From Reduplication to Ablaut: The Class VII Strong Verbs of Northwest Germanic[1]

§ 1. One of the most notorious problems in Germanic comparative grammar is that of the creation in Northwest Germanic of the ablauting strong verbs of "class VII" from earlier reduplicating verbs like those found in Gothic (cf. OHG *heizan*, pret. *hiaz(un)* < *hēz(un)*, ptcp. *-heizan* 'call, command', OE *hātan*, *hēt(on)*, *hāten*, ON *heita*, *hét(u)*, *heitinn* vs. Go. *haitan*, *haihait(un)*, *haitans*). Almost every aspect of this topic is to some degree controversial – even the assumption, implicit in our title, that ablaut developed *from* reduplication. Yet there has been progress. *Germanistik* and *Indogermanistik* are cumulative fields, and the countless studies devoted to class VII since the Neogrammarian period have clarified, if not yet solved, the problem. Many ideas considered important fifty or a hundred years ago, such as the view that the Northwest Germanic forms were *never* reduplicated, have been virtually discarded, giving way to newer proposals, such as the various elaborations of the "infix" approach currently under discussion (cf. below). To employ a gastronomical metaphor, our explanatory "kitchen" is by now exceedingly well-stocked, if not overstocked, with the potential ingredients for a solution. The task is to find a recipe for combining them into a palatable whole.

§ 2. The Indo-European (IE) background to the problem is well known. The Proto-IE (PIE) perfect originally had stative meaning, which still survives in preterito-presents of the type Go. *ga-dars* 'dares' (= Vedic Sanskrit pf. *dadhárṣa* 'is bold') and Go. *man* 'thinks' (= Gk. pf. μέμονε 'intends'). For the most part, however, the perfect became a simple preterite in Germanic. There was nothing especially noteworthy about this development, which is also attested in Italic, Celtic and elsewhere. But unlike the other IE languages where the perfect evolved

[1] Oral versions of this paper have been presented in a number of venues since 2000. I am indebted to the many students and colleagues whose input on these occasions has led to improvements of conception and formulation. The present version benefited from the thoughtful comments of Haraldur Bernharðsson, Jeffrey Bourns, and Guðrún Thórhallsdóttir.

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into a preterite, the late PIE dialect ancestral to Germanic lost the old imperfect and aorist and specialized the perfect as its only past tense.[2] The perfect thus became highly productive in Germanic. Virtually every non-derived present stem was provided with a perfect-based ("strong") preterite, even in cases where the underlying root is known to have been *praesens tantum* in the parent language.[3]

The reconstruction of the PIE perfect was one of the most durable achievements of nineteenth century comparative linguistics. The "active"[4] perfect of a normal root was characterized by a) reduplication with **-e-*; b) **o* : zero ablaut, with accent on the root in the singular and on the endings in the dual and plural; and c) special desinences, partly recalling those of the middle. Despite a certain hesitancy on this point in the older literature, there was nothing optional or "facultative" about reduplication in the perfect; the only unreduplicated perfect in the parent language was **woid-/*wid-* 'know' (cf. Go. *wait* : *witum*, Ved. *véda* : *vidmá*, Gk. οἶδα : ἴδμεν, etc.), which was exceptional in other respects as well. In principle, therefore, *all Germanic strong preterites were once reduplicated.*[5] A typical strong verb like **bītan* 'bite' originally formed a 3 sg. preterite **bebait*, as if from PIE **bhe-bhóid-e*, and a 3 pl. **bebitun*, as if from PIE **bhe-bhid-ŕt*; similarly, **bindan* 'bind' formed a 3 sg. **beband*, as if from **bhe-bhóndh-e*, and a 3 pl. **bebundun*, as if from **bhe-bhn̥dh-ŕt*.[6] Reduplication was also characteristic of the

[2] This statement is not vitiated by the small number of cases in which a form of non-perfect origin, such as the historical I sg. imperfect **dedō*^{N} 'I did' (> OHG *teta*, etc.), has been incorporated into the perfect paradigm. Even the weak preterite, assuming it rests on a periphrasis with the verb "to do," is probably of perfect origin.

