

### GOTHIC PHONOLOGY

The historical development of Gothic phonology has largely been clarified by Richard d'Alquen (1974). He argues that the text of the *Codex Argenteus* reflects an Ostrogothic adaptation (6th century) of Wulfila's Visigothic translation (4th century). I will not reiterate his careful and detailed argumentation but limit myself to stating his relative chronology of the phonological developments which separate the Ostrogothic redaction from the Visigothic original (cf. d'Alquen 1974: 132 and *passim*, also Dietz 1999a, 1999b, de Acosta 2011). In the following, /i/ stands for the phoneme *i*, [i] for the phonetic variant *i*, <i> for the Gothic letter *i*, /i:/ [i:] <ei> for long *ī*, and so on. According to d'Alquen, the original phonological system of Gothic was the following:

/i/	/u/	/i:/	/u:/
		/e:/	/o:/
	/a/	/a:/	

(A1) Lowering of stressed /i/, /u/ to [ɛ], [ɔ] before /r/ and /h/. This yielded the Wulfilian system.

(A2) Monophthongization of /ai/ to /ɛ:/ [ɛ:].

(A3) Rephonemicization of [ɛ] as /ɛ/.

(A4) Shortening in unstressed syllables, where /i:/ and /e:/ merged with /i/ while /u:/ and /o:/ as well as /au/ merged with /u/ and /ɛ:/ became /ɛ/.

(A5) Monophthongization of /au/ to /ɔ:/ [ɔ:].

(A6) Rephonemicization of [ɔ] as /ɔ/. The resulting phonological system was the following:

/i/	/u/	/i:/	/u:/
		/e:/	/o:/
/ɛ/	/ɔ/	/ɛ:/	/ɔ:/
	/a/	/a:/	

(A7) Raising of /e:/ and /o:/ to merge with /i:/ and /u:/. This development was under way at the time of the Ostrogothic redaction.

D'Alquen's chronology must be integrated with the developments that separate Gothic from Proto-Germanic. Dirk Boutkan has proposed the following relative chronology for the development of Gothic final syllables (1995: 402-414).

(B1) Loss of final nasals and \**-ōns* > *-ōs*.

(B2) Reduction of final \**-a(s)*, \**-e(s)*, \**-i(s)* > \**-ə(s)*.

(B3) Shortening of final \**-ō*, \**-ē*, \**-ai* > *-a*. This development was followed by shortening of final \**-ōi*, \**-ēi*, \**-ōu*, \**-ēu*, \**-ōr*, \**-ēr* > *-ai*, *-au*, *-ar*.

(before B4) Vocalization of antevocalic \**j* > \**i* and \**w* > [uw] <w> after heavy syllables (cf. Boutkan 1995: 221).

(B4) Loss of \**ə* with resyllabification of postconsonantal /jə/ > /i/, /iə/ > /i:/, /wə/ > /u/.

(after B4) Reduction of final \**-rs*, \**-ss*, \**-nns* > *-r*, *-s*, *-ns*.

- (B5) Loss of final *\*-t*.  
 (B6) Shortening of final *\*-ī* > *-i*.  
 (B7) Raising of *\*e* > *i* and loss of intervocalic *\*j*.  
 (B8) Loss of postconsonantal *\*u* in trisyllabic word forms in *\*-u(s)* followed by loss of final *\*-s* in *\*-ms* > *-m*.  
 (B9) Desyllabification of *\*i* > *\*j* before back vowels.

