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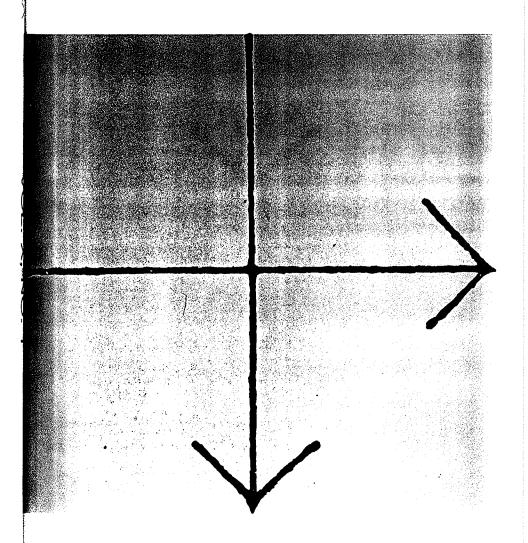
DIACHRONICA

VOL. X, NO. 1   1993

ON THE DEVELOPMENT OF PIE *ǵh/gh IN FALISCAN:
A RESPONSE TO PICARD*

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1. *Introductory remarks*

In an article published recently in this journal (Joseph & Wallace 1991), we examined the relationship between Latin and Faliscan, ultimately arguing that even though Faliscan and Latin are closely related, forming a Latino-Faliscan (LF) subgroup within Italic, there are innovations — in the form of various sound changes affecting the Proto-Indo-European (PIE) palatal and velar voiced aspirates *ǵh/gh — that separate the two and require that Faliscan be considered a separate language from Latin, and in particular not just a dialect of Latin. Our main interest was in the outcome of these sound changes — in initial position, /h/ in both Latin and Faliscan, but in medial position /h/ in Latin and /g/ (or /k/, on which see below and n.13) in Faliscan — and the correspondences between Faliscan and Latin that resulted from them. Our claim was that the evidence of these correspondences, once one accepts the assumption of a common starting point for Latin and Faliscan (i.e., that they are indeed closely related), leads inevitably to the conclusion that there has been an innovation that separates the two languages.

Picard (1993), hereafter P, criticises[1] our view of the development of the PIE aspirates *ǵh/gh[2] in Faliscan (Joseph & Wallace, pp.177-179) on the grounds that the sound changes implied in our discussion are ones that cannot plausibly be reconstructed for Faliscan or, for that matter, any language. While

we do not agree with P's critique of our discussion, and so offer a rebuttal in the section which follows, we point out here at the start that even if his criticism is accepted *in toto*, it in no way affects the thesis of our paper, with which he himself is in agreement (p.142).

2. *Noch einmal PIE *ǵh/gh in Faliscan*

Let us start our rebuttal by reviewing the Faliscan facts, for they are most at issue. PIE *ǵh/gh is attested three times in Faliscan in intervocalic position,[3] once in the verb **lecet** 3SG PRES "lies" GG 85 and twice in the verb corresponding to Latin *fingit* "fashions", namely **fifiked** 3SG PERF GG 11 and **f[if]iqod** 3PL PERF GG 1. To represent the sound that corresponds to Latin *h* < *ǵh/gh in intervocalic position the Faliscan writing system utilizes three letters, **c k q**. The most reasonable phonetic interpretation of these letters (**c k q**) in this context is in our opinion [g] (so also Lejeune 1955:147n.19), though an interpretation as a voiceless velar [k] cannot in principle be ruled out (see n.13 for discussion).[4] We assume then that the Faliscan verbs **fifiked/ f[if]iqod** and **lecet**, whose velars derive from ultimately from PIE voiced aspirates, show /g/ (**c k q**) as the regular outcome of PIE *ǵh/gh in intervocalic position.[5]

In our earlier paper (see pp.177-179 and n.31), we noted that it was possible to derive the Faliscan reflex of PIE *ǵh/gh by following either one of two hypotheses (see (1) and (2)),[6] though for expository purposes we adopted the traditional view ((1) below) in the body of our text.

According to that view, which is sketched out in (1), Faliscan /g/ in intervocalic position is derived from a Proto-Italic (PI) voiceless velar fricative, presumably via an intermediate stage in which the sound became voiced. Faliscan /g/ is then the result of changes whereby PI *x > *γ > /g/.

