

# The Greek cluster *vy* in Southern Italy

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The Modern Greek cluster *vy* has three origins: the fortition of *w* in *Vwg* > *Vvy* (αυγ, ευγ, ηυγ); the epenthesis of *γ* in *Vv V* contexts (δουλεύω > δουλεύγω); and the metathesis of *kb* > *γv* (κβ > γβ > βγ). I argue that this metathesis occurred under the influence of the already established other instances of *vy*. In the Greek spoken in Southern Italy, *gw* appears instead of *vy*. Most recent accounts have argued that this *gw* is an archaism, reflecting the original *kb* > *γv*. Reviewing the diachronic record and the synchronic cognates of *gw*, I argue for the interpretation of the cluster as the result of Romance influence, and that *vy* was the original form in Southern Italy as well. This is confirmed by recent developments in the Greek spoken in Corsica.

## 1. The development of *vy* in Greek

The distribution of Ancient Greek aspirated and voiced stop clusters has the phonotactic restriction that their second member can only be a dental. That is to say, the clusters *bd*, *gd*, *p<sup>h</sup>th*, *k<sup>h</sup>th* (βδ, γδ, φθ, χθ) are permissible in Ancient Greek, but clusters like *gb* (γβ) are alien to it. This is confirmed in Greek text: of the 1.3 million wordforms in the *Thesaurus Linguae Graecae* corpus (ranging from Homer to the 17th century vernacular), the following counts obtain for instances of the clusters as of January 2005 (eliminating obvious non-words):<sup>1</sup>

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<sup>1</sup> The online *Thesaurus Linguae Graecae* corpus is accessible at <http://www.tlg.uci.edu>. I am omitting from the table geminations, which were subject to different conditioning: dissimilation for aspirates (Aeolic Ψάφφα /psáph<sup>h</sup>a/ > Attic Σαπφώ /sapp<sup>h</sup>ō:/ 'Sappho'); the use of γγ as an orthographic representation for /ng/ [ŋg]; and dialectal or borrowed *bb*, *dd*. The table includes potential instances of the modern dissimilation of voiceless fricatives to fricative + stop, e.g. χθές *xthes* > χτές *xtes* 'yesterday'.

	$\beta: b > v$	$\gamma: g > y$	$\delta: d > \theta$		$\varphi: p^h > f \sim$ $\pi: p$	$\chi: k^h > x \sim$ $\kappa: k$	$\theta: t^h > \theta \sim \tau: t$
$\beta: b > v$	—	136	1676	$\varphi: p^h > f$	—	4 + 14	9348 + 87
$\gamma: g > y$	46	—	830	$\chi: k^h > x$	6 + 17	—	10083 + 34
$\delta: d > \theta$	20	21	—	$\theta: t^h > \theta$	27 + 7	9 + 7	—

The labial-velar sequences were alien to Ancient Greek: all instances of  $\beta\gamma$  ( $bg > vy$ ) and  $\varphi\chi$  ( $p^h k^h > fx, fk$ ) are either loans/proper names (*Abgar* ~ *Agbar*; *Ophchinel*), or modern (*vyazo* 'take out', *vyeno* 'go out'). (The exceptional instances such as *db* are likewise mostly loans; e.g.  $\alpha\delta\beta\epsilon\nu\tau\iota\tau\zeta\iota\omicron\nu$  [*adventidzion*] < *adventitium*.) There is no evidence in Ancient Greek for a preferred relative ordering of velars and labials. While the Syriac name is *Abgar*, both *Agbar* and *Abgar* are attested in Greek (first attestation:  $\text{Ἀβγαρος}$ , Plutarch, *Crassus* 21-22, i-ii AD;  $\text{Ἀγβαρος}$ , Cassius Dio, *Historiae Romanae* 77.12, ii-iii AD). And the x AD *Suda* dictionary cross-references the two pronunciations (as  $\text{Ἀϋγαρος}$  [*avyaros*] and  $\text{Ἀγβαρος}$  [*ayvaros*]).<sup>2</sup>

The modern language, on the other hand, follows the hierarchy labial > velar > dental for voiced and voiceless fricatives, the modern reflexes of aspirated and voiced stops. That is to say, not only are  $bd, gd, p^h t^h, k^h t^h > v\delta, \gamma\delta, f\theta, x\theta > v\delta, \gamma\delta, ft, xt$  allowed in the Modern language (the voiceless dissimilation is regular in the vernacular), but so are  $vy, fx > fk$  ( $\beta\gamma, \varphi\chi$ ).

What allowed labial-velar sequences into Greek is the introduction of  $vy, fx$  from a different source:  $\alpha\nu\gamma, \epsilon\nu\gamma, \alpha\nu\chi, \epsilon\nu\chi$  (*aug, eug, auk<sup>h</sup>, euk<sup>h</sup>* > *avy, evy, afx, efx*) (which I for convenience refer to here as *wg*) e.g.  $\zeta\epsilon\nu\gamma\acute{\alpha}\rho\iota\omicron\nu$  /*zdewgari*/ 'pair' >  $\zeta\epsilon\nu\gamma\acute{\alpha}\rho\iota$  /*zevyari*/. The fortition of diphthong-final [w] did not have a counterpart in the language that would have placed velars in front of labials: *zdewgari* > \**zeyvari*. The cluster was further reinforced in the language by the epenthesis of  $\gamma$  in  $-Vw\acute{o} > -Vvo$  and  $-Vo$  verbs ( $-\acute{\alpha}\acute{w}, -\acute{\epsilon}\acute{w} > -\acute{\alpha}\acute{\gamma}\acute{w}, -\acute{\epsilon}\acute{\gamma}\acute{w}$ ) in many Greek

<sup>2</sup> The metathesis, however, may have been native to Syriac, assuming *Agbar* is cognate with Arabic *akbar* 'great': Tacitus, *Annals* 12.12, 12.14 refers to *Acbarus*, and Pseudo-Appian to *Akbaros* (Kretschmer 1905:196).

dialects (Krumbacher 1886; Hatzidakis 1989-90:1.49-50). Such epenthesis is already attested since Hellenistic times for *aw\_V* and *ew\_V* clusters in general, although it is not clear that the epenthesis in modern verbs, first attested in the ninth century, is a continuation of the Hellenistic phenomenon (Dieterich 1970 [1898]:91-92; Mayser 1970:142; Jannaris 1968 [1897]:§155b; Gignac 1975:74).<sup>3</sup>

As a result, the cluster counts for the OpenOffice GreekDictionary spellchecker vocabulary for Modern Greek (<http://ispell.source.gr/>) are:

<sup>3</sup> Hatzidakis attributed the epenthesis to analogy, and considered it a mediaeval phenomenon: a phonemicisation of the 3sg suffix, once reduced to *yod* ([-Vvi#V] > [-Vvj#V] > /-Vvy(i)#V/) (Hatzidakis 1989-90 [1905-07]: 1.49-50), and a back formation from the aorist (pres. ζεύω *zdeuō*: > *ze-vyo*, aor. \**ezdeuō-sa* > ἔζευξα *ezdeuō-sa* > *ezeḡsa* > *ezeḡsa* > modern ἔξεψα *ezeḡsa* 'I yoke, I yoked' – so *-psa* aorist associated with *vyo* present; by analogy, pres. γυρεύω *gyreuō*: > *γirevo*, aor. ἐγύρευσα *egyrewsa* > *eyireḡsa* > *eyireḡsa*, allowing present *γire-vyo*; Hatzidakis 1975 [1892]:125).

Krumbacher (1886) rejects Hatzidakis' analogical reasoning at least at the outset of the change, pointing out the appearance of the epenthesis in nouns and his failure to account for *-V\_o* epenthesis. Krumbacher believes the phenomenon was a regular avoidance of vowel hiatus, connected to the general epenthetic use of /y/ in the modern language. According to Gignac, γ in *VvyV* clusters in late papyri had the value [w] or [j], so that γ was merely prolonging the diphthong glide: [ew.wo], [ew.ji]. Krumbacher (1886:407) for that reason thinks the epenthesis was anticipatory rather than regressive, as he does not allow *w* > *j* > γ. Instead, he posits the change started before front vowels, and then spread to back vowels through an analogy similar to that posited by Hatzidakis.