It follows from these developments that *\*ē* and *\*ō* were low vowels [æ:] and [â:] at stage B3 and that *\*ə* was a non-low vowel, perhaps [e], at stage B4. It also follows that *\*e* was a mid vowel [e] and had not yet been raised to [i] at stage B7. This is based on the fact that the weak 1st class imperative ending <ei> [i] of <nasei> ‘save!’ < *\*naseje* did not merge with the 3rd sg. optative ending <i> [i] of <nemi> ‘took’ < *\*nēmīt* and <wili> ‘will’ < *\*welīt* (cf. Boutkan 1995: 408, Kortlandt 1986 = 2010: 201-203). On the other hand, I am inclined to date the loss of final *\*-t* in polysyllables (B5) between stages B3 and B4, not only because the final dental was not lost in dat.sg. <menop> ‘month’ and acc.sg. <weitwod> ‘witness’, nor in the adverbs <frumist> ‘first of all’ and <maist> ‘at most’, but especially because the final dental was preserved in the suffix *\*-te* ‘motion to a place’, e.g. in <aljab> ‘in another direction’, <dalap> ‘down’, <samaþ> ‘to the same place’, where it would be lost at stage B5 if *\*-ə* had been lost at stage B4. The 3rd sg. weak preterit ending <da> of <nasida> ‘saved’ < *\*nasidē* evidently lost its final dental on the analogy of the strong preterit (cf. Kortlandt 1989: 104). I would expect that the reduction of short vowels before final *\*-s* (B2) also affected the position before other dental obstruents.

The chronologies proposed by d’Alquen and Boutkan must now be integrated with the developments from Proto-Indo-European to Germanic. The most lucid treatment of this problem is by Frans van Coetsem (1994). His relative chronology of phonological developments can be presented as follows (cf. van Coetsem 1994: 75-132). (C1) Loss of the Proto-Indo-European laryngeals, which resulted in the following phonological system:

/i/	/u/	/i:/	/u:/
/e/	/o/	/e:/	/o:/
	/a/		/a:/

(C2) Merger of /a/, /a:/ with /o/, /o:/, which yielded the following phonological system:

/i/	/u/	/i:/	/u:/
/æ/	/â/	/æ:/	/â:/

(C3) Lowering of /i/, /u/ to [e], [o] before a low vowel in the following syllable, e.g. Old High German *tohter* ‘daughter’ < *\*duktēr*. The two non-high front vowels merged into /e/, yielding the following phonological system:

/i/	/u/	/i:/	/u:/
/e/	[o]	/æ:/	/â:/
	/a/		

(C4) Raising of /e/ to /i/ under different conditions in Gothic and North-West Germanic. I think that these developments were later, cf. stage 20 (B7) below.

(C5) Lowering of /ei/ and /eu/ to [e:] and [eo] before a low vowel in the following syllable, e.g. Old High German 3rd sg. *biutit*, 3rd pl. *beotant* ‘bid’. This development gave rise to a new long vowel  $*\bar{e}_2$  /e:/, distinct from earlier  $*\bar{e}_1$  /æ:/. The new long vowel was generally eliminated in productive ablaut patterns after the raising of /e/ to /i/ in the separate languages. Van Coetsem lists six Old High German examples with  $*\bar{e}_2 < *ei$  (1994: 99): *Frieson* ‘Frisians’, *skēri*, *skiaro* ‘sheer’, *stiega* ‘way’ beside *steiga* <  $*-ai-$  and *steg*, *stega* <  $*-i-$ , *zēri*, *ziari* ‘valuable’, *Wielant* ‘tricky’, *wiara* ‘wire’. In my view, this is also the origin of the Gothic gen.pl. ending <e> [e:] <  $*-\bar{e}a(n)$  <  $*-eiom$  (cf. Kortlandt 2009: 111-127, also 1983 and 2014). Later instances of  $*\bar{e}_2$  developed from  $*ea$ , e.g. in Gothic <her> [he:r] ‘here’ <  $*hear$  <  $*hiar$  and in the North-West Germanic  $\bar{e}$ -preterit (cf. Kortlandt 2010: 190, 209, 290). We have now arrived at the following phonological system:

/i/	/u/	/i:/	/u:/
/e/	[o]	/e:/	
	/a/	/æ:/	/â:/

(C6) Raising of /â:/ to /o:/. This was the last common Germanic development, yielding the following phonological system:

/i/	/u/	/i:/	/u:/
/e/	[o]	/e:/	/o:/
	/a/	/æ:/	

(C7) Raising of /æ:/ to merge with /e:/, also lowering of /i/ to [e] before /r/ and /h/ and raising of /e/ to merge with /i/ elsewhere (cf. C4 above):