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* The following abbreviations are employed in this paper: AHD = *The American Heritage Dictionary of the English Language* (3rd ed., 1992); CIL = *Corpus Inscriptionum Latinarum* Vol. I²:2.1-4; GG = Giacomelli 1963; VE = Vetter 1953.

[1] P's critique of our presentation of PIE *ǵh/gh in Faliscan is grounded in his beliefs about the fundamental principles of sound change, namely naturalness and minimality. However, since a discussion of what we believe to be problems with P's principles would require a longish response and would detract from the issue at hand, namely the Faliscan developments, we have decided to forgo debate here specifically on this issue (but see our remarks in §2 below and in notes 9, 10, and 11); we hope to respond elsewhere more fully to the significant questions raised by P's principles of sound change.

[2] P cites the PIE root *dhigh- "form, fashion" as *dhigh- (p.139) and *wegh- "transport" as *wegh- (ibid.).

[3] For the developments in word-initial position, see Wallace & Joseph (1991).

[4] The problem is that /g/ and /k/ are graphemically underdifferentiated in the Faliscan writing system, the letters **c k q** serving to represent both phonemes. For additional facts see Joseph & Wallace (1991:177).

[5] Although /k/ cannot be excluded as the regular development from PIE *ǵh/gh in intervocalic position, arguments for /g/ as the regular reflex are discussed in detail in Joseph & Wallace (1991:178-179).

[6] The traditional view (1) of the development of the aspirates in Italic goes back to Ascoli (1868). For more recent discussions of the theory see Szemerényi (1952, 1953) and Allen (1958). Hypothesis (2), which derives ultimately from the proposals of Hartmann published at the end of the 19th century (on which see Szemerényi 1952: 28 and n.2, 29), has been refined in considerable detail by Rix (1957). Untermann (1968) and Meiser (1986:73-78) adduce additional examples in support of Rix's position.

(1) PIE *ǵh/gh > *kʰ > PI *x > LF *x > pre-Faliscan *γ[7] > Faliscan /g/

Latin h[8]

Following the second hypothesis (2), in which the PIE aspirates develop directly to spirants in PI, Faliscan /g/ derives from an inherited PI voiced velar *γ.

(2) PIE *ǵh/gh > PI *γ > LF *γ > Faliscan /g/

Latin *ɦ > h

In P's view it is unlikely that the Faliscan sound /g/ at issue here is a regular development from either PI *x (1) or PI *γ (2), since derivation from either one of these proto-segments in intervocalic position would entail for him the 'unnatural',[9] because otherwise unattested (in his view), change of a velar fricative becoming a stop intervocalically.[10] For P then the issue is one of nat-

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[7] If one assumes that the voicing of the PI intervocalic spirants is an LF innovation, then it is possible to project *γ back into LF. The revised scenario would be that given in (1').
    (1') PIE *gh/gh > *kʰ > PI *x > LF *γ > Faliscan /g/

Latin *ɦ > h

[8] P, in his brief discussion of Latin h, cites the scenario for the development of all the PIE voiced aspirates presented in Baldi & Johnston-Staver (1989) as a more plausible derivation. It should be noted that this scenario, which is basically that of Ascoli (1868), is valid only for Classical Latin in word-initial position, except perhaps for the velar and then only under the assumption that PI *x did not undergo medial voicing along with PI *f and *θ.

[9] For P, a natural sound change is one for which there is "a plausible (articulatory or acoustic) phonetic explanation" and one "which can be shown to have taken place in some (preferably) living language" (p.140). We note, though, that since our knowledge of the inventory of possible changes is by no means complete, it is difficult to rely on such knowledge alone for a determination of 'naturalness'.

[10] Basically, P does not accept the direction of the change *γ > g (or *x > k) as a possible one. But we feel that P's use of the notion directionality to exclude certain sound changes is, as with 'naturalness' (see footnote 9), a bit premature at this point. As an example of the difficulty of dealing in hard and fast absolutes with regard to a principle of directionality we cite the following case. According to P, obstruent voicing in word-final position is constrained by directionality: devoicing of voiced stops is acceptable in word-final position but the voicing of voiceless stops is not. But it turns out that just such a change involving *t > d is in fact well-documented word-finally for the languages of the Italic branch of Indo-European (on which see Meiser 1986:101). The PI 3SG secondary verbal ending deriving from PIE *-t (which is clearly *t due to the occurrence of the same morpheme in the primary ending *-ti (thus *-t-i), cf. Sanskrit abhara-t "(s)he carried" / bhara-ti "(s)he carries"), in word-final position is written as d in the daughter languages, thus indicating a merger with the original PI voiced dental *d which was preserved as such, e.g., Oscan **deded** 3SG PERF "gave" VE 11 < *dedet, Faliscan **porded** 3SG PERF "presented" GG 1 < *por-dedet, Latin sied 3SG PRES SUBJ "be" CIL 4 < *sie:t.