Kretschmer (1905:194-204), expanding on Krumbacher, appeals to the fortition of [w] to [gw] in European languages: he believes there was a regular change *ewV* > *egwV* > *eywV* > *evyV*, concluding with the final metathesis familiar from *ekbaino*: > *vyeno*. The textual evidence Kretschmer presents, however, shows evidence only of *ewV* > *ewwV*, and no further fortition; e.g. <*Euuantia*> as a Latin transliteration of the proper name Εὐανθία /*ewant<sup>h</sup>ia*/. Pernot (1946:350-352), in a detailed refutation of Kretschmer, defends the role of analogy from verbs for the nominal instances of *vy*, and questions the phonetic plausibility of a metathesis like [γwi] > [vjɪ] as a productive sound change.

	β: v	γ: γ	δ: δ		φ: f ~ π: p	χ: x ~ κ: k	θ: θ ~ τ: t
β: b > v	—	158	192		φ: p <sup>h</sup> > f	—	0 + 42
υ: w > v	—	333	206		υ: w > f	—	189 + 433
/v/ total	—	491	398		/f/ total	—	189 + 475
γ: γ	1	—	197		χ: x	1 + 5	—
δ: δ	0	0	—		θ: θ	0 + 0	0 + 0

So in Modern Greek, voiced labial-velar sequences [vɣ] are of a frequency comparable with labial-dental sequences [vð], although voiceless labial-velar sequences [fx ~ fk] are still much less frequent than labial-dental [fθ ~ ft] or even velar-dental sequences [xθ ~ xt].<sup>4</sup> Although Standard Modern Greek does not have *γ* epenthesis in verbs, *w > v* still contributes over double the number of lemmata with *vy* that etymological *bg* does. The 158 forms in the spellchecker dictionary that are spelled βγ (implying an etymological /bg/) are derived from a very restricted set of etyma:

βγάλω <i>vɣalo</i> 'take out' (present tense βγάζω <i>vɣazo</i> )	86
βγαίνω <i>vɣeno</i> 'go out'	27
άβγό <i>avɣo</i> 'egg'	23
καβγάς <i>kavɣas</i> 'fight' < Turkish <i>kavga</i>	12
γαβγίζω <i>ɣavɣizo</i> 'bark' < onomatopoeia	6
Foreign proper names	4

Since the merger of *wg* and *bg > vy* resulted in the ordering labial > velar, the hierarchy has been observed strictly in Greek: the one instance of *γν* in the spellchecker dictionary is the loanword φειγβολάν /*feiɣvolan*/ < French *feuille volant* 'pamphlet', where /ɣ/ [j] approximates syllable-final [ʌ] (and

<sup>4</sup> The instances of *wk*, *wt > fk*, *ft* are overcounted since they include etymological instances of the clusters, rather than the results of fricative dissimilation. Moreover contemporary Greek includes more undissimilated voiceless fricative clusters, through orthographic borrowings from Ancient Greek, than was formerly the case.

Greek speakers familiar with French would have understood there to be a word break in *feiγ#volan* anyway). In fact, the application of the labial > velar hierarchy brought into being the two most prevalent instances of *vy* in Modern Greek, which originally violated the ordering. The metathesis of *gb* (< *kb*) to *bg* > *vy* underlies the forms *vyalo* and *vyeno*: ἐκβαίνω *ek-bainō*: > *egbainō*: > *eyveno* > *evyeno* > βγαίνω *vyeno* and ἐκβάλλω *ek-ballō*: > *egballō*: > *eyvallo* > *evyallo* > βγάλω *vyalo*.<sup>5</sup>

Of the remaining *βγ* forms, *avyo* is traditionally explained as τὰ ᾠὰ *ta ō:ia* ‘the eggs’ > *taoa* > \**tawa* > \**tava* > \**ta ava* > *tavya* > *ta avya* (Hatzidakis 1989–90 [1905–07]:2.329). In other words, the *y* in *avyo* is epenthetic just as with the *-evo* verbs (as Hatzidakis claims explicitly), and the *v* resulted from fortition just as in *aw* > *av* (which is why *avyo* was long spelled αὐγό rather than ἀβγό). As for *yavyizo*, the Modern onomatopoeia for a bark is *yav*, and *Lexiko tes Koines Neoellenikes* (1998) speculates the verb is a haplology of *yavyav-izo*; an epenthetic *y* in *yav-izo* is also possible. The Ancient onomatopoeia was αὐ̃ αὐ̃ *haû haû* (Aristophanes, *Wasps* 903); but the similarity is to be expected given the underlying onomatopoeia, and does not explain the *vy* cluster. So no instances of *vy* in Modern Greek result from Ancient Greek *bg*: they result from the fortition of *w* in *awg*, *ewg*; from the metathesis of *eyveno*, *eyvallo* to match the resulting *vy* clusters; from onomatopoeia; or from late loan-words.

The metathesis of *ekbainō*: > *vyeno* and *ekballō*: > *vyalo* involved an infrequent cluster, *kb* > *gb* > *yv*, reordered to match a rather more frequent cluster, *vy*. The cluster *kb* is unusual in Greek, as it involves a voiced next to a voiceless stop. Ancient Greek regularly allows C{+stop –voice}C{+stop +voice} only with the prepositional prefix *ek-*: ἐκ-βαίνω *ek-bainō*: ‘out-go’ =

<sup>5</sup> The unmetathesised forms displaying the voicing assimilation *kb* > *gb* (e.g. *egbainō*:, *egballō*:) are abundantly attested in papyri from Ptolemaic (Mayser 1970:201–202) as well as Roman Egypt (Gignac 1975:175); they sporadically turn up even earlier, e.g. ἐκβαλεῖν > ἐγβαλεῖν [*egbalein*] ‘to take out’ (Hermippus of Smyrna, Fragment 89, iii BC.)

‘leave’, ἐκ-δύω *ek-dýō*: ‘out-dress’ = ‘undress’, ἐκ-γελάω *ek-geláō*: ‘out-laugh’ = ‘laugh out loud’. There are no clusters in ancient or modern Greek such as *\*pb* or *\*tg*. Of all prepositional prefixes in Attic Greek, *ek-* was the only prefix that could end in an oral stop preceding another stop. By contrast, even in those dialects where apocope allowed other prefixes to have an oral stop preceding a stop, full assimilation ensured that no problematic clusters would result: *kat(a)-bainō*: > *\*katbainō*: > *καββαίνω kabbainō*: ‘go down’. And even when the *kC* clusters underwent voicing assimilation, as in *ekbainō*: > *egbainō*:, the resulting clusters were uncharacteristic of Greek, as the counts above show.

But the metathesis of *γν* to *vy* would not have occurred in Greek unless the *vy* cluster had become more frequent in the language, providing a model for the heretofore unusual cluster to adapt to. That Greek was long predisposed to prefer *vy* over *γν*, and *kb* > *γν* had to be remodelled after *wg* > *vy*, is clear from the following respective counts of instances of *κβ/γβ/βγ* and {*α,ε,η*}*vy* in representative authors in the *Thesaurus Linguae Graecae* corpus:

	κβ/γβ/βγ ( <i>kb</i> > <i>gb</i> > <i>vy</i> )	{ <i>α,ε,η</i> } <i>vy</i> ( <i>{a,e,ε:}wg</i> > <i>{a,e,i}vy</i> )
Plato	89	199
Septuagint	109	232
New Testament	69	41
Galen	203	813
Leontius of Neapolis (vii AD)	6	12
Vernacular versions of <i>Alexander Romance</i> (xv–xviii AD)	205 <sup>6</sup>	169
Byzantine vernacular brief chronicles (Schreiner) (xiv–xvii AD)	91	164

<sup>6</sup> The late vernacular counts have a rather higher presence of *βγ* because of the abandonment of internal augment and reduplication, allowing *vy* aorists to surface: Ancient ἐξέβαλον *eksebalon* > Modern *\*ekbala* > ἔβγαλα *evgala*, Ancient aor. ἐξέβην *eksebe:n*, perf. ἐκβέβηκα *ekbebe:ka* > Modern *\*ekbe:ka* > (ἐ)βγήκα (*e*)*vyika*.

Note that none of these texts feature  $\gamma$ -epenthesis in verbs, though this must have been a significant factor in the overall development of  $kb > v\gamma$ . Moreover, while  $kb > \gamma v$  was morphologically restricted in its distribution – only the *ek-* prefix before unaugmented instances of *b-* verbs – the competing  $wg > v\gamma$  cluster was much less constrained: it could occur in any root, and even  $\gamma$ -epenthesis could occur in the present and imperfect of any  $-\epsilon\upsilon\omega$  or  $-\alpha\upsilon\omega$  ( $-\epsilon w\omega$ : or  $-aw\omega$ :) verb.