[3] There were many such roots, including such stalwarts of the IE and Germanic vocabulary as **h₁ed-* 'eat' (Go. *itan*), **bher-* 'bear' (Go. *bairan*), and **h₂eĝ-* ("**aĝ-*") 'drive' (ON *aka*).

[4] The formal category known as the perfect active was originally a kind of middle, functionally paired with the middle in other tense-aspect categories. By late PIE times, however, certain roots had acquired a new, formally renewed perfect middle, which contrasted with the older, now unambiguously "active" form (cf. perf. act. **dedórk-e* 'sees' vs. mid. **dedr̥k-ór* 'is visible'). See Jasanoff (2003: 43 ff., 228 ff.).

[5] So correctly Bammesberger (1994). As I have argued elsewhere (Jasanoff 2003: 168 f.), the perfect was originally a species of reduplicated present; to say that its reduplication was only "optional" is somewhat like saying that reduplication was optional in the PIE present ancestral to Gk. τίθημι and Ved. *dádhāmi*. For the special status of **woid-/*wid-* – etymologically not a true perfect at all – see *ibid.*, 228 ff.

[6] Here and throughout, I follow the practice of writing **b*, **d*, and **g* in Proto-Germanic reconstructions, even in environments (e.g., intervocalically) where these phonemes were realized as fricatives. Similarly, I adopt the convention, where no confusion would result, of writing **bītan* for more correct **bītana*^{N}, **bebait* for more correct **bebaite*, etc.

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"minor" ablaut types: **skaban* 'scrape' (PIE **skabh-*) made a 3 sg. pret. **skeskōb* (as if < **ske-skābh-*); **lētan* 'let' (PIE **leh₁d-*) made a 3 sg. pret. **lelōt* (< **le-loh₁d-*); **stautan* 'hit' (PIE root **steud-*, *o*-grade present **stoud-*) made a 3 sg. pret. **stestaut* (< **ste-stŏud-*);[7] and the hiatus verb ("verbum purum") **spōan* 'thrive' (PIE root **speh₂-*) made a 3 sg. pret. **spespō̃* (< **spe-spoh₂-*).

§ 3. Sometime before the breakup of Proto-Germanic, the majority of strong preterites gave up their reduplication. Like all such changes, the process must have been gradual and accompanied by considerable sociolinguistic variation. The loss of reduplication may have begun in forms with multiple preverbs, as in Old Irish;[8] or it may simply have been an effect of fast speech. But wherever and however it began, the passage of time would have favored the dereduplicated variants, which tended to become more frequent and, other things being equal, to replace the longer forms. The qualification "other things being equal," however, is important. In verbs where the vocalism of the present contrasted with that of the preterite – in effect, in the standard six classes of strong verbs – the loss of reduplication was complete. But in verbs where the present and the preterite (or at least the singular of the preterite) had the *same* vocalism – thus, in cases of the type **stautan* : **stestaut* or **spōan* : **spespō̃* – the dereduplicated variants were disfavored by their similarity to the present, and the longer forms prevailed. In "reduplicating-ablauting" verbs like **lētan* : **lelōt* and verba pura like **sēan* : **sezō̃* 'sow',[9] the retention of reduplication was analogical. The verba pura in **-ē-* (**sēan*) followed the lead of the verba pura in **-ō-* (**spōan* : **spespō̃*) which kept their reduplication because they had the same vowel in the preterite as in the present. In the type **lētan* : **lelōt* the maintenance of reduplication was due to the com-

The "as ifs" reflect the anachronistic character of many of the reconstructions we use to illustrate the structure of later Germanic forms. In fact, it is highly unlikely that the roots **bheid-* 'split' and **bhendh-* 'bind' formed perfects as early as the period of the parent language; if they did, their 3 pl. forms would have had ended in **-ēr* or **-r̥*, not **-ŕt*.

[7] Considerable obscurity surrounds the question of whether *o*-grade presents (the so-called "*molō*-type"; cf. Jasanoff, *op. cit.*, ch. 3) were originally paired with "normal" or lengthened-grade perfects. The question is relevant because, while both **stestoud-* and **stestōud-* would have given **stestaut-* in Germanic, the former would have had a plural stem **stestud-* (> Gmc. **stestut-*), while the latter would have had a plural stem **stestōud-* or **stestoud-* (> Gmc. **stestaut-*). See further note 51.