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uralness,[11] the developments (PI *x >) *γ > /g/ or PI *γ > /g/ not being possible because they cannot be paralleled by changes attested for other languages of the world.

Regardless of P's views on the naturalness of the change *γ > g, we can point to a well-documented and widely accepted instance of a parallel to this change, thereby placing the change in question here within the scope of attested sound changes. Such a parallel legitimizes the use of this path of development for the Faliscan developments. The parallel comes from Germanic, and concerns various changes undergone by the Proto-Germanic (PGmc) voiced velar spirant *γ, the medial allophone, under most interpretations, of the PGmc voiced velar stop phoneme.

PGmc *γ in medial position had two sources: it developed from the PIE velar (and palatal) voiced aspirated stop *gh/ǵh, and it developed from the PIE velar (and palatal, and in some instances labio-velar) voiceless unaspirated stop *k/ḱ(/kʷ) by the combination of Grimm's Law, by which the voiceless stops were spirantized, and Verner's Law by which PGmc voiceless spirants were voiced intervocalically when not preceded by an accented syllable. Relevant examples include Gothic steigan, Old English sti:gan "to go up, rise" (both phonetically [sti:γan]), from a PIE root *steigh- (cf. Greek στείχει "proceeds, marches", Old Church Slavic stignǫti "to hasten"), and Gothic fugls, Old English fugol 'bird" from PGmc *fuγlaz (phonemically */fuglaz/), apparently a dissimilation from an earlier *pleu-k-lo- (as suggested, for instance, in AHD, p.2121).[12]

Later developments in various continental dialects of West Germanic, i.e., those of High German, as noted already by Allen (1958:104-105), provide the parallel to our Faliscan developments. In particular, even though many dialects retain the spirantic pronunciation of PGmc *γ, Prokosch (1938:77-78) notes that "a detached territory in the Northeast has the stop g for Gmc. ʒ [Prokosch's symbol for *γ (REW/BDJ)] both initially and medially: Initially, g is

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[11] P also is concerned with 'minimality', a principle by which sound changes "modify only one primary phonetic feature at a time" (p.140). While we sympathize with this view, we feel that, minimally, it runs afoul of various well-attested changes; even the *θ to f change that P endorses for Latin (in his note 2) requires changes in both manner, in this case stridency, and place. Moreover, some changes that P might criticize as nonminimal in that they involve two feature changes "simultaneously" (p.140) could simply reflect two successive changes over a long period of time (compare the change of PIE *d to High German [tˢ], a two-feature change which we know took place over a period of at least 500 years in two well-known stages, *d > *t and *t > *tˢ).

[12] Admittedly there is some controversy concerning the phonetics of the realization of the PGmc *g phoneme in different environments, but most of the controversy focuses on the realization in word-initial position; we follow Prokosch (1939:77) in adopting the spirantic pronunciation for medial position, regardless of whether the word-initial value was also spirantic or, more likely, a stop.

spoken in Schleswig-Holstein, Mecklenburg-Schwerin, Pommern; medially, in Mecklenburg-Schwerin". What is significant for our purposes here is that there were OHG dialects in which the voiced velar spirant ultimately yielded a velar stop, not only word-initially, but also in intervocalic position. These dialects, therefore, in which PGmc intervocalic *γ developed to *g*, show a path of change that is counter to P's claims about "natural" and attested sound changes. But since *γ is widely accepted as the reconstructed starting point for PGmc, it would seem that the burden of proof is on P to show that this development is not as it appears to be.