The treatment of  $kd > \gamma\delta$  in Greek confirms the presumption that  $kb$  was remodelled after a more frequent  $v\gamma$ . Like  $kb$ ,  $kd$  occurred only in clusters with *ek-*, and  $kd > \gamma\delta$  remained unusual in the language – in Ancient Greek as one of the only three, morphologically restricted clusters of voiceless + voiced stop ( $kb$ ,  $kd$ ,  $kg$ ), in (pre-Puristic) Modern Greek as an undissimilated cluster of fricatives ( $v\gamma$ ,  $v\delta$ ,  $\gamma\delta$ ,  $sf$ ). But unlike  $kb > gb$ , which introduced a new cluster into the language,  $kd > gd$  merged the oddity with an extant cluster (cf. ὀγδοός *ogdoos* ‘eighth’). And in the absence of a more frequent  $\delta\gamma$  cluster,  $gd > \gamma\delta$  has remained stable in most Greek dialects, and has not undergone the metathesis that  $\gamma v$  has under the influence of  $v\gamma$ . Thus, ancient ἐκδύω *ekdyō*: ‘undress’ has become *eyðyo*  $>$  *γδύνω*  $\gamma\delta ino$  in the modern language, and ἐκδέρω *ekderō*: ‘to skin’ has become *eyðero*  $>$  *γδέρνω*  $\gamma\deltaerno$ .

But where dialects have gained productive  $\delta\gamma$  clusters, the  $\gamma\delta > \delta\gamma$  metathesis has taken place – just as a  $\gamma v > v\gamma$  metathesis took place when Greek gained productive  $v\gamma$  clusters. In the dialect of Meleniko (Andriotis 1989), formerly spoken in Bulgaria, yod resulting from non-syllabic /i/ is regularly fortitioned, with some morphologically conditioned exceptions: μετάξια *metaksia*  $>$  *mitaksja*  $>$  *mitaksça* ‘silks’, πιάνω *piano*  $>$  *pjanu*  $>$  *pçanu* ‘take’; ἐντηριοῦμαι *endiriume*  $>$  *dirjumi*  $>$  *dirjumi* ‘hesitate’, βιάση *viasi*  $>$  *vjasi*  $>$  *v̥jasi* ‘haste’, κάμπια *kambia*  $>$  *kabja*  $>$  *kabja* ‘caterpillar’. As is the case in standard Greek, [j] is also the palatalised allophone of /ɣ/: γεμάτος *gematos*  $\sim$  *ɣiomatos*  $>$  *ɣjumatus*  $>$  *jumatus* ‘full’, τρυγία *trygia*  $>$  *triɣja*  $>$  *trija* ‘wine harvest’. So the fortitioned yod after voiced consonants could be

reanalysed as /*ɣi*/. Now, [ðj] was subject to fortition just as were other instances of yod: διαβάζω *diavazo* > *ðjavazu* > *ð̞javazu* ‘read’, δυόσμος *dyosmos* > *ðjozmus* > *ð̞jozmus* ‘spearmint’. The resulting [ðj] in turn was subject to reanalysis as /ð̞ɣi/. But this meant that Meleniko Greek now had a frequent /ð̞ɣ/ cluster, which could trigger metathesis of the infrequent /*ɣð*/ cluster in palatalised contexts. Accordingly, while unpalatalised ἐκδέρω *ekdero*: > *egdero*: > *ɣðerno* ‘to skin’ remains *ɣðernu*, palatalised ἐξεκδύομαι *eksekdyomai* > *ekseyðiome* > \**ksiɣðjumi* ‘undress’ has been metathesised into [ksið̞jumi] (= /ksið̞ɣjumi/).

### 1.1. Timing of the metathesis

Both /*b*/ and /*g*/ had lenited to [ɣ] and [β] by the first century AD, while /*aw*/ and /*ew*/ were already fortitioned to [aɸ/aβ, eɸ/eβ] by Roman times – i.e. also the first century AD (Horrocks 1997:111-112). This means that all the preconditions for the metathesis were already in place by the first century:

- The *kb* cluster was already assimilated into *gb* (cf. Hermippus of Smyrna);
- *gb* had already likely regularly lenited to *ɣβ*, if not *ɣv*;
- *ewg* and *awg* clusters had conversely already fortitioned to *eβɣ* and *aβɣ*;
- The presence of *βɣ* clusters was reinforced by the epenthesis in *-wə*: verbs and in other contexts: even if originally the *-αύγω*, *-εύγω* suffix was *-wyə*: (/g/ may have lenited as early as the second century BC), by this stage the suffix was pronounced *-βɣə*;
- The instances of *eβɣ*, originating both in *egw* and epenthesis in *-ewə*: verbs, were rather more plentiful than the instances of *ɣv* – whose reflexes are confined in the modern language to just three Greek stems.

So assuming the epenthesis of *ɣ* was a regular phenomenon in Hellenistic Greek, the metathesis could have taken place at any time after the first century. If the modern phenomenon is



unconnected with Hellenistic Greek, as Pernot claims, the metathesis may have followed the mediaeval reprisal of the epenthesis, in ix AD at the latest; but it also could still have taken place in Hellenistic Greek, and survived the putative disappearance and reappearance of the epenthesis.

When the metathesis actually took place is not clear. Kretschmer (1905:196–197) sees evidence for it in the treatment of *Abgar* ~ *Agbar*. But although Abgar VIII used 'bgr in Syriac and *Abgaros* in Greek to refer to himself, the confusion in Tacitus and the Greek authors suggests rather discomfort with an unfamiliar cluster – especially as by that stage the Syriac [bg] was distinct from the Greek [βγ]. (See Pernot 1946:152, who also mistrusts the reliability of transcribed foreign proper names in indicating sound change.) Gignac (1975:314–315), who documents the phonology of papyri in Egypt from 30 BC to 735 AD, mentions no instances of γβ > βγ in his discussion of metathesis, although he has documented plentiful instances of the assimilation κβ > γβ (*kb* > *gb* [> γv]).

The *Spiritual Meadow* by John Moschus (Migne 1857-1887: 3064A; ca. 620 AD), a work well known for anticipating many features of the later vernacular, contains the form εὔγαλε [*evyale*] for 'take out!', corresponding to the classical ἐκβαλλε *ekballe* and modern βγάλε *vyale*. This indicates that somewhere along the transmission of the text, not only had the metathesis taken place, but the verb was respelled as if it had originated in the far more frequent *ewg* > *evy* – so the metathesis was no longer remembered as such. But in the absence of a critical edition of the *Spiritual Meadow* (one has been announced by Philip Pattenden of Peterhouse, Cambridge), I am reluctant to attribute the metathesis to Moschus rather than a later scribe. At any rate, forms with *kb* > *vy* are attested in the Assizes of Cyprus (ca. 1250: Kriaras 1968-1997) – and as we will see below, were already in use in Southern Italy in the 11th century.

## 1.2. Dialectal reflexes of the cluster

The small set of lemmata with *vy* (albeit in high use) make it a marginal feature in standard Greek phonology. It has however been quite productive in dialect, to the extent of displacing etymological /v/ and /ɣ/ without any apparent relation to the epenthetic verbs (e.g. εὐαγγέλιον *evangelion* > *vageljo* > *vyageljo* 'gospel', φταίουν *fieun* 'they are at fault' > *fieyu* > *fievvyu*; these are the forms around which Kretschmer and Pernot based their respective arguments on the epenthesis as a regular sound change or an analogical development).

Nonetheless, the *vy* cluster presents articulatory difficulty, and many dialects of Greek have modified it in some way. Tsopanakis (1955:66-68) has gathered most of the reported instances, arguing that they present evidence for the retention of *-ewə*: as an archaism in his claimed region of Doric dialectal survivals. Tsopanakis considers the behaviour of the cluster in Southern Italy to reflect this archaism; so it is useful to go through the various instances, including those not considered by him, in order to identify any common developments.