[8] As described for the reduplicated future by Thurneysen (1946: 409).

[9] With **-z-* by Verner's Law; see below.

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bined influence of the verba pura and the non-ablauting types **slēpan* : **sezlēp* 'sleep' and **wōpjan* : **wewōp* 'cry'.

A formal division thus arose between ablauting strong verbs, which (mostly) lacked reduplication, and reduplicating strong verbs, which (mostly) lacked ablaut. We must now follow the treatment of this dichotomy in the individual Germanic daughter languages, where the reflexes of the reduplicated forms present a varied picture.

§ 4. Gothic is the only Germanic language where reduplication remains a synchronically transparent process. The reduplicating class in Gothic includes all non-ablauting strong verbs – those with roots or quasi-roots in *-ai-* (e.g., *haitan* : *haihait*), *-au-* (e.g., *aukan* : *aiauk* 'increase'), *-a-* + tautosyllabic liquid or nasal (e.g., *falþan* : *faifalþ* 'fold'), *-ē-* (e.g., *slepan* : *saislep* (*-zl-*)), and *-ō-* (e.g., *hopan* : *haihop* 'boast') – as well as a small number of reduplicating-ablauting verbs (e.g., *letan* : *lailot*, *saian* : *saiso*).[10] Indeed, the distribution of reduplication in Gothic matches its reconstructed distribution in Proto-Germanic so closely that it is easy to make the mistake of thinking that Gothic preserves the Proto-Germanic situation unchanged. This is not at all the case. The Gothic treatment of reduplicated preterites reveals at least three innovations vis-à-vis Proto-Germanic: a) the near-total elimination of Verner's Law effects (cf. Go. *saiso* beside ON *sera* < **sezõ̃* < **se-sóh$_1$-*);[11] b) the elimination of differences between "strong" (singular) and "weak" (dual/plural) stem forms (cf. Go. *lailot* : *lailotun* for expected *lailot* : **lailtun* (cf. OE (Angl.) *leorton*) < **le-lh$_1$d-*); and c) the analogical generalization of *-ai-* [ɛ] (< PGmc. **-e-* in "breaking" environments)[12] at the expense of *-i-* (< **-e-* in other environments) as the reduplication vowel. Point b) in particular will prove crucial to an understanding of the ablaut patterns of class VII.

§ 5. Other reflexes of reduplicated preterites, no longer synchronically analyzable as such, are found in Old Norse, Old English, and Old High German. The Old Norse forms are built exclusively to verba pura: *róa* :

[10] In citing forms from Gothic and the other early Germanic languages, I do not attach an asterisk to forms which, while not actually attested, can be predicted with complete certainty from attested forms based on the same stem. A more fastidious practice might have noted that the infinitives *falþan* and *slepan* happen not to occur in the Gothic corpus, and that the preterite *aiauk* is always preceded by the preverb *ana-*.

[11] Two examples of *saizlep*, alongside three of *saislep*, are all that remain of Verner's Law in the Gothic reduplicated preterite.

[12] Breaking is the traditional name for the phonological process by which short **i* (< PGmc. **e* and **i*) and **u* were respectively lowered to *ai* [ɛ] and *au* [ɔ] in Gothic before *r*, *h*, and *hw*. Cf. Braune-Heidermanns (39, 43).