/i/	/u/	/i:/	/u:/
[e]	[o]	/e:/	/o:/
	/a/		

(C8) Monophthongization of /ai/ and /au/ to /ɛ:/ and /ɔ:/ and denasalization of  $*\bar{q} < *an$  before /h/ yielding new /a:/ with rephonemization of [e] and [o]:

/i/	/u/	/i:/	/u:/
/ɛ/	/ɔ/	/e:/	/o:/
	/a/	/ɛ:/	/ɔ:/
			/a:/

In the Scandinavian and German areas, /æ:/ was retracted to /a:/ while [o] became phonemic:

/i/	/u/	/i:/	/u:/
/e/	/o/	/e:/	/o:/
	/a/		/a:/

In Anglo-Frisian, vowels were centralized before nasals and /ai/ was monophthongized to /a:/ (cf. Kortlandt 2008: 270):

/i/	/u/	/i:/	/u:/
/e/	/o/	/e:/	/o:/
[æ]	/a/	[æ:]	/a:/

Combining the three chronologies into a single coherent whole, I arrive at the following chain of events.

1. (C1) Loss of the Proto-Indo-European laryngeals.
2. (C2) Merger of /a/, /a:/ with /o/, /o:/ into /â/, /â:/.
3. (C3) Lowering of /i/, /u/ to [e], [o] before a low vowel in the following syllable and merger of [e] with earlier /e/.
4. (C5) Lowering of /ei/ and /eu/ to [e:] /e:/ and [eo] before a low vowel in the following syllable. The new /e:/ remained distinct from earlier [e:] > [æ:] /æ:/.
5. (C6) Raising of /â:/ to /o:/ except word-finally and before a final resonant. This yielded the following phonological system:

/i/	/u/	/i:/	/u:/
/e/	[o]	/e:/	/o:/
	/a/	/æ:/	[â:]

6. Vocalization of antevocalic /j/ > /i/ and /w/ > [uw] /w/ after heavy syllables.
7. (B1) Loss of nasals word-finally and after long vowels before final /s/.
8. (B2) Reduction of /a/, /e/, /i/ to [e] word-finally and before final /s/. This yielded the following system for unstressed final syllables:

	/u/	/i:/	/u:/
/e/			/o:/
		/æ:/	[â:]

9. Loss of intervocalic [j] after long vowels, e.g. [æ:a] in <saian> ‘to sow’ < \*sēja- and <waian> ‘to blow’ < \*wēja-, [æ:e] in <habaiþ> ‘has’ < \*ēje-, [æ:a] in <haband> ‘they have’ < \*ēja-, [o:e] in <salboþ> ‘anoints’ < \*āje-, [o:a] in <salbond> ‘they anoint’ < \*āja- (cf. Kortlandt 1990 = 2010: 205-208 on the Germanic third class of weak verbs).
10. (B3) Shortening of word-final /æ:/, /o:/ [â:], /ai/ to [a] and probably of /i:/, /u:/ to [i], [u], e.g. in <bandi> ‘band’ < \*ī. This yielded the following system of word-final vowels:

/i/	/u/
/e/	
	/a/

11. Shortening of /æ:/ and /o:/ [â:] before word-final resonants, yielding final /ai/, /au/, /ar/.
12. Contraction of [æ:e] > [ai], [æ:a] > [a:], [o:e] > [o:], [o:a] > [o:] in posttonic syllables, e.g. 1st sg. <haba> [haba:], <salbo> [salbo:], imperative <habai> [habai], <salbo> [salbo:], yielding new word-final long vowels /a:/ and /o:/.

13. (B5) Loss of final obstruents except /s/ in polysyllables, giving rise to new word-final long vowels /i:/, /æ:/, /o:/, e.g. in <wili> ‘will’ < \*welīt, <hidre> ‘hither’, <ufaro> ‘above’.

14. (C7) Raising of \*ē<sub>1</sub> /æ:/ to merge with \*ē<sub>2</sub> /e:/.