- (a) Etymological *-g-* in *-εύγω -ewgə*: verbs was already being deleted in the Koine: ἐρεύγομαι *ereugomai* > ἐρεύομαι *ereuomai* 'vomits, burps', φεύγω *p<sup>h</sup>ewgə*: > φεύω *p<sup>h</sup>ewə*: 'leave'.
- (b) The *-γ-* is deleted in ζεύγω *zdewgə*: > *zevo* 'yoke' (standard Greek), Αὔγουστος *awgustos* > *avustos* (Smyrna), *avostos* (Cappadocia) 'August', φεύγω *p<sup>h</sup>ewgə*: > *fevo* 'leave' (Pontus).
- (c) The *-v-* is deleted in ζευγολάτης *zevgolatis* > *zeyolatis* 'ox-driver' (Mani), ζευγάρι *zevgari* > *zeyari* 'pair' (Mani), Αὔγουστος *awgustos* > *ayustos* (Cappadocia, Mani), φεύγω *p<sup>h</sup>ewgə*: > *feyo* (Pontus: Oinoe)
- (d) The entire cluster *vy* is deleted in φεύγω *p<sup>h</sup>ewgə*: > *feygo* > *feo* 'leave' (Mani, Pontus: Oinoe, Salento), ἐρεύγομαι *ereugomai* > *reome* 'burp' (Rhodes), ζεύγω *zdewgə*: > *zeo*

- ‘to yoke’ (Mani), Αὔγουστος *awgustos* > *aostos* ‘August’ (Rhodes).
- (e) Pontic optionally preserves the old ordering *kb* > *γν* in ἔγβα *egva* ~ *evga* ‘exit’, ἐγβαίνω *egveno* ~ *evgeno* ‘go out’, ἐγβάλω *egvalo* ~ *evvalo* ‘take out’, etc. (Papadopoulos 1958–61). Kretschmer (1905:196) also mentions (ἐ)γβάζει *gvazi* ‘he takes out’ from Corfu, and (ἐ)γβαλμένος *\*gvalmenos* > *ymalmenos* ‘taken out’ from Icaria.
- (f) Cappadocian Greek reduces *kb*, *wg* to *vg* ~ *g* (Dawkins 1916:154, 161).
- (g) South-Eastern Greek (Pantelides 1929:44,68; Minas 1994b: 247–254) presents the variant *vg*, and the dissimilation *vg* > *vk* > *fk*, in line with the regular voiceless dissimilation *fx* > *fk*. Minas argues *vg* is an archaism, closer to the original pronunciation of gamma, preserved in clusters – although the traditional account through dissimilation, which covers *fx* > *fk*, would readily have been extended to *vγ* > *vg*.
- (h) In Tsakonian, the verb ending *-ewō*: goes to *-engū*: ζηλεύω *zde:lewō*: > *zilenqu* ‘be jealous’.

Tsopanakis accounts for these forms by claiming that they did not go through a *wg* > *vγ* phase, but rather that the [w] was retained, being later either deleted or fortitioned to [v]; he also has *γ*-epenthesis between vowels, a process independently attested for Greek. He thus claims:

- *ewo* > *ewyo* (epenthesis) > *evyo* (regular fortition); this accounts for the widespread *-evyo* verb paradigm.
- *ewo* > *eo* (deletion) > *eyo* (epenthesis).
- *ewyo* > *eyo* (deletion). This accounts for case (c)
- *ewyo* > *ewo* (deletion) > *eo* (deletion). This accounts for case (a) and (d)
- *ewyo* > *ewo* (deletion) > *evo* (fortition). This accounts for case (b)
- *ewo* > *ewyo* (epenthesis) > *eywo* (metathesis) > *egwo* > *eggo* > *engū*. (h)
- *ewo* > *evyo* > *eyvo* > *egvo* > *egwo*

That the epenthesis of *y* in *-ewo* verbs dates from Koine times seems likelier than not. But it is unnecessary to posit the survival of a lenitable [w] in order to explain its deletion, when the [vy] cluster is already complex enough, especially in inter-vocalic rather than initial contexts, to allow deletion of a fricative. Case (d) in particular, with its deletion of the entire cluster, clearly requires *ewyo/evyo* > *eyo* > *eo*, with the *w* > *v* deleted first: Mani and Oinoe deleted the *w* > *v* in (c) before deleting the *y*, retaining the two stages as doublets, while both [v] and [y] are regularly deleted inter-vocalically in Rhodes, so this cannot establish the priority of deletion. But if *ewyo/evyo* > *eyo*, there is no need to posit that [w] had not yet gone to [v] at the time of deletion.

The stronger claims Tsopanakis makes with respect to Tsakonian and Southern Italian are addressed below.

## 2. *vy* in Southern Italy

The dialect where *vy* has proven most unstable is the Greek of Southern Italy (Italiot) (Rohlf's 1977:25-26; Karanastasis 1984-92; Katsoyannou 1995:124):

### *Calabria*

Reflexes of:	Vuni	Chorio Rochudi	Bova	Galliciano
ἐκβαίνω > βγαίνω ( <i>ekbaino</i> : > <i>vgeno</i> ) 'I go out'	<i>gwe, vywe</i>	<i>vje, ge</i>	<i>gwe</i>	<i>ge</i>
*ἐκβήκα > βγήκα ( <i>ekbe:ka</i> > <i>vyika</i> ) 'I went out' / ἐκβῆ > βγῆ ( <i>ekbe:i</i> > <i>vyi</i> ) 'that I go out'	<i>gwi</i>	<i>gwi</i>	<i>gwi</i>	<i>ggi</i>
ἐκβάλλω > βγάλλω ( <i>ekballo</i> > <i>vvalo</i> ) 'I take out'	<i>vga, gwa</i>	<i>vga, vywa, gwa</i>	<i>gwa</i>	<i>gwa, ga</i>
*αὐγόν > ἀβγό ( <i>aw[y]on</i> > <i>avgo</i> ) 'egg'	<i>gvo, gwo</i>	<i>vgo, ywo</i>	<i>gwo</i>	<i>go, ggo</i>
ζευγάριον > ζευγάρι ( <i>zdwqarion</i> > <i>zvygari</i> ) 'pair'	<i>gwa</i>	<i>gwa, ywa, vga</i>	<i>gwa</i>	<i>gwa</i>

*Salento*

Reflexes of:	Zollino	Calimera	Castrignano	Martignano
<i>vyeno</i>	<i>gve, gwe</i>	<i>gwe</i>	<i>gwe</i>	<i>ge</i>
<i>vyika/ vyi</i>	<i>gwi</i>	<i>gwi</i>	<i>gwi</i>	<i>ggi</i>
<i>vyallo</i>	<i>gwa</i>	<i>gwa</i>	<i>gwa</i>	<i>gga, ga</i>
<i>avyo</i>	—	<i>vywo, gvo, gwo</i>	<i>gwo, go, ggo</i>	<i>ggo</i>
<i>zevyari</i>	<i>gwa</i>	<i>gwa</i>	<i>gwa</i>	<i>gwa</i>

So the cluster that in Standard Greek has ended up as *vy* is realised in Southern Italy in a variety of ways: *vy*, *vj*, *vg*, *vyw*, *yw*, *gv*, *gw*, *gg*, *g*. Of these realisations, the *gg* and *g* are clearly an assimilation of the *w* to *g*, followed by degemination; Katsoyannou (1995:123) in her dissertation on Galliciano notes that the Italian loanword *guerra* appears in the Greek spoken there as [g(u)erra] (confirmed in Rohlfs 1977:26). The degemination is consistent with the fact that geminates are avoided word-initially in Galliciano, and in the end Katsoyannou treats *gg* ~ *g* as realisations of a rare phoneme /ɣy/. As for the presence of both *y* and *g* in Calabria, scholars are in agreement that, unlike standard Greek, the fricative and the stop are allophones of the same phoneme (written as /g/ by Rohlfs, and as /ɣ/ by Katsoyannou). Rohlfs' description of the allophony of /ɣ/, being diachronically oriented, is sketchy; relying on Katsoyannou (1995:119, 122–125) and Profili (1983:103–109), the distribution of allophones can be described as follows:

*Calabria:* /ɣ/ ->

[g] / N\_  
 [g] ~ [ɣ] / \_V{-front}  
 [g] ~ [ɣ] / \_r  
 [j] / \_V{+front}  
 [ɣ] / else

*Salento:* split into palatal and velar phonemes, of which the velar has merged with /k/ or has been deleted inter-vocally:

/j/ -> [c] ~ [j] / ##\_V  
 [j] / N#\_  
 [j] ~ [j] / V\_V, V#\_V  
 [j] / C\_

/k/ -> [k] / ##\_  
                   [g] / N\_, N#\_  
                   [g] ~ [k] / C\_, \_C  
                   [ɣ] ~ [k] / V\_ V, V#\_ V

So *vjenno*<sup>7</sup> 'go out' in Chorio Rochudi is merely the phonetic realisation of βγαίνω /vyenno/. The status of /ɣ/ before [w] is not discussed in the sources, precisely because this is an odd phonological context: /w/ is not a phoneme of Italiot, and we have seen Katsoyannou sidestep the entire issue by postulating a distinct geminate phoneme. But the free variation [g] ~ [ɣ] which Katsoyannou mentions before back vowels would naturally be expected to hold before [w] as well; so the transition between Chorio Rochudi *aywo* and Vuni *agwo* 'egg', and the alternation between *z:ogwari* and *z:oywari* 'pair' in Chorio Rochudi, is not phonologically significant. The presence in Chorio Rochudi of *vy* in *vyad̥do* (< *vyallo*) but *vg* in *z:ovgari* is also predictable from this free variation. So we are left with four forms to account for in Calabria – *vy* ~ *vg*, *vyw*, *ɣw* ~ *gw*, *gv*; and two forms in Salento – *gv*, *gw*.