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pret. *rera*, *-ir*, *-i*, etc. 'row', *gróa* : *grera* 'grow, sprout', *sá* (< **sēan*) : *sera* 'sow', *snúa* : *snera* 'wind', *gnúa* : *gnera* 'rub', and *bnúa* : *bnera* 'id.'[13] The background of these forms is clear. *rera* (< **rerõ̃*) and *sera* (< **sezõ̃*) are still transparently reduplicated. So too, at bottom, is *grera* < **gre[g]rõ̃*, with the typical Northwest Germanic – and distinctly un-Gothic – simplification of the repeated cluster at its second appearance in the reduplicated form. *snera* must have started out as **snez[n]ū*, with alteration of the final vowel to **-õ̃* under the influence of the other verba pura. *gnera* (: *gnúa*) and the barely attested *bnera* (: *bnúa*) are rhyme forms to *snera* (: *snúa*).[14]

The reduplicated preterites of Old English are all poetic and/or Anglian.[15] The best attested is *heht* (: *hātan*), which still survives in the Modern English archaism *hight*. The others are *reord* (: *rǣdan* 'advise'), *on-dreord* (: *on-drǣdan* 'dread'), *leort* (: *lǣtan* 'let'), *leolc* (: *lācan* 'play'), *beoft* (: *bēatan* 'beat'), and *speoft* (: *spātan* 'spit'). It is noteworthy that *on-dreord* (< **dre-r-*) shows the same treatment of the initial cluster as ON *grera*, *snera*. The salience of the diphthong *-eo-*, which appears in six of the seven forms, is partly analogical: breaking was regular in *reord*, *-dreord*, and *leort* (dissimilated from **lelt*), but secondary in *leolc*, *beoft*, and *speoft*.[16] Likewise a diffused feature, common to all seven forms but historically "correct" in only two of them, is their shared monosyllabicity. *reord* and *leort* (or rather, the plural forms *reordon* and *leorton*) are inherited, going back to the zero-grade weak stems PIE **re-rh$_1$dh-* and **le-lh$_1$d-*.[17] But no pre-OE syncope rule could have produced forms like *le(o)lc(on)* or *be(o)ft(on)* from preforms of the type **lelaik*/**lelikun*, **bebaut*/**bebutun*, etc. The apparent syncope in *leolc*, *beoft*, *heht*, *-dreord*, and *speoft* is, like the apparent breaking in *leolc*, etc., analogical.[18]

[13] We also find *røra*, *grøra*, etc., with *u*-umlaut from the plural endings *-um*, *-uð*, *-u*, and conversely, *rerum*, *-uð*, *-u*, with the *-e-* of the singular imported into the plural. Cf. Noreen (1923: 70, 340).

[14] Another rhyme form, obviously unoriginal, is *slera* beside *sló* (: *slá* < **slahan* 'strike'). The relationship of the hapax *bnúa* (: Go. *bnauan* 'crush') to the synonymous *gnúa* is unclear. Different prefixes (**bi-* and **ga/i-*) are sometimes assumed; Vennemann (1997: 301) operates with a sound change of *bn-* to *gn-*.

[15] Falling outside this generalization, of course, is *dyde*, *-on* 'did', the special durability of which was presumably due to its frequency and resemblance to a weak preterite.

[16] I here follow Campbell (1959: 312) in preference to the forced and implausible phonological account in Sievers-Brunner (1965: 306).

[17] Go. 3 pl. *rairodun*, *lailotun* are based, of course, on the analogically extended strong stems **re-roh$_1$dh-*, **le-loh$_1$d-* (cf. § 4).

[18] One has only to think, e.g., of the retention of the medial **-i-* in class I weak preterites of the type *nerede*, *fremede*, *astelidæ* (North.), etc. The facts are completely

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§ 6. The most peculiar West Germanic reduplicated preterites are the so-called "*r*-preterites" of Old High German. These are primarily associated with four verbs:

bluozan 'sacrifice' (WGmc. **blōtan*): 3 pl. *pleruzzun*, 3 sg. opt. *capleruzzi*, as if from **blerōt-*, dissimilated from **blelōt-*. The normal preterite is weak (Bav. *plōzta*).

(ana-)stōzan 'strike' (WGmc. **stautan*): 3 sg. *ana-steroz*, pl. *ana-sterozun*, as if from **stezaut-*. The normal preterite is class VII (*stioz*).[19]

(gi-)scrōtan 'cut' (WGmc. **skraudan*): 3 sg. *ki-screrot*, as if from **skreraud* or **skrezaud*. The normal preterite is class VII (*screot*).

būan 'dwell' (WGmc. *būan*): 3 pl. *biruun*, 2 sg. opt. *biruwīs*, from *birū-*, for earlier **bibū-*, with substitution of *-r-* for *-b-*. The normal preterite is weak (*būta*).