15. (C8) Denasalization of /an/ > /a:/, /en/ > /in/ > /i:/, /un/ > /u:/ before /h/, yielding the following phonological system:

/i/	/u/	/i:/	/u:/
/e/	[o]	/e:/	/o:/
	/a/		/a:/

16. Loss of intervocalic [w] after rounded vowels, e.g. in [uw] > [u] and after /o:/ in <sauil> ‘sun’, <staua> ‘judge’, <taui> ‘deed’, <bauan> ‘to dwell’, <trauan> ‘to trust’, also before /j/ in <stojan> ‘to judge’, gen.sg. <tojis> ‘deed’.

17. Raising and reduction of /e/ to [i] in final syllables.

18. (B4) Loss of [i] with resyllabification of [jī] > /i/, [iū] > /i:/, [wī] > /u/ (cf. Boutkan 1995: 410), but [uī] > /ui/, e.g. in <waurstw> [worstui] ‘work’, later /wørstü/ (cf. stages 19, 23, 25, 27 below). This restored the full vowel system in unstressed final syllables:

/i/	/u/	/i:/	/u:/
/e/	[o]	/e:/	/o:/
	/a/		/a:/

and diphthongs /ei/, /ai/, /eu/, /au/, /ui/, e.g. 3rd sg. and 2nd pl. \*berēþ ‘bear(s)’.

19. (B6) Shortening of final /i:/ to /i/ and perhaps of /ui/ to [ü], which affected the outcome of B4 and B5, e.g. in acc.sg. <hairdi> ‘shepherd’ < \*ī < \*iom, 3rd sg. opt. <nemi> ‘took’ < \*nēmīt.

20. (B7) Raising of /e/ to merge with /i/ except before /r/ and /h/ and merger of /ei/ with /i:/, e.g. in <nasei> ‘save!’ < \*nasei.<sup>1</sup> I do not share the usual view that /i/, /u/ were lowered to [e], [o] before /r/ and /h/ (A1) because there is no evidence for such a development, except in monosyllables, e.g. <baurgs> ‘city’, <baur> ‘son’. All other instances of lowering can be explained by the Proto-Germanic lowering of /i/, /u/ before a low vowel in the following syllable (C3) and absence of later raising of /e/ to /i/.<sup>2</sup> Indeed, /i/ was not lowered in <hiri> ‘come here!’, pl. <hirjip>, du. <hirjats>, <parihis> ‘of unshrunk’, also <fidur> ‘four-’, preposition <ur> beside <us> ‘out’ and unstressed particles <uh> ‘and’, <nih> ‘and not’, <nuh> ‘then’. It appears that Gothic generalized the lowered variant of the zero grade \*ur in alternating paradigms (e.g. Krause 1953: 78, van Coetsem 1994: 91), e.g. <waurþun> ‘they became’ like the participle <waurþans>, so that the low variant [o] became automatic under the stress before /r/, as opposed to <wulfs> ‘wolf’, <fulls> ‘full’, <gamunds> ‘remembrance’.

<sup>1</sup> Note that original \*ei had been monophthongized to \*ē<sub>2</sub> before a low vowel in the following syllable at stage 4 (C5) and that \*ē<sub>1</sub> /æ:/ and \*ē<sub>2</sub> /e:/ merged in Gothic at stage 14 (C7). For the generalization of the e-grade /ei/ in verbal paradigms, e.g. <steigan> ‘ascend’, and traces of original \*ē<sub>2</sub> in lexical items, e.g. OHG *stiega* ‘way’, see van Coetsem 1994: 94-113.

<sup>2</sup> One reviewer points out that this is difficult in the case of *þaurnus* ‘thorn’ and *kaurus* ‘weighty’, which rather point to phonetic lowering of /u/ before /r/.