The Italiot forms do not suggest a direct metathesis /vy/ > /ɣv/, but rather a gradual merger of /vy/ with the labial–velar cluster prevalent in Italian, /gw/. The merger is fairly obvious, and was already alluded to by Krumbacher (1886:420–421) in his work on *γ*-epenthesis (although his account is ultimately at variance with mine). This merger was potent enough that it also pulled Italian loanwords in the direction of Greek: Chorio Rochudi *guadagno* > *vgadaneō* 'I win' (Rohlfs 1977:27). By contrast, *gw* is unknown in Greek (hence the recent loan *guardaroba* > γκαρνταρόμπα *gardaromba* 'cloakroom'). Indeed [w] itself is quite infrequent in Modern Greek, except as a reflex of [ɣ] (most prominently in Southern Bulgaria, Propontis Tsakonian, and Filoti in Naxos – although the deletion of vela-

<sup>7</sup> So Rohlfs; Karanastasis had transcribed it in Greek as βγαίνω, but this presupposes standard Greek phonology, and should be read as [vjen:ɔ], not [vyen:ɔ].

risied /l/ in Peloponnesian Tsakonian, Samothrace, Pharasa, the rest of Naxos and elsewhere indicates the same development: Contossopoulos 1978-79, Imellos 1963-64: 37-40).

So the *vy* cluster, I contend, was original to the region, and was gradually assimilated to Romance [*gw*]. One way of accounting for this assimilation is the sequence *vy* > *vyw* > *yw* > *gw*. The one cluster not included in this sequence is *gv* in Vuni, Chorio Rochudi, Zollino and Calimera. A second way is to postulate an immediate metathesis in *vy* > \**yv* ~ *gv* > *yw* ~ *gw*. The cluster this sequence does not account for is *vyw* in Vuni, Chorio Rochudi, and Calimera.

Any account of Italiot *gw* as a result of Romance influence, however, needs to reckon with the quite different account of the cluster by past scholars.

1. Rohlfs (1977:27) prefers to see the Ancient *kb* rather than the later *yv* as original in the region, in line with his thesis that Southern Italian Greek has been spoken in the region continuously since antiquity. He accounts for the attested reflexes of *ekbainō*: and *ekballō*: by positing the sequence *kb* > *kv* > *gv* > *gw*. While *kb* > *gw* in this account is unmetathesised, *wg* > *gw* as the local reflex of *εvy*, *avy* /*ewg*, *awg*/ clearly is metathesised.<sup>8</sup> Under this account, it is *vy* not *gv* which is exceptional: he explains *vg* (= *vy*) as metathesised from *gv* locally (Rohlfs 1977:60), which would account for *guadagno* > *vgadagneo*. If Rohlfs is right, then the reversal of velar and labial is not a result of contact with Romance, but inherited from Ancient Greek *ekbainō*: and *ekballō*:; at most, Romance caused the lenition *gv* > *gw*.
2. Tsopanakis (1955:66-68) has an even more radical challenge: he believes *gw* in Southern Italian Greek originates in a metathesis of *wy*, with a survival of the Ancient *w*. He posits the following scenarios:

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<sup>8</sup> Rohlfs' account is essentially already given in Morosi (1870:100, 102), who points out that *wg* > *gw* is the reverse of *kb* > *gw*.

- ζευγάριον *zdegwarion* > *z:owɣari* > *z:owari* > *z:oywari* > *z:ogwari* > *z:og:ari* ‘pair’
- δουλεύω *dulewɔ:* > *dulewɣo* > *duleɣwo* > *dulegwo* > *duleg:o* ‘work’ (whence also the Tsakonian *ðuleg:u* > *ðulengu*)
- ἐκβαίνω *ekbainɔ:* > *eyveno* > *eyweno* > *egwenno*, or *ekbainɔ:* > *eyveno* > *evyeno* > *ewyeno* > *eweno* > *eyweno* > *egwenno*

In other words, *wy* was metathesised through the *y* being dropped in *Vw\_V* and later being reinserted epenthetically in *V\_wV*. Etymological *kb* > *ɣv* followed the same path as *wɣ*, through having its *v* lenite to *w*, whether with the *ɣv* > *vy* metathesis or without it.

3. Kretschmer’s (1905:194–204) account is in a way between Rohlf’s and Tsopanakis’: he postulates that *Vw* > *Vgw* > *Vɣw*, in the same way that *w* > *gw* in European languages. *ɣw* > *ɣv* then metathesised to *vy*. In his account, the Italian *gw* forms are historically prior to the *vy* forms.
4. Contossopoulos (1978-79:196) names Calabrian Italiot *-egwo* in passing as an instance of the fortition of [w], *w* > *β* > *v*, which underlies the occasional development in Modern Greek *l* > *\*lʲ* > *\*w* > *v* / *\_V*{+back}. Contossopoulos presents *w* > *v* as unidirectional; but he also refers to “the confused pronunciation *w* > *v*” in Calabrian Italiot, and speaks of *-egwo* as “between [‘εguo] and [‘εgβo]”. Since Contossopoulos was presumably unaware of the [gv] variants, and assumes [evo] as a starting point, he seems to be implying that [v] and [w] were in free variation, so that *evo* > *egvo* > *egwo* – with no mention of any influence from Italian *gw*.
5. Krumbacher’s (1886:421) account, finally, admits a Romance contribution for the development of *vy* in Southern Italy, but in a more limited domain than I have claimed. He explains the forms with *g* and *gg* as derived the same way he accounts for Tsakonian *-engu*: *evɣo* > *eyo* > *enyɣo* > *enggo*, with the *v* dropped and the nasalisation an irregular but recurrent fortition. On the other hand, he derives the *gv* (= *gw*) forms of



Greek *-ewā*: verbs through the mediation of Romance without any epenthetic *γ*: *φύτεύω p<sup>h</sup>ytewā* > *fitevo* > *fitegwo* ‘plant’ after Italian *vasto* > *guasto*.

6. Most recently, Lambrinos (2001:58-61) finds fault with preceding accounts of the phenomenon (much as I do here). His proposal is that both Salentine verb endings *-egwo* and *-eo* derive from Ancient *-ewā*; *-egwo* by *g*-epenthesis before /w/ rather than after it, and *-eo* by deletion. He accounts for the *kb* reflexes, however, in the same way as Rohlf's: *ekbainā* > *ekveno* > *egveno* > *egweno* > *egwenno*; *ekballā* > *ekvallo* > *egvallo* > *egwallo* > *egwadḡo*, with the appearance of *vg* in these verbs as a secondary development.<sup>9</sup>

The choice between all these scenarios is tied up with the vexed issue of how old Greek is in Southern Italy. Without becoming embroiled in that debate, I consider here the evidence for and against the possibilities presented. The first two alternatives, which I advance, posit that *vy* > *gw* under Romance influence. The remaining alternatives are the five accounts already seen.

#### 1. *vy* > *vyw* > *γw* > *gw* (*Portmanteau*)

An account in which *vy* is original provides a neat account of *vyw* as a form intermediate between *vy* and *γw* – a portmanteau between *vy* and the target *gw*. Since Calabrian allows free variation between *γw* and *gw*, the merger of *vy* and *gw* only requires two steps: *vy* > *vyw* > /*γw*/ = [*γw*] ~ [*gw*].

For Salento, [*γ*] is largely absent in the attested forms, so the account really needs only explain *vg* > *gw*. The development could have occurred as above, with *vg* > \**vgw* > *gw*. The isolated Calimerese *avywo* may in fact be the missing link in such a process, with the *g* leniting through assimilation to [*v*] and [*w*].

<sup>9</sup> Lambrinos also notes that whereas *kb* > *gw*, with lenited *b* > *v* > *w*, on the other hand *kd* > *gd* > *γd* > *vd* > *dd*, with unlenited *d* (ἐκδέρω *ekderō* > Italiot *vderro*, *dderro* vs. Standard Greek γδέρνω *γḡderno*). He attributes this to the earlier lenition of /b/ in Greek.