Despite their startling appearance, the first three of these forms present nothing new. *pleruzz-* < **blerōt* < **blelōt* illustrates the same treatment of the obstruent + liquid cluster as ON *grera* < **gre-r-* and OE *-drerd* < **dre-r-*; the dissimilation of **l .. l* to **l .. r* is exactly as in OE *leort* < **lelt*. In *steroz* < **stezaut*, the internal *s*-cluster shows the same reduction as in pre-ON **snezū*. *-screrot* is, so to speak, overpredicted; whether it exemplifies the *s*-cluster rule or the obstruent + liquid rule depends on the undecidable question of whether the immediate source was **skrezaud* or **skreraud* (cf. § 21).

There remain the more puzzling *biruun* and *biruuūs*. The apparent substitution of *birū-* (probable 3 sg. **biru*) for **bibū-* < **bebū* presupposes the existence of a period when *-r-* was productive as a preterite marker. Real productivity, however, could never have arisen on the basis of the anomalous *pleruzzun*, *steroz* and *-screrot*, which in any case barely resemble *biruun* at all. In fact, *birū-* most strongly recalls not the other Old High German *r*-preterites, but ON *rera*, *grera*, *sera*, and *snera*, with their incipiently productive *r*-element. Although the verba pura are all weak in attested Old High German (cf. *sāen* : pret. *sāta* 'sow', *ir-knāen* : *-knāta* 'recognize', *spuoen* : *spuota* 'thrive', *gruoen* : *gruota* 'grow', etc.), it is clear from Gothic and Old Norse that they originally belonged to the reduplicating class. If pre-Old High German once formed preterites of the type **serō* 'sowed', **grerō* 'grew', *sperō* (< **spezō*) 'thrived', etc. in these cases, it would be easy to see how the pattern pres. **grōan*, **spōan* : pret. **grerō*, **sperō* could have led the inherited preterite **bebū* (: pres. **būan*; see note 74) to be remade as **berū* (> OHG **biru*). In the absence of any actual evidence for forms of the type **grerō* in Old High German, of course, this can only be a guess.[20]

clear on this point; yet, as we shall see below, the prejudice in favor of a phonological syncope rule has died hard, with unfortunate results. Cf. §§ 17, 23.

[19] The later Upper German forms *stiriz*, *stirz* are said to be misspellings by Braune-Reiffenstein (291).

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§ 7. Apart from the special cases just discussed, the reduplicating verbs of Proto-Germanic are represented in North and West Germanic by the ablauting strong verbs of class VII. To call this aggregation a "class" is misleading, since the members of class VII show far more variety, both within each language and between languages, than those of classes I-VI. To do justice to the data, even the most cursory overview must distinguish five structurally defined subclasses:

subclass	infinitive	ON	OHG	OS	OE
VII a.	**haitan* 'call'	*hét*[21]	*hiaz*	*hēt*	*hēt*
	**skaiþan* 'divide'	–	*sciad*	*skēđ*	*scēđ*[22]
VII b.	**hlaupan* 'run'	*hljóp*	*(h)liof*	*hliop*	*hlēop*
	**hauwan* 'chop'	*hjó*[23]	*hio*	*heu*	*hēow*
VII c.	**haldan* 'hold'	*helt*	*hialt*	*held*	*hēold*
	**fanhan* 'take'	*fekk*[24]	*fiang*	*feng*	*fĕng*
VII d.	**rēdan* 'advise'	*réð*	*riat*	*rēd*	*rēd*
	**slēpan* 'sleep'	–	*sliaf*	*slēp*	*slēp*
VII e.	**wōpjan* 'cry'	–	*wiof*	*wiop*	*wēop*
	**blōtan* 'sacrifice'	*blét*	–	–	*blēot*

[20] One of the main things to be said for such guesses is that they provide a "floor" for other speculation. The availability of a typologically reasonable interpretation along the lines of the Old Norse forms in *-ra* in makes it unnecessary to ponder laryngeal constructions like Lehmann's **bheXw-* (1952: 59).