<hund> ‘hundred’, <sums> ‘some’, where [u] became automatic, similarly before /h/ in <nauh> ‘still’ < \*nu-h<sup>w</sup>e versus <juk> ‘yoke’ < \*jukan. Moreover, I cannot accept the common view that the vowel of the reduplication syllable, which is invariably written <ai> [ɛ] (d’Alquen 1974: 67), was generalized on the basis of the verbs <haldan> ‘to hold’, <hahan> ‘to hang’, <haitan> ‘to call’, <hʋopan> ‘to boast’, <hlaupan> ‘to leap’ and <redan> ‘to counsel’. It is far more probable that pretonic /e/ [e] was preserved as a phoneme up to stage B7 and then became a variant [e] of the phoneme /i/ until the rise of new /e/ at stage A3. Note that the reduplication syllable was always followed by a non-high vowel. The variant <saizlep> (John 11.11) beside <saislep> (Luke 8.23) ‘slept’ suggests that the reduplication syllable was pretonic in Wulfila’s days and had received the stress at the time of the Ostrogothic redaction.<sup>3</sup> This is in agreement with the fact that Matthew and John “are more reliable, more Wulfilian, than the other two gospels” (d’Alquen 1974: 50), similarly <saio> ‘sowed’ (Luke 2×, Mark 1×), 2nd sg. <saio> (Luke 1×). Thus, I think that in Wulfila’s days [e] was the pretonic variant of /i/ before a low vowel in the following syllable. In posttonic syllables, the distinction between /e/ and /i/ was lost, yielding a comparable variation between [e] and [i] in accordance with the vowel of the preceding syllable. As a result, /e/ became a marginal phoneme {e} that was in complementary distribution with /i/ except before /r/ and /h/.<sup>4</sup>

21. (B8) Loss of postconsonantal /u/ in trisyllabic word forms in \**-u(s)* and desyllabification of /u/ > /w/ after long vowels and diphthongs, e.g. in <lew> ‘opportunity’, <snaiws> ‘snow’, as opposed to disyllabic <naus> ‘dead man’, <qius> ‘alive’, analogically in trisyllabic <lasiws> ‘weak’ beside regular <sunjus> ‘sons’ with desyllabification of /i/ > /j/ at the next stage.<sup>5</sup>
22. (B9) Desyllabification of /i/ > /j/ before back vowels. We have now arrived at the Wulfilian phonological system:<sup>6</sup>

<sup>3</sup> On the chronology of Grimm’s law and the fixation of the stress on the initial syllable see Kortlandt 2010: 175-177, 197-199, 249-253.

<sup>4</sup> This is essentially in agreement with Cercignani’s theory (e.g. 1984: 315) except for the fact that in my view the general lowering of /i/ and /u/ before /r/ and /h/ (A1) did not take place (*contra* Cercignani 1979b) and that there was no influence of an internal open juncture on the preceding vowel of the reduplicating syllable (*contra* Cercignani 1979a). While I agree with Cercignani (1984: 322-337) that <baitrs> ‘bitter’ and <jains> ‘that’ had a diphthong /ai/ and <aufto> ‘perhaps’ had a diphthong /au/, I think that <nih> ‘and not’, <nuh> ‘then’, <duhve> ‘why’, <duhpe> ‘therefore’, <aiþþau> ‘or’ and <waila> ‘well’ represent pretonic variants of /i/ and /u/, cf. <waila hugjands> εὐνοῶν ‘agreeing’, <waila galeikaida> εὐδόκησα, ἠδύδοκησα ‘am well pleased’, <waila taujan> εὖ ποιῆσαι ‘do good’, <waila taujaiþ>, <waila taujaid> καλῶς ποιεῖτε ‘do good’.

<sup>5</sup> Gary Miller objects to the idea that <iu> is disyllabic because there is no lowering of /u/ before /r/ and /h/ in <þliuhan> ‘to flee’ and <riurjand> ‘they corrupt’ (2019: 51). In fact, these forms support my view that there was no lowering of /u/ before /r/ and /h/ in posttonic syllables.

<sup>6</sup> On the origins of Wulfila’s original alphabet see d’Alquen 1974: 34-48. It appears that the vowels were taken from the Runic and the consonants from the Greek alphabet, with later modifications and introduction of <e>, <q>, <h>, <j>, <r>, <s>, <f> from Latin. The older orthography of [e] <i> and [o] <u> is still found in some loans and

/i/	/u/	/i:/	/u:/
{e}	[o]	/e:/	/o:/
	/a/		/a:/

Since the marginal phoneme {e} was limited to such instances as *\*beregþ* where stressed /e/ had not been raised to /i/ at stage B7, it is not particularly strange that the original letter representing the numeral ‘5’ may not have survived (cf. d’Alquen 1974: 46).

