. cresse.
    b. dærstan ‘dregs’; cf. draestan.
    c. forsc ‘frog’; cf. frosc.

Such metatheses can become regular. Blevins & Garrett 1998: 516–517
cite the metathesis of */lu/ > /ul/ before [–coronal] consonants reconstructed
for Latin, as in (13), and the metathesis of */rə/ > /ər/ in unstressed syllables
before consonants that are not [+labial, –plosive] in Le Havre French, as in
(14):

the phonetic mechanics of this phonological change. For the concept of the listener as the
source of sound change, see numerous papers by Ohala, e.g.g., 1981, 1993 & 2003.
Phonological answers to orthographic problems. On the treatment of non-sibilant...

(13) Latin (Leumann 1977: 101):
   a. */dlukis/ > Lat. dulcis ‘sweet’.
   b. */plumo:/ > Lat. pulmō ‘lung’.

(14) Le Havre French (Grammont 1909):
   a. [boɾdel] ‘suspenders; bretelle’.
   b. [boɾbi] ‘ewe; brebis’.
   c. [farʃne] ‘shiver; frissonner’.
   d. [fˈrlyk] ‘tuft; freluche’.
   e. [fˈrtiʒe] ‘wag (a tail), wriggle; frétiller’.
   f. [ɡarzi] ‘sleet; gréssil’.
   g. [ɡɔrni] ‘granary; grenier’.

§8. The combined evidence of /LV/ vs. /VL/ forms engraved in Roman characters (8), the coëxistence of forms in ⟨Tiŕi⟩ and ⟨Tiŕ⟩ in the same inscriptions (9–10), and cross-linguistic comparanda for both sporadic and regular metathesis (11–12 and 13–14, respectively), then, indicate that what we see in forms such as ConTeŕPia is a phonological metathesis, not an orthographic convention. Based upon the very limited number of tokens currently attested (5–7), it appears that /l/ was prone to metathesise across back vowels and /r/ across front vowels.

Not orthographic, but phonological, deletion

§9. Within the hypothesis that sequences of /l/ + back vowel and /r/ + front vowel underwent metathesis sporadically, I argue that orthographies such as those in (7), in which etymological liquids are not written, do not represent an orthographic suppression of the liquid, but a sporadically implemented deletion in coda position before consonant, e.g., */komplowto/- > */kompowto/- > gen. sg. ConPouTo.  

§10. It is clear that liquids are normally continued in coda position before consonant in Hispano-Celtic, e.g.:
(15) a. PilPilis (e.g., MLH A.73.1; abl. sg.) ‘a toponym’; cf. Latinised nom. sg. BILBILIS (see Untermann 1975: 292).
   b. elCuanoś (e.g., MLH K.1.3 ii 18; nom. sg.) ‘an idionym’; cf.

15 Epigraphic reasons have occasionally been advanced to explain the postulated orthographic suppression of the liquid character. Thus, Tovar 1949c: 23, followed by Lejeune 1955: 48[15], suggests that nefurtOpis is an abbreviation for nom. pl. /nertobriges/, and Untermann 1972–1974: 475[29] adopts the same tactic with regard to CaPeCa (MLH A.75.7; nom. sg.) for CaPeCa (e.g., MLH A.75.2). But this does not convince, for everything we know about Hispano-Celtic epigraphic practice points to the fact that abbreviations simply left off the ends of words, e.g.:
   (i) a. arcCo (MLH A.52.9) and areCoña (MLH A.52.8) for areCoñTa (e.g., MLH A.52.2; abl. sg.)
   b. PiriCanTi (MLH A.3.2) and PiriCanTin (MLH A.3.1) for /brigantini:ós/; cf. Latinised Brigantīnus (Pliny, NH 9.63).
   c. leś (MLH K.1.3 i 33) for leśunoś (e.g., MLH K.1.1 B2; gen. sg.).
   d. melm (MLH K.1.3 iii 9) for melmános (MLH K.1.3 iii 15; gen. sg.) or melmunoś (e.g., K.1.1 B1; gen. sg.).
Latinised nom. sg. ELGVANVS (Hinojosa de Jarque (Teruel); see Siles 1985).
c. *Pelšu* (e.g., MLH K.1.3 i 21; nom. sg.) ‘an idionym’; cf. Latinised gen. sg. PELSIINI (CIL ii 730).
d. CalTaiCiCoș (MLH K.23.2; nom. sg.) ‘an adjectival derivative’; cf. Lat. CALDAECVS (IRL 265).
e. SALVANTICA (Lora del Río (Sevilla); see Siles 1985) nom. sg.) ‘an adjectival derivative of a toponym’.
g. arCanTa (e.g. MLH K.1.3 iii 11; nom. sg.) ‘an idionym’; cf. Latinised ARGANTA (see Albertos 1979: 138).
h. PorımıeComí (e.g., MLH A.81.1; nom. sg.) ‘an adjectival derivative of a toponym’.
i. SarnCiiei (MLH K.1.1 A9; loc. sg.) ‘a toponym’.
j. CorTonei (MLH K.0.7; loc. sg.) ‘a toponym; cf. Latinised Cortonênsès (Pliny, NH 3.24).
k. Coŕuinom (MLH K.1.1 A4; acc. sg.) ‘(animal) enclosure?’ < *kory(o)-ino-; cf. Lat. curvus ‘having a curved surface’.