The apparent use of *-r-* as a hiatus-breaker in OHG 3 pl. pret. *scrirun* (: *scrīan* 'shout') is not closely related to our problem, if at all; cf. Braune-Reiffenstein (277). The later contamination of *scrīan* with *spī(w)an* 'spit' (ptcp. *pespiren*) was a development internal to Old High German.

[21] The form given for each language is the 3 sg. pret.; the stem of the plural is identical except as otherwise noted.

[22] Alongside *sceād*.

[23] 3 pl. *hjoggu*, *hjuggu* < **hewwun*.

[24] 3 pl. *fingu*, *fengu*.

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The facts can be summarized as follows. Verbs with **-ai-* (VII a) in the present form their preterites in ON *-ē-*, OHG *-ia-* < *-ē-*, OS *-ē-*, OE *-ē-* – the vowel traditionally reconstructed as PGmc. and NWGmc. **-ē$_2$-*. Verbs with roots in **-au-* (VII b) form their preterites in **-eu-* (cf. § 30). Verbs with **-a-* followed by a tautosyllabic liquid or nasal (VII c) show fluctuation, with apparent reflexes of **-ē$_2$-* (OHG, OE (in part)), **-ĕ-* (ON, OS, OE (in part)), and **-eu-* (OE (in part)). Verbs with **-ē-* (i.e., **-ē$_1$-* or "**-ǣ-*"; VII d) show **-ē$_2$-*. Verbs with **-ō-* (VII e) show **-eu-* in West Germanic and **-ē$_2$-* in North Germanic (where, however, *blét* is the only example). The near-consensus view is that at the Northwest Germanic stage types VII a (**-ai-*) and VII d (**-ē-*) had preterites in **-ē$_2$-*, while types VII b (**-au-*) and VII e (**-ō-*) had preterites in **-eu-*. There is no consensus regarding VII c (**-aR-*); the leading contenders are **-ē$_2$-* and **-ĕ-*.

§ 8. Where did these forms come from? Many attempts have been made to answer this question; a short but useful overview, with references to the older literature, is given by Fulk (1987). By any reckoning, the first "cut" in any classification of attempted solutions must be between theories that try to derive class VII preterites like **hē$_2$t*, **hleup*, etc. from earlier reduplicated forms, and those that treat class VII ablaut and reduplication as largely independent phenomena. To a modern sensibility the latter would seem an exceedingly unpromising approach – a gross violation of the principle of Occam's Razor, if nothing else. But to the Neogrammarians, with their fondness for phonological explanations and distrust of analogy, the absence of a direct phonetic pathway between a reconstruction like PGmc. **hegait* and the attested ON *hét*, OHG *hiaz*, OE *hēt*, etc. made the invention of a new PIE preform – in this case a long-diphthongal "heavy base" **kēid-* – an acceptable recourse. Such structures, with attendant special assumptions about the later treatment of the diphthongs **ēi* and **ēu*, lie at the heart of the "Brugmann-Wood" theory, which was independently propounded by its German and American co-inventors in 1895. The approach had influential supporters for a time, notably including Prokosch (1939: 176 ff.). With the advent of the laryngeal theory and other revisions in the Neogrammarian model of the protolanguage, however, its Indo-European basis disappeared.[25]

[25] One of the major contributions of the laryngeal theory was to simplify the theory of PIE ablaut. As a result, it is no longer useful or possible to distinguish a special class of "heavy" or "long-diphthongal" roots with distinctive vocalization patterns. The *ē*-grade of the hypothetical root form **kēid-* would not have been an appropriate vocalism for the perfect, root aorist, or any other PIE category likely to have yielded a preterite in Germanic.

The presentation below will assume a standard three-laryngeal, five-vowel model of PIE phonology, along the lines of Mayrhofer (1986). There is no comparably authoritative guide to PIE morphology, but Fortson (2004) gives a good overview of the framework adopted here.