The change of *γ > *g*, therefore, though admittedly not as common as the developments assumed for Latin (PI *x > *h* or PI *γ > *ɦ > *h*), indeed finds a parallel in these Germanic developments and so fits P's definition of a natural change (with the additional assumption that the change can be phonetically motivated). Given then that a change from *γ to *g* is found in Germanic, we see no reason not to accept it for Faliscan and no reason to reject either of the scenarios described in our paper. In sum, we stand by the view presented in Joseph & Wallace (1991) whereby Faliscan /g/ is the regular development of PI *x (via (1)) or PI *γ (via (2)) < PIE *ǵh/gh in intervocalic position.[13]

3. *Concluding remarks*

We readily admit that the development of the PIE aspirated palatal and velar stops (*ǵh/gh) in intervocalic position in Faliscan is a matter of some controversy because, as is so often the case with languages that are poorly attested, there is very little evidence to work with, and further, the evidence that is available may not lend itself to unambiguous analyses. Be this as it may, we think that intervocalic c k q in the Faliscan verbs **fifiked/f[if]iqod** and **lecet** can be explained by "natural" changes within either of the frameworks currently available (presented in (1) and (2)) to describe the development of the PIE aspi-

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[13] Note that even if it is assumed that the Faliscan letters c k q represent a voiceless velar stop /k/, there are Germanic dialects that provide parallels for the derivation of this sound from an earlier velar fricative. As part of the High German sound shift, the PGmc phoneme *d was devoiced to *t*; not only initially, as in OHG *trinkhan* "drink" (cf. Gothic *drigkan*), but also medially, as in OHG *fater* "father" (cf. Gothic *fadar*); presumably, then, the medial dental spirant allophone became a stop, and then was devoiced, just like the word-initial stop allophone. But the important fact for us is that there were OHG dialects in which the voiced velar phoneme also underwent devoicing, and ultimately yielded a voiceless velar stop, both word-initially and in intervocalic position. Thus in Upper OHG, *focal* is found for "bird" (Prokosch 1939:82) and *stîcan* for "rise" (Braune 1906:19), where the orthographic < c > stands for a voiceless velar stop. In these dialects, then, PGmc intervocalic *γ became *k*, either via *γ > *x > k, or, more likely, via *γ > *g > k, this latter path providing yet another example then of the development of [g] from [γ] intervocalically. Thus, under the assumption that Faliscan c k q represents a voiceless velar stop, it is possible to derive this sound by either scenario (1) (*x > k) or (2) (*γ > *g > k), both of which are rejected as unnatural by P.

rates in Italic, and in doing so reject Picard's claim that the development of PIE *ǵh/gh in Faliscan must necessarily be revised.[14]

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REFERENCES

Allen, W. Sidney. 1958. "Some Problems in the Phonetic Development of the IE Voiced Aspirates in Latin". *Archivium Linguisticum* 10.100-116.

Ascoli, Graziadio Isaia. 1868. "Zur lat. Vertretung der idg. Aspiraten". *Zeitschrift für vergleichende Sprachforschung* 17.241-281, 321-354.

Baldi, Philip & Ruth Johnston-Staver. 1989. "Historical Italic Phonology in Typological Perspective". *The New Sound of Indo-European* ed. by Theo Vennemann, 85-101. Berlin: Mouton de Gruyter.

Braune, Wilhelm. 1906. *Abriss der althochdeutschen Grammatik mit Berücksichtigung des Altsächsischen.* Halle/Saale: Max Niemeyer.

Corpus Inscriptionum Latinarum. Vol.I²:2.1-4: *Inscriptiones Latinae Antiquissimae ad C. Caesaris mortem* ed. by Ernst Lommatzsch, Atilius Degrassi & Johann Krummery. Berlin: Georg Reimer, 1918. (Repr., Berlin: Walter de Gruyter, 1986.)

Giacomelli, Gabriella. 1963. *La Lingua Falisca.* Firenze: Leo S. Olschki.

Joseph, Brian D. & Rex E. Wallace. 1991. "Is Faliscan a Local Latin Patois?". *Diachronica* 8.159-186.

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[14] Even though we believe that either of the two views of the development of PIE *ǵh/*gh to Faliscan /g/ presented in §2 are acceptable ones (see above (1) and (2)), we note here that the alternative presented by P, in which Faliscan c k q = /k/ (though possibly /g/) is derived directly from *kʰ, is also possible, though not, at least in our opinion, more plausible than the scenarios cited above. For P, fricativization of the velar stop *kʰ is not a change shared by all members of the Italic branch. Instead, *kʰ is reconstructed for LF and the change of *kʰ to *x, which is found in Latin and the Sabellian languages (= Oscan, Umbrian and South Picene), is considered to be an independent innovation (see (i)).