In this case *vg* would have still arisen as a nativisation of *gw*. The process would need to have been completed before the phonemic split of /g/ into /j/ and /k/: once [g] was followed by a back semivowel, it was shielded from palatalisation, so original *\*vgenno* did not end up as *\*vjennno* > *\*jwennno*.

If *vy* is original in Southern Italy, and did not arise from the local metathesis of an earlier *gv* as Rohlf's claims, then *gv* under this account is either a metathesis of *vg* ~ *vy*, or a fortition of *gw*. The metathesis *vg* > *gv* is encompassed by the second pathway below, so it is not considered here. The fortition *gw* > *gv* can be justified as an attempt to adjust *gw* to Greek phonology, given that [w] is absent in Italiot. Moreover both in Calabria and Salento, *gv* is consistently in free variation with *gw*; this suggests that *gv* is derived directly from *gw* (or vice versa).

## 2. *vy* > *\*yv* ~ *gv* > *yw* ~ *gw* (*Metathesis*)

If we postulate that *vy* metathesised under pressure from *gw*, rather than going through the intermediate form *vyw*, then we have a straightforward account of *gv*: it is in free variation with the (unattested) resulting cluster *yv*, much as *gr* and *yr* are in free variation in Galliciano. The transition from *yv* ~ *gv* to [yw] ~ [gw] also requires one more step, the lenition of *v* under the influence of the Romance target *gw*. So the metathesis requires as many steps as the portmanteau to reach the target realisation. This model is also consistent with the close association of *gw* and *gv* in the attested forms.

This has the advantage of incorporating *gv* smoothly into the evolution; but now it is *vyw* that is unaccounted for. The metathesis does not explain the presence of a labial either side of the velar; and the only account possible in that case is that *vyw* is a secondary development, a hybrid of *vy* and *yw* that remained in free variation. (Claiming that *vyw* was formed from *vy* under the influence of Romance *gw* makes the metathetic model pointless, since that is precisely what the portmanteau model claims.)

## 3. *kb* > *gv* > *gw* (*Rohlf's*)

Rohlf's claims that the ordering velar-labial, which appeared

in Ancient Greek, is original in the region, and not the result of Romance influence: *kb* > *gw* directly, with no metathesis. The appearance of labial-velar clusters according to him is a local, secondary development. Under this model, both *vy* and *vyw* are secondary – *vy* as a metathesis, *vyw* again as a hybrid form.

Rohlf's model asserts an ancient pedigree for the velar-labial clusters, which dominate the region. But although Rohlf's makes no explicit comment on it, he would still need to admit Romance influence for the introduction of [w] in a cluster, a context for which Greek supplies no precedent since the disappearance of σϜ and ρϜ (*sw*, *rw*). So the *gw* outcome still requires the contribution of Romance, and the model has to postulate both an accommodation to Romance, and an independent local recapitulation of the *kb* > *vy* metathesis – the latter development taking Italiot away from Romance, not closer to it. This is already uneconomical. We also know that the metathesis *kb* > *vy* was in place in Messina in 1056 and Southern Italy in 1180 (Minas 1994a:74: ἐβγαίνει *evyeni* 'it goes out', ἐκβαμμα *ekbamma* > ἔβγαμμα *evgamma* 'end'); and Southern Italy was under Byzantine rule between the sixth and the tenth century. The known Standard Greek metathesis *kb* > *yv* > *vy* could have taken place at any time between the first and thirteenth century in Greek outside Italy, so it would have predated any *kb* > *vy* metathesis within Italy – and it was likely entrenched in Greek while Southern Italy was in contact with Byzantium.

Moreover, any Greek-internal *kb* > *vy* metathesis within Italy could only have been motivated by the same rationale as that outside Italy – the established presence of *wg* > *vg* ~ *vy* in the language: cf. the reflexes of *wg* in ζευγάριον *zdegwgarion* > *dzogwari/z:ogwari* listed above, particularly Chorio Rochudi *z:ovgari*. But the *wg* cluster has always had the labial precede the velar. Rohlf's model thus leaves us in a situation where

- (a) original *kb* generally remains unmetathesised in *gw*;
- (b) original *kb* is only locally metathesised (Vuni, Chorio Rochudi) to *vy*, under the influence of *wg* > *vy*; but

- (c) *wg* > *vy* ~ *vg* itself metathesises to *gw*, even in those two villages.

This leaves one wondering, if *wg* > *vy* was going to turn into *gw* all along, how it could force *kb* > *gv* > *vg* in the first place. We have in *wg* and *kb* two distinct ancient clusters whose reflexes are identical in Standard Greek and in Italiot (and indeed in almost all the Greek-speaking world); to have them arrive at their identical reflexes in Italiot through a pathway completely distinct from that in Standard Greek is suspect.

There is even less evidence for a Vuni/Chorio Rochudi-specific metathesis *gv* > *vg* if we look at the secondary source of *vy*, verb epenthesis. Calabria features the familiar epenthesis -εῦω -*ewō*: > -*evyo* in its verb endings (Rohlf's 1977:120-121); in line with the fate of *vy* elsewhere in Southern Italy, -*evyo* has developed into -*egwo* and -*eggo* in most villages. But in Salento – as well as Chorio Rochudi, the one village where *vy* appears most consistently – the suffix -*evyo* has moved to -*eo*, dropping the *v*, instead of epenthesising *γ*. If Chorio Rochudi favoured the cluster *vy* in the metathesis *gv* > *vy*, maintaining it as a free variant in its dialect, it is hard to see why it would then delete *vy* in -*evyo*, even if only optionally.<sup>10</sup> And without this major source of *vy* in the language, the metathesis would have much less of a motivation.

<sup>10</sup> Chorio Rochudi is better explained with original *vy* in free variation with later *gw*. Rohlf's (1977:121) presents a complex picture for the verb endings in the village: they retain *vy* in 2sg/3sg (*pistevji* 'you believe, s/he believes'), but delete the entire cluster elsewhere (*pisteo* 'I believe', *pisteome* 'we believe', *pistevyete* > *pistete* 'you all believe', *pisteu* 'they believe') (Rohlf's 1977:121; Karanastasis 1977:96). But Karanastasis (1984-92) records *pistevyo* ~ *pisteo* for Chorio Rochudi, and 3sg *pistei* for Rochudi. Moreover, the 2pl form is reminiscent of a haplology common in Greek, *Vyete* > *Vte* (cf. standard ὑπάγετε *hypagete* > *ipagete* > *pāte pate* 'you all go', λέγετε *leyete* > *lēte lete* 'you all say'). The 3pl form *pisteu* is consistent with an epenthetic *pisteyu(n)*, with the velar fricative deleted before a high back vowel. Galliciano has *pisteyo* ~ *pistegwo* for 1sg; and Chorio Rochudi itself has *klaðevγwo* ~ *klaðevgo* ~ *klaðeo* 'I prune'.

This suggests that for all persons in the present tense in Chorio Rochudi, there is free variation between -*vy*- and -Ø-, with the *v* deleted prior to the *γ*.

It seems untenable to posit two independent but identical  $\gamma v > v\gamma$  metatheses, in Southern Italy and in the rest of the Greek-speaking world – with the Italian instance happening at the same time as that in Greece, with the same causation, but with rather less synchronic evidence of motivation for that causation. It makes much more sense to have the one, early metathesis  $\gamma\beta > \beta\gamma$  in Greek underlie the recorded  $/v\gamma/$  forms, first appearing at almost the same time in the Italian and Cypriot sources – and to explain the  $[gv \sim gw]$  forms as later developments, resulting from contact with Romance.

Since Lambrinos agrees with Rohlfs' argument, my criticisms apply to his account as well.

4.  $\gamma v > \gamma w > gw$ ;  $v\gamma > w\gamma > \gamma w > gw$  (Tsopanakis)

Tsopanakis' account does not raise any significant conflicts with the synchronic data: if we accept that the metathesis occurred through deletion and epenthesis, as he claims ( $ew\gamma o > ewo > eywo$ ), then  $v\gamma w$  can be explained as a portmanteau of  $ew\gamma o > ey\gamma o$  and  $eywo$ . The  $\gamma w$  form is explained as etymologically primary to  $gw$ ; and  $gv$  (which Tsopanakis mentions explicitly) would be explained as a fortition either of  $\gamma v$  or  $gw$ .