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A scholar who tried to retain the advantages of an ablaut-based approach without committing himself to the specific claims of the Brugmann-Wood theory was van Coetsem (1956). Van Coetsem viewed the ablaut patterns of class VII as an inner-Germanic surrogate for reduplication. Unlike most of his contemporaries, he saw **-ĕ-* rather than **-ē$_2$-* as the original vocalism of the preterite in verbs of type VII c; the **-a-* : **-e-* alternation in **haldan* : **held*, he suggested, was simply another instantiation of the ablaut process seen in **hlaupan* : **hleup* (VII b). He then went a step further, arguing that since the preterites **held* and **hleup* represented "neo-*e*-grade" alterations of **haldan* and **hlaupan*, respectively, a preterite like **hē$_2$t* (VII a) could be seen as a neo-*e*-grade form of **haitan*. This, unfortunately, entailed the claim that PIE **ei* could give **ē$_2$* as well as **ī* in Germanic – a position that proved virtually impossible to defend in the face of overwhelming evidence that the change of **ei* to **ī* was unconditioned. Nor was van Coetsem able to explain how the putative **a* : **e* ablaut pattern could have arisen in the first place.[26] Yet despite the failure of his overall scheme, his structural arguments for a short vowel in type VII c (*held) were an important and constructive contribution.

§ 9. The majority of class VII theories have assumed that **hē$_2$t*, **hleup*, etc. were formally based on reduplicated forms – either directly, via some regular phonological process, or indirectly, by analogy to forms that *were* regularly descended from reduplicated prototypes. In the pre-Neogrammarian period, the favored phonological mechanism was contraction – a preference rendered seductively attractive by the early-established practice of using the *h*-initial verb **haitan* and its supposed preterite **hehait* as the all-purpose exemplar of the class. Later, with the discovery of Verner's Law and the principle of regularity of sound change, the contraction approach lost some of its luster. It was much harder to derive **hē$_2$t* (or **hēit*) from **hegait* in the constrained

[26] The mechanism he proposed was based on a kind of reverse analogy: since verbs of the "*e*-series" (i.e., with *e*-grade presents) had preterites in **-a-* (< PIE **-o-*), verbs of the "*a*-series" were provided with preterites in **-e-*. It was not an intuitively plausible idea, and no parallels have ever been found.

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world of Neogrammarian sound change than it had been to derive it from **hehait* in the days of Jakob Grimm.[27]

§ 10. Modern contraction-based approaches start from the reduplicating verbs with vowel-initial roots – the one subgroup that can be confidently assumed to have contained underlying sequences of reduplication vowel + root vowel (**-e-ai-*, **-e-au-*, etc.) at a stage when reduplication was still a living process. Fulk (1987: 162) counts six such items: **aikan* (Go. *af-aikan* 'deny'), **alþan* (Go. *us-alþan* 'grow old'), **arjan* (OHG *erien* 'plough'), **audan* (OE ptcp. *ēaden*, OS *ōdan* 'granted', ON *auðinn* 'fated'), **aukan* (Go. *aukan*, ON *auka* 'increase'), and **ausan* (ON *ausa* 'pour'). This list, however, gives a misleading picture. **audan* is nowhere attested as a verb, but is known only from its lexicalized past participle; **alþan* is confined to Gothic as a finite verb and has no attested preterite. **arjan* has a rare class VII preterite *iar* in Old High German, but its structure is not that of a reduplicating verb, and its preterite in the other early Germanic languages is weak.[28] Of the three remaining examples, **ausan* is found only in Old Norse (*ausa* : pret. *jós*), while finite forms of **aikan* are almost entirely confined to Gothic (*af-aikan* : *af-aiaik*).[29] The only vowel-initial reduplicating verb with anything approaching a robust profile in both East and Northwest Germanic is **aukan* (Go. *aukan* : *aiauk*, ON *auka* : *jók*), and even here West Germanic only has a lexicalized participle (OE *ēacen*, OHG *ouhhan*). Fulk's six verbs, in short, are an unimpressive foundation on which to construct an analogical theory of class VII.[30]

Nevertheless, such a theory is exactly what Fulk proposes. In his view, it was precisely the sequence **e-ai-* in **e-aik* 'promised' (*vel sim.*), **e-au-* in **e-auk* 'increased', and **e-a-* in **e-ar* 'plowed' that furnished the analogical basis for the creation of forms like **h-e-ait* (> **hē₂t*) from **haitan*, **hl-e-aup* (> **hleup*) from **hlaupan*, and **h-e-ald* (> **hē₂ld*) from **haldan*. Early spellings like *heaz* (: *heizan*) and *leaz* (: *lāzan*) show, he says, that the contraction product envisaged by his theory was still disyllabic in Old High German. This is a striking claim, but the orthographic evidence cited in support of it (167 ff.) is anything but

[27] Meid (1971: 100) still assumes contraction across **-h-* in "un-Vernerized" reduplicated forms.