  (i) PIE *ǵh/*gh > PI *kʰ > LF *kʰ > Faliscan k

                            Latin *x > h

            Sabellian *x > Oscan / Umbrian h

Finally, note that P's assumption of *kʰ in LF does not really push back the date at which Latin and Faliscan separated as he claims; what it does is push *forward* the date for the survival of the voiceless aspirated stop in the languages of the LF branch of Italic (see diagram (i)).

Lejeune, Michel. 1955. "Les correspondants italiques de lat. *finxit* et de lat. *fecit*". *Corolla Linguistica: Festschrift Ferdinand Sommer*, 145-153. Wiesbaden: Otto Harrassowitz.

Meiser, Gerhard. 1986. *Lautgeschichte der umbrischen Sprache*. (= *Innsbrucker Beiträge zur Sprachwissenschaft*, 51.) Innsbruck: Inst. für Sprachwissenschaft, Univ. Innsbruck.

Picard, Marc. 1993. "On the Evolution of PIE *g^h in Latin and Faliscan". *Diachronica* 10.139-143.

Prokosch, E[duard]. 1939. *A Comparative Germanic Grammar*. Philadelphia: Linguistic Society of America.

Rix, Helmut. 1957. "Sabini, Sabelli, Samnium". *Beiträge zur Namenforschung* 8.127-143.

Szemerényi, Oswald. 1952–53. "The Development of the Indo-European Mediae Aspiratae in Latin and Italic". *Archivium Linguisticum* 4.27-53, 99-116; 5.1-21.

The American Heritage Dictionary of the English Language. 3rd ed. Boston: Houghton-Mifflin, 1992.

Untermann, Jürgen. 1968. "Merkmale der Wortgrenze in den altitalischen Sprachen". *Word* 24.479-490.

Vetter, Emil. 1953. *Handbuch der italischen Dialekte*. Heidelberg: Carl Winter.

Wallace, Rex E. & Brian D. Joseph. 1991. "On the Problematic f/h Variation in Faliscan". *Glotta* 69.84-93.

PUBLICATIONS RECEIVED
OUVRAGES REÇUS   EINGEGANGENE SCHRIFTEN

Note: This listing acknowledges the receipt of recent writings in the study of language, with particular attention being given to those concerned with the history and the mechanisms of language change, comparative-historical philology, and language typology. Only in exceptional instances will a separate acknowledgement of receipt be issued; no book can be returned to the publisher after it has been analyzed in this section. It should be pointed out, moreover, that by accepting a book, no promise is implied that it will be reviewed in detail in *Diachronica*. Reviews are printed as circumstances permit, and offprints will be sent to the publishers of the works reviewed, including those items briefly commented upon in the present section.

Aitchison, Jean. 1991. *Language Change: Progress or decay?* 2nd ed. Cambridge: Cambridge Univ. Press, xii, 258 pp. [In this work, A has updated and expanded her successful 1981 textbook. She has added a chapter on syntactic change and sections reflecting advances in the understanding of "social networks, language mixture, 'iconicity', 'communicative' causes of change, and the relationship between children and change" (p.x), all of which serve to make this work a highly readable introduction to the phenomenon of language change and its causes.]

American Heritage Dictionary of the English Language. 3rd ed. Boston: Houghton Mifflin Company, 1992, xliv, 2140 pp. [This volume, the third edition of the dictionary, contains a full revision of the etymological information and usages notes found in previous editions, essays on the history of English (by Lee Pederson), on the Indo-European origins of English (by Calvert Watkins), and on usage (by Geoffrey Nunberg), as well as an "Indo-European Roots Appendix" with an essay on Indo-European and the Indo-Europeans (by Calvert Watkins), a chart of Indo-European sound correspondences, and a listing of all Indo-European roots represented in English.]

Anderson, Stephen R. 1992. *A-Morphous Morphology*. (= *Cambridge Studies in Linguistics*, 62.) Cambridge: Cambridge Univ. Press, xiv, 434. [A's exposition of the need for a theory of morphology, distinct from syntax and phonology, and of its formal structure, embraces a processual view of morphemes whereby "the range of morphological possibilities in natural languages includes some processes that cannot properly be represented as the addition of an affix" (p.68), e.g., metathesis, subtraction, apophony, etc. Chap.13 is concerned with morphological change in such a framework, and