Diachronically, however, Tsopanakis' account is more problematic.<sup>11</sup> First, it requires that the metathesis be in the direction  $v\gamma > \gamma w$  – that is, away from the textually frequent  $\epsilon v\gamma$   $/ew\gamma/$ , and towards the textually infrequent  $\epsilon\gamma\beta$   $/egb/$ . The Romance account postulates the same directionality; but there, the motivation for that metathesis is given in the Romance target  $[gw]$ . In Tsopanakis' account, the metathesis is internal to Greek, and is duplicated in Tsakonian. But with the pronunciation  $[ew\gamma]$  conserved, no motivation for the metathesis is provided. That is not to say such a metathesis is impossible, even in Greek: cf. Tsakonian ἄλογα  $aloga$  'horses'  $> a\gamma a >$

<sup>11</sup> I do not include among these problems Tsopanakis' confusing use of Greek rather than phonetic transcription in his contrast of  $-\epsilon\upsilon\upsilon\omicron$  and  $-\epsilon\upsilon\omicron$  in his phonetic discussion ( $[ew\upsilon:]$  vs.  $[e\upsilon\upsilon:]$ ?), although Lambrinos (2001:59) rightly castigates it.

Tyros *aywa*, Melana *agoa* (Pernot 1934:318). But given the contrary motion of the metathesis throughout Greek, the directionality claimed by Tsopanakis needs to be defended.<sup>12</sup>

Tsopanakis' account moreover posits abundant late survivals of [w]; but the only evidence for such survival is the epenthetic [ɣ], which dates from Koine and underlies the *-evyo* verbs. The other instances of [w] Tsopanakis postulates turn out to be unnecessary: [v] and [ɣ] in *vy* could be deleted as fricatives, without requiring that the cluster remained [wg] – it is possible to delete fricatives as well as approximants in clusters. At any rate, Tsopanakis requires *v* to lenite back to *w* in order for *ekbaino*: > *eyveno* to follow the general pathway *wg* > *ɣw* > *gw*; but if *v* could lenite to *w* in *eyveno* > *gwenno*, it should be possible for *v* to lenite to *w* elsewhere in order to then be deleted – rather than have *w* survive intact from Koine as an archaism.

If we discount deletion as evidence of surviving [w], the only such evidence is to be sought in Southern Italian and Tsakonian. Tsakonian has *-ewo*: > *-ewyu* > *-engu*, which somehow involves the epenthetic *ɣ*. Tsopanakis explains this as *ewu* > *ewyu* > *eywu* > *egwu* > *eggu* > *engu*. There is a parallel to *wy* > *gw* in Tsakonian *aoya* > *aywa* ~ *agoa*, as mentioned above. But the development Pernot (1934:125) posits instead, *evyu* > *eyyu* > *engu*, is consistent with how Tsakonian resolves clusters through full gemination, as Pernot outlines; cf. *s* + stop > geminate stop; ἐκδεῖρω *ekdeirō*: > *eydiru* > *eōdiru* > *nōdiru* > *ndiru* 'to skin'; ἐκβαίνω *ekbainō*: > *eyvenu* > *vvenu* > *mvenu* > *(m)bainu* 'to go out'. The general rule of Tsakonian  $C_1\{+fric\}C_2\{+fric, place\ \alpha\} > N\{place\ \alpha\}C\{+stop, place\ \alpha\}$  is much more economical than Tsopanakis' one-off explanation involving *gw*.

<sup>12</sup> Lambrinos (2001:59) points out that Tsopanakis' metathesis *ewo* > *ewyo* > *eywo* is uneconomical compared to his own simpler epenthesis *ewo* > *egwo* (though as discussed below, I do not believe this epenthesis is what took place). He also points out that φεύγω *phewgo*: > *\*fewgo* > Salentine *feo*, handling the problematic cluster through deletion, makes it unlikely that the metathesis had the directionality *ewyo* > *eywo*. But the more conservative Calabrian dialect retains the form *fegwo* ~ *feggo* (*fevyo*, *fevvo* in Cardeto), and needs to be accounted for.

The one remaining instance where Tsopanakis posits [w] survival is Southern Italian Greek. There is considerable evidence that [w] did not survive in diphthongs in 10<sup>th</sup>-14<sup>th</sup> century Italiot, since <Vυ> and <Vυβ> are used throughout the corpus for that period as a variant of <Vβ>, indicating that both <Vυ> and <Vβ> were pronounced [Vv] (Caracausi 1990; Minas 1994:31) – including in the context of Vvy. (<Vυβ> ends up as [Vvv] = [Vv], and is a redundant spelling.)<sup>13</sup> The fact that υ was used in the script of the time as a variant of β does not contradict this, since <Vβ> ~ <Vυ> ~ <Vυβ> turn up in instances both of etymological [w] and [b]. Moreover, γυ [γy] is used in the corpus to render Romance [gw], in free variation with γ.<sup>14</sup> So the scribes of the time could render [gw] or [γw] orthographically if they chose to. But there is no instance of any γου corresponding to Tsopanakis' \*γw in Greek words; so there is no reason to think those words were pronounced with γw rather than vy. So mediaeval Italiot has [vy], not [γw] or [wy], in the contexts where modern Italiot has [gw].<sup>15</sup>

<sup>13</sup> Forms in Caracausi (1990): Αύδελμενέμ ~ 'Αβδελμένγιμ [= avdelmenim] for 'Abd al-mun'im, 'Αβδεραχάμ ~ Αύδεραχαμέ ~ 'Αβδεραχαμέν [= avderaxam] for 'Abd al-Rahmān, εύβομικονστό ~ εύδομικονστό [ev(ð)omikonsto] 'seventieth', εύβαγής 'pure' ~ εύαγεστάτης 'most pure', έκβασμα *ekbasma* 'exit' > [evɣama] > εύγαμα, έκβαινει *ekbainei* > [evɣeni] > εύγέννη 's/he goes out', έβδομάς *hebdomas* > [evðomas] > Εύδομάς 'week; class of deacon', εύλογία ~ έβλογία 'blessing', εύρέθη ~ εύβρέθη 's/he was found', εύσέβεια *eusebeia* > [efsevia] > εύσεύια 'piety', ριγεύοντος ~ ριγέβοντος 'reigning', ήγουμενεύειν ~ ήγουμενέβην 'controlling'.

<sup>14</sup> Forms in Caracausi (1990): *guadia* ~ *wadia* > γουάδια ~ βάδια [ɣuaðia ~ vaðia] 'permit', *Guillardus* > Γουαλληάρδον ~ Γαλλιάρδον, *Gualterus* ~ *Walterus* > Γουαλτερίου ~ Γαλτερίου ~ Ουαλτέρης ~ Χαλτέρι, *guarentus* > γουαρέντης ~ γαρέντα 'guarantee', *Guarino* > Γουαρίνος ~ Γαρίνου ~ Γαρήνου, *Guido* > Γουίδου ~ Γίδου ~ Γυίδου ~ Γοίδου, *Guise* > Γουίσιος.

<sup>15</sup> One could claim that the scribes were accommodating their words to standard Greek; the majority of the texts, after all, are in an attempt at learned language. But for *kb* > *vy* in particular, the scribes' standard language, notary Greek, would move them towards the ancient spelling κβ, not υγ ~ βγ or even the Koine assimilation γβ (*gb* > *γν*), still surviving in Pontic. The corpus features έκβάλλουν, έκβαλε and έκβάλας [ekvalun, ekvale, ekvalas] alongside εύγαλε [evɣale] as forms of 'to take out'. There was no extant vernacular standard, imported from the Greek mainland where *kb* > *vy* was native, to compete with Italiot notary Greek – especially once Southern Italy passed out

It is therefore meaningless to speak of a survival of [w] in those contexts: the behaviour of the cluster in the mediaeval corpus is identical to that of standard Modern Greek, with no indication of any innovation. So [w] in the clusters dates from later than the mediaeval corpus. And if [w] is an innovation rather than an archaism, then there is no reason not to attribute it to encroaching Romance influence, as we have proposed here, rather than a far-fetched archaic survival. Although Tsopanakis dismisses Krumbacher's account invoking Romance influence as "nicht notwendig", I find Tsopanakis' account untenable.

5.  $w > gw > \gamma w$ ;  $\gamma w > \gamma v > v\gamma$  (Kretschmer)

Kretschmer's hypothesis suffers from similar weaknesses to Tsopanakis' – who had used Kretschmer as a starting point. Although Kretschmer postulates  $ewV > ewwV > egwV > eywV$  as a regular sound change, the only change he can actually document is  $ewV > ewwV > ewyV$ ; e.g. Roman  $\text{Εὐανθία}$  /*ewant<sup>h</sup>ia*/ > *Euuantia*, 9th century *anayorev(γ)o* > *anagoreugo* 'proclaim'. Outside Southern Italy, there is no recorded evidence of  $w > gw$  or  $wg > \gamma w$ , except possibly in Pontic *oyvo* 'egg' (but Pontic also preserves *eyvalo*). Kretschmer postulates a Tsakonian  $-egww\omega > -eggwu > -eggu > -engu$  for the verb ending; but the geminate /w/ is unexplained ( $ew\omega > eww\omega > egwu > egwwu > eggwu$ ?), and Pernot's assimilation *evyo* > *eyyo* is much more elegant. (On the development of geminate fricatives to prenasalised stops see Pernot 1934:122.)