23. (A2) Monophthongization of /ai/ to [ɛ:] /ɛ:/, and perhaps of posttonic /ui/ <w> to [ü:].

24. (A3) Rephonicization of stressed [e] as /ɛ/, e.g. in <bairiþ> ‘bear(s)’.

25. (A4) Shortening in unstressed syllables, which yielded the following system:

/i/	/ü/	/u/
/ɛ/		
	/a/	

26. (A5) Monophthongization of /au/ to [ɔ:] /ɔ:/.

27. (A6) Rephonicization of stressed [o] as /ɔ/. The resulting phonological system was the following:

/i/	/ü/	/u/	/i:/	/u:/
/ɛ/		/ɔ/	/e:/	/o:/
	/a/		/ɛ:/	/ɔ:/
				/a:/

and a diphthong /iu/. The original diphthongs *\*ai* and *\*au* did not merge with the mid vowels *\*ē* and *\*ō* as a result of the monophthongization but ended up as lower vowels [ɛ:] and [ɔ:]. It follows that the diphthongs /ai/ and /au/ were pronounced [ae] and [ao] at the time before the monophthongizations.<sup>7</sup>

28. Shortening of antevocalic /e:/, /o:/ to /ɛ/, /ɔ/, e.g. in <saian> ‘to sow’, <sauil> ‘sun’ (cf. d’Alquen 1974: 145-154).

29. (A7) Raising of /e:/ and /o:/ to merge with /i:/ and /u:/ taking place at the time of the Ostrogothic redaction, which yielded the following system:

foreign names, e.g. <aggilus> (31×) ἄγγελος, <diabulus> (10×) διάβολος, <Puntius> Πόντιος (cf. d’Alquen 1974: 49-74).

<sup>7</sup> At this stage the orthographic reform took place and spellings like <raihts> ‘straight’ and <waurd> ‘word’ were introduced. There can be no doubt that native speakers of Gothic were very much conscious of the new distinction between /ɛ/, /ɔ/ and /i/, /u/ in stressed syllables that was not reflected in the old orthography. I therefore cannot share Miller’s reluctance (2019: 39-42) to accept pervasive editing of the text between the 4th and the 6th centuries. The analogical form <lasiws> ‘weak’ beside regular <sunjus> ‘sons’ <*\*sunius* < *\*sunewes* shows that the distinction between postvocalic [u] and [w] became phonemic before the desyllabification of /i/ > /j/ (B9) at stage 22. The new orthography was evidently meant to remedy the deficient spellings of the mid vowels. This is not “Ostrogothicization” but disambiguation.

/i/	/u/	/i:/	/u:/
/e/	/o/	/e:/	/o:/
	/a/		/a:/

This account of the facts offers a natural solution for the problem of syllabic <w> [ü] < [ui] < [wa] after heavy syllables versus <u> [u] elsewhere, e.g. in <waurstw> ‘work’, <waurstwja> ‘worker’, <triggws> ‘true’, <triu> ‘wood’, <skadus> ‘shadow’, <siuns> ‘sight’, <sunjus> ‘sons’. It explains the use of syllabic <w> for Greek [ü] in loanwords, e.g. <swnagoge> ‘synagogue’, <Iairusaulwma> ‘Jerusalem’, gen. <Swriais> ‘Syria’, but <Saur> [sɔr], dat.pl. <Saurim> ‘Syrians’ from Latin *Surus*, with *i*-flexion in the plural (cf. Kortlandt 2001: 24). This is in accordance with the Greek use of **υ** for [ü] beside **αυ** for [aw] in Wulfila’s days (cf. Allen 1974: 65, also Armenian *aw*) and reflects the lowering of Latin /ǔ/ to [o] in Western Romance (cf. Allen 1970: 48).<sup>8</sup>