[28] The preterite of Go. *arjan* is unfortunately unattested.

[29] Braune-Reiffenstein (290) surveys the fragmentary Old High German attestation. Old Norse has a lexicalized participle *eikinn* 'raving'.

[30] I thus emphatically disagree with d'Alquen (1997: 80), who calls them "a credible basis for analogical spread."

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clear. Old High German is a language of dialects, and the corpus, especially in the earlier period, is sufficiently sparse that each documentary source must be examined on its own terms. In the absence of any detailed philological analysis, I can see nothing in the orthographic statistics provided by Fulk to challenge the usual view that *ea* was an intermediate phonetic stage between archaic *ē* (i.e., *ē₂*) and "classical" *ia*, *ie* (cf. Braune-Reiffenstein 38 f.).

A particularly awkward set of facts for Fulk's account is the orthographic situation in the texts of the Old High German "Isidore group" (8th-9th c.). Here **ē₂* is normally represented by *ea*, both in class VII preterites (e.g., 3 sg. opt. *firleazssi*) and elsewhere (e.g., *hear* 'here'), but the class VII preterites of the verbs *gangan* 'go', *fāhan* 'take', and *hāhan* 'hang' are written with *-e-* (*kenc*, *infenc*, *arhenc*, etc.; cf. Braune-Reiffenstein 289). The standard interpretation of these spellings is that they represent a short vowel. Yet if the *-e-* of *kenc*, *infenc*, etc. is short, it must either be original, which would be inconsistent with the contraction theory, or it must have been shortened. Arguing against shortening is the fact that Old High German freely tolerates sequences of long vowel (or diphthong) + nasal + stop; cf. the present participles in *-ōnti*, *-ēnti*, *-ānti*, the preterite *stuont* (: *stantan* 'stand'), and the common "regular" form *feang*, *fiang* itself. It is thus not clear whether *kenc*, *infenc*, etc. can be reconciled with the contraction theory at all – a point to which we will refer again in § 28. At the very least, these forms are an embarrassment for Fulk's theory of disyllabic *-ea-*, since if they *are* by some chance explainable as shortenings, the only forms they could have been shortened from would have been **gēng*, **fēng*, etc., with monophthongal **-ē-*.[31]

§ 11. More recent defenses of the contraction theory add little or nothing to the basic picture. d'Alquen (1997) argues that the **-e-* of Fulk's analogical forms **h-e-ait* (> **hē₂t*), **hl-e-aup* (> **hleup*), and **h-e-ald* (> **hē₂ld*) (cf. above) was synchronically analyzed as an infix, thus making it possible, e.g., for speakers to create preterites like OE *blēot* (i.e., **bl-e-ōt*) without the model of an inherited reduplicating verb in initial **ō-*.[32] This observation may or may not be valid as a technical improvement on Fulk's system. Technical improvements, however, are not what is needed. The fundamental problem with the contraction theory is that the handful of mostly rare and obsolescent verbs that are supposed to

[31] The putative shortening rule would probably have to have been confined to the environment before clusters of *ŋ* + velar stop. Fulk (167-70) takes the vowel of *kenc*, etc. to be long.

[32] A synchronic analysis along the same lines was earlier put forth by Voyles (1980).

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have mediated the transition from reduplication to ablaut are utterly unsuited to the analogical role assigned to them. Kortlandt, another of the contraction theory's post-Fulk defenders, admits as much when he says (1991: 98), "It is not evident that these forms [**eauk*, etc. – JJ] sufficed to generate a wholesale restructuring of the reduplicated preterit