§11. It is well known, however, that consonants in coda position are not robustly articulated; they may be neutralised, lenited, or deleted. For example, in Andalusian Spanish, liquids in coda position are neutralised: The pronunciation of *harto* ‘satisfied’ and *alto* ‘high’ have merged, the liquid being variously articulated as a flap [ɾ], an approximant [ɾ], a lateral [l], or a lateral flap [ɾ], inter alia, or else deleted (Penny 2000: 126–127).

§12. Cross-linguistically, one finds that the articulation of rhotics in coda position varies enormously, e.g.:

(16) a. In Dutch, /r/ may be realised by an enormous range of phones, including a uvular trill [ɾ] or approximant [ʁ], a palatal approximant [ɹ], a retroflex flap [ɾ] or approximant [ɾ], or an alveolar trill [ɾ] or approximant [ɾ], inter alia, or it may be vocalised to [œ], or deleted (van de Velde & van Hout 1999).
b. In German, /ʁ/ is regularly vocalised to [œ] in coda position (Kohler 1990: 72).

---

18 Cf. the statistics of Adda-Decker, Boula de Mareuil, Adda, & Lamel 2005: 133–135. In their large corpus of spontaneous French, 30 per cent of consonants in coda position are deleted. They note that liquids represent over 35 per cent of the consonants deleted in their corpus, though they represent only 25 per cent of consonants.
19 See Eska 2002: 146–150 for a discussion of the phonetic mechanics with regard to nasals in Coda position before obstruent in Hispano-Celtic.
20 See further the Swedish and German dialect information on this reduction compiled by Howell 1991: 109–111.
Phonological answers to orthographic problems. On the treatment of non-sibilant...


§13. Likewise, the vocalisation of /l/ in coda position after /a/ is common in Spanish and many of the other Romance languages (especially before voiceless plosives) (de Cos Ruiz & Ruiz Fernández 2003: 148), e.g.g.:


It also occurs sporadically following any vowel in non-standard varieties of British English (Wells 1982: 258–259 & 314), in which it may be realised as [y], [ə], or [u], or, rarely, deleted. Vocalisation or deletion is also known in southern American English (Wells 1982: 550–551) and African-American English (Wells 1982: 557).21 Similar articulations are attested in dialects of German (Howells 1991: 108–109).

Lateral deletion in coda position before /m/ is also attested in Q’eq’ay’aq’ilq’ (Upper Chehalis), a Salishan language of the Tsamoan branch (Rowicka 2002), e.g.g.:

(18) a. √t’ul- ‘come, arrive, get to here’
   1. s-t’u-mis-n
      CONT-come-REL-3.SG.OBJ
      ‘He/she comes to him/her.’
   2. t’u-ms-mul
      come-REL-1.PL.OBJ
      ‘He/she comes to us.’

   b. √šwil- ‘road, trail; door’
     1. sit-šwá-m-šul
        change-road-toward-road
        ‘He/she crosses/intersects roads/trails’
     2. sit-šwá-mit-n
        change-road-MID.CONT-3.SG.SUBJ
        ‘He/she crosses roads/trails.’