The exercise in relative chronology presented here shows an alternation between triangular and quadrangular vowel systems. The triangular system which resulted from the loss of the Proto-Indo-European laryngeals at stage 1 (C<sub>1</sub>) became a quadrangular system by the merger of /a/, /a:/ with /o/, /o:/ at stage 2 (C<sub>2</sub>). The new system became unbalanced by the lowering of /i/, /u/ to [e], [o] at stage 3 (C<sub>3</sub>) and of /ei/, /eu/ to [e:], [eo] at stage 4 (C<sub>5</sub>), yielding a triangular system of four short vowels and a quadrangular system of five long vowels. Symmetry was restored in the long vowels by the raising of \*ē<sub>1</sub> /æ:/ to merge with \*ē<sub>2</sub> /e:/ at stage 14 (C<sub>7</sub>) and in the short vowels by the raising of /e/ to merge with /i/ at stage 20 (B<sub>7</sub>), resulting in the triangular system of Wulfila’s days. This system became unbalanced by the monophthongization of /ai/ to [ɛ:] at stage 23 (A<sub>2</sub>) and the rephonemicization of [e] as /ɛ/ at stage 24 (A<sub>3</sub>). The triangular system was restored by the monophthongization of /au/ to [ɔ:] at stage 26 (A<sub>5</sub>) and the rephonemicization of [o] as /ɔ/ at stage 27 (A<sub>6</sub>). The following raising of /e:/, /o:/ to merge with /i:/, /u:/ restored the original pre-Germanic system.

We may wonder to what extent these developments can be attributed to the influence of neighboring languages. I would suggest that the lowering of /i/, /u/ to [e], [o] at stage 3 was a result of early contact with Western Romance, where the same development took place (e.g. Agard 1984: 64).<sup>9</sup> The new imbalance as a result of the

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<sup>8</sup> Contrary to d’Alquen’s analysis (1974: 47), I think that Gothic <w> was taken from the Greek alphabet to represent both the vowel [ü] and the consonantal semivowel in <Pawlus> Παῦλος because it strongly resembles the Greek letter **Υ** and represents the numeral ‘400’ between <t> ‘300’ and <f> ‘500’. Similarly, I think that <þ> ‘9’ and <lv> ‘700’ directly continue Greek **Θ** and **Ψ**, respectively (*contra* d’Alquen 1974: 44-47). Gary Miller thinks that <w> was not pronounced [ü] in Gothic (2019: 33). Note that in Macedonian Greek **υ** was still pronounced [ü] at the time of Cyrillus and Methodius (second half of the 9th century AD).

<sup>9</sup> “The Roman-born Aulus Gellius (c.123–after 169 AD) reports that even cultivated people had difficulties in telling the quantity of the stressed *a* in *actus* ‘activity’ (CL [ˈa:ktʊs]) [...] On the contrary, no such difficulties were encountered—he goes on—in telling apart the stressed vowels of *dīctus* ‘said’ vs *scrīptus* ‘written’” (Loporcaro 2015: 33). Since vowel length must have been lost in the high vowels when it was lost in the low vowel and the distinction between long and short high vowels was preserved in

monophthongization of /ai/ (but not /au/) at stage 23 and the rephonemicization of [e] (but not [o]) at stage 24 may be attributed to contact with Balkan Romance, where [i] merged with [e] < /e:/ but [ü] with [u] < /u:/, after the eastward migration of the Goths along the river Danube (cf. Kortlandt 2001 = 2010: 27-30). The rise of [ü] < /ui/ can hardly be separated from coming into contact with the Greeks. Finally, the raising of /e:/, /o:/ to merge with /i:/, /u:/ at the time of the Ostrogothic redaction (A7) seems to have been contemporaneous with the raising of /e:/, /o:/ to /i:/, /u:/ in Slavic in the 6th century (cf. Kortlandt 2011: 106, 167f.). Note that in Slavic, as in Gothic, there was a diphthong /ui/ limited to final syllables which was monophthongized to [ü] before the raising of /e:/ and /o:/ (Kortlandt 2011: 104, 165).

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Italo-Western Romance, the lowering of /i/, /u/ to [e], [o] had been completed in the 2nd century AD.

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### Summary

The historical development of Gothic phonology has largely been clarified by Richard d'Alquen (1974). His chronology must be integrated with the developments that separate Gothic from Proto-Germanic. Both chronologies must be integrated with the developments from Proto-Indo-European to Germanic. The exercise in relative chronology presented here shows an alternation between triangular and quadrangular vowel systems.