Beyond that, Kretschmer requires that the velar-labial ordering was original in Greek for epenthetic  $-ew\omega > -eywo$  as well as  $\gamma v > v\gamma$ . But while Italiot is supposed to preserve the earlier  $-eywo$  in its modern  $-gwo$ , there is no trace of  $-eywo$  in the mediaeval corpus. The metathesis  $\gamma v > v\gamma$  Kretschmer requires in Greek overall is justifiable, since it accommodates the putative epenthetic  $-eywo$ , like *eyveno* and *eyvalo*, to the more frequent  $ewg > ev\gamma$ . Lambrinos (2001:58) accordingly

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of Byzantine control in the 11th century. So the instances of  $kb > v\gamma$  in the Southern Italian mediaeval corpus must be indigenous.



finds his account basically correct for Greek overall. But as with Rohlfs, the direction of the metathesis is wrong for Southern Italy.

6.  $v > gv > gw$  (*Contossopoulos*)

Contossopoulos does not present a full account of the developments in Italiot, but merely implies that *gw* represents a lenition of *gv*. Such lenition is required by my metathetic model, as well as Rohlfs' and Tsopanakis' account; but that it occurred without Romance influence is quite unlikely. Since Contossopoulos does not mention Romance either positively or negatively as influencing the lenition, his intervention does not contribute anything to the debate.

7.  $v > gw; vy > y > \eta g > gg$  (*Krumbacher*)

Krumbacher admits that Romance could have made a contribution to the development of *vy* in Southern Italy, which already separates him from the majority of subsequent linguists. Krumbacher also admits the priority of a *vy* form in the dialect implicitly, by saying that "nonetheless we have in the verbs corresponding to the ancient verbs in *-ewā*: the same irrational [epenthetic] element as in the eastern Greek dialects" (Krumbacher 1886:420). But although Krumbacher's argument is restricted to the *-ewā* verbs and does not cover the metathetic instances, it presents a heterogeneous and unsatisfactory account of the modern distribution.

First, Krumbacher's derivation of the forms with *g* and *gg* through the complex pathway  $vy > y > \eta g > gg$  is unnecessary: the assimilation of *gw* > *gg* has been established for Galliciano Calabrian (*guerra* > *gerra*), and may be presumed also to hold for Salentino; Rohlfs (1977:26), who was a specialist on Italian dialects, assumes this assimilation under Romance influence without further comment. Krumbacher's (1886:419) claim of the same fortition in Tsakonian is also untenable: it is based on ἀναλέγομαι *analegomai* > *analexome* > *analeggumene* 'consider', which is in free variation with *analeyumene* (Pernot 1934:262) and presumably analogical, and ὀρέγομαι *oregomai* >

*oreyome* > *orengumene* 'have an appetite for'. But the regular development of *-γω* (*-go:*) verbs in Tsakonian has been to *-xu*, through analogy with the more frequent *-χω* (*-kʰo:*) > *-xu* verbs: *διαλέγω* *dialego:* > *dialeyo* > *zalexu* 'select' (Pernot 1934:261). The fortition Krumbacher proposes is irregular, and both Tsakonian and Italiot linguistics since have offered better regular accounts.

Moreover, Krumbacher appeals to the wrong Italian sound change to explain Italiot *gw*. The only instances of *gw* Rohlf's mentions correspond to standard *vy*, and *-ewo:* verbs. If the Italian development *vasto* > *guasto* which Krumbacher appeals to were relevant to Italiot, one would expect abundant instances of ancient *b* > *v* > *gw*; but these are not to be found, and even *b* > *v* > *γ* is attested very rarely (Rohlf's 1977:25). Rather than elevate *v* > *gw* to a rule, the evidence suggests the restriction of *gw* to *vy* contexts – in other words, *vy* > *gw*, not *v* > *gw*. This means that the *-ewo:* verbs must have gone to *-egwo* through velar epenthesis: *ewo:* > *evo* > *evyo* > *egwo*, not *ewo:* > *evo* > *egwo*. And in accounting for *-eggo* through epenthesis, Krumbacher admits that *-evyo* verbs were formerly widespread in Italiot.

So the Romance-based account of *vy* > *gw* is upheld. Whether *vy* turned into *gw* via the portmanteau *vyw* or the metathesis *gv* is difficult to tell with the available data. However, we are fortunate to have records of a shift *vy* > *gw* under Romance influence as it was taking place, in the final generation of Greek speakers in Corsica, from 1934 to 1964 (Nicholas & Hajek forthcoming). Fieldwork undertaken during that time clearly shows a gradual transition from *vy* to *gw*:

- 1676: *vy*
- 1934: *vy* > *γv* (Greek); *kv* (< Romance *gw*)
- 1951: *γw* [*gw*]
- 1964: *γw* > *gw* [*w*, *γ*]

Unlike Southern Italy the transition was restricted to before back vowels; the palatalised form *vʒ* was not metathesised,

which indicates that [vɜ] was felt too dissimilar to gw to be merged with it. With Italiot, [vj] was not subject to the same constraint.

At any rate, Corsica supplies a convincing parallel for Southern Italy, and its gradual assimilation of vy to gw. The Corsican data also suggests metathesis rather than portmanteau as the driving force behind the accommodation – although it is entirely possible that both forces were at work in Southern Italy, and that a merger brought vyw about in the area where vy had survived the longest, Vuni and Chorio Rochudi.

### *Conclusion*

I hope to have established the following:

- The metathesis  $kb > gb > yv > vy$  has no obvious motivation by itself; but it can clearly be attributed to the pressure to assimilate this rare and morphologically restricted cluster to the more common and unconstrained  $wg > vy$  – especially once the latter cluster was reinforced, in many dialects, by  $y$ -epenthesis in verbs.
- The metathesis could have occurred at any time in the first millennium AD.
- Many Greek dialects have dealt with this problematic cluster by deletion or assimilation; other dialects have analogically extended it to novel contexts. A few dialects (notably Pontic) retain unmetathesised  $yv$ .
- In Southern Italian Greek, the main reflex of  $kb$  is  $gw > gg > g$ , with  $vy \sim vg$  and intermediate forms ( $vyw$ ,  $yw$ ,  $gv$ ) as locally restricted alternatives. Obviously, either  $gw$  or  $vy$  is the innovative form.
- If  $gw$  is innovative, then  $kb > vy$  took place in Southern Italy as it did throughout the Greek-speaking world. The re-metathesis  $vy > gw$  is then owed to the one factor differentiating Italiot Greek from all other Greek dialects: long-standing

contact with a Romance language, in which *gw* was present but *vy* absent.

- If on the other hand *vy* is the innovation, then *gw* directly descends from an unmetathesised *kb* > *gb* > *gw*. This is what almost all linguists who have dealt with the issue have argued – some of them incorporating this into sweeping claims about the treatment of *kb* in other dialects. But if *gw* is original, a number of difficulties arise. (1) Mediaeval Italic texts consistently feature a learned  $\kappa\beta$ , a vernacular Greek  $\beta\gamma$  (= *vy*), and a Romance  $\gamma\upsilon$  (= *gw*); they present no evidence of a vernacular Greek  $\gamma\omega \sim gw$  which should have preceded *vy*. (2) The presence of [w] in a cluster is clearly Romance, and belies the independence of *gw* from Romance. (3) Ancient *wg* > *gw* in the region as well, which indicates strong pressure to conform to a labial-then-velar template; the relative scarcity of *kb* in Greek makes it unlikely to have served as the motivation for that pressure. (4)  $\gamma$ -epenthesis after *v* is not coextensive with *kb* > *vy* in the region, which is puzzling if *vy* is a secondary development.

Historical linguists are exhorted in textbooks to look for Latin etymologies on the Tiber. It is only to be expected that linguists seek to explain phenomena in Greek dialect through Hellenic mechanisms, especially given the controversy on the pedigree of the Greek spoken in Southern Italy. Nonetheless, the Tiber (or more appropriately, perhaps, the Neaethus) can be the right place to look for Greek etymologies as well.

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