§14. That liquids in coda position were perceptually weak in Hispano-Celtic and could be sporadically deleted may be evinced in two obscure forms:

(19) a. PaśCunes (e.g., MLH A.38.1; abl. sg.); cf. PařśCunes (e.g., MLH A.38.3).
   b. CaPiCa (MLH A.75.7; nom. sg.); cf. CařPiCa (e.g., MLH A.75.2).

The etymon underlying (19a) is unknown, but Untermann 1975: 242 claims that ‘bašk- kann nur für brask-, nicht auch für barsk- stehen’, thus maintaining the conventional explanation of the orthography. But the constraint upon his analysis is undermined by his connexion of

21 See further Hardcastle & Barry 1989 and Sproat & Fujimura 1993 on the phonetic mechanics of lateral articulation.
22 Grammatical abbreviations: CONT = continuative; MID = middle; REL = relational.
(19b) to the ethnonym Carpetanī (e.g., Pliny, NH 3.19); he compares the relationship between neut. nom. sg. adj. CarPiCom (MLH A.75.5) and Carpetanī to that between masc. nom. sg. adj. CalaCořičoš (MLH A.53) and Calagurritanī (e.g., Caesar, BC 1.60.1). If it is possible for /r/ to be deleted in coda position in CaPiCa, there is no reason to deny that it could be deleted in coda position in PaśCunes.

§15. The cross-linguistic evidence for the weak articulation, vocalisation, or deletion of liquids in coda position (§11 and 15–17) and the attestation of CaPiCa beside CarPiCa, then, suggest that what we see in forms such as ConPouTo and neřToPis23 is a phonological deletion, not an orthographic convention.

Conclusion

§16. There is no reason to believe that, beside the widely attested convention of spelling /TL/ groups with a dead vowel that copied the colour of the following etymological vowel, as in Tiřiš = /triːʃ/, there existed two other sporadically attested techniques for spelling such groups. To countenance such a view defeats the very notion of ‘convention’ in an orthographic system that is otherwise highly consistent. Metatheses such as that in ConTeřPia < /kontrebiea/ and deletions in coda position before obstruent such as that in ConPouTo < */kompowltʃ/ < */komplowtʃ/ are well attested cross-linguistic phonological processes. Instead of seeking ad hoc orthographic sub-rules to explain linguistic forms that do not meet our expectations, we should take seriously the evidence that the engravers left us. Ancient languages were subject to all of the same phonological variations that languages spoken today are. The divergent forms addressed in this paper are valuable evidence for the proximate phonetics of what those variations were like.

Abbreviations

AE = L’année epigraphique.
CIL = Corpus inscriptionum Latinarum.
IRL = Diego Santos 1986.
MLH A = Untermann 1975.

References

Albertos, M.ª Lourdes (1979): “La onomástica de la Celtiberia”, in Actas del II Coloquio sobre Lenguas y Culturas Prerromanas de la Península

23 Carnoy 1906: 160 also mentions that the deletion of /r/ before /s/ occurred heterosyllabically in internal position in the Latin of Iberia on a sporadic basis, e.g., VSVM (CIL ii 6268) for sursum ‘in an upward direction’ and SVPPESTES (CIL ii 554) for superstes ‘standing over (a body)’. 

78 PalHisp 7
Phonological answers to orthographic problems. On the treatment of non-sibilant...


Diego Santos, Francisco (1986): Inscripcionesces romanescs de la provincia de León, Institución Fray Bernardino de Sahagún de la Excma, Léon.


Jospeh F. Eska

Siles, Jaime (1985): “Celtismo y latinización. La estela de Ibiza y una inscripción latina de Hinojosa de Jarque (Teruel); sobre la mención de origo en las inscripciones celtíbericas”, in *Serta gratulatoria in honorem Juan Régulo i*, Filología, ed. Ana Régulo Rodríguez, pp. 675–696, Universidad de La Laguna, La Laguna.
Phonological answers to orthographic problems. On the treatment of non-sibilant...


— (1975): Monumenta linguarum Hispanicarum i, Die Münzlegenden, Dr. Ludwig Reichert, Wiesbaden.


Joseph F. Eska
Virginia Polytechnic Institute & State University
e-mail: eska@vt.edu

PalHisp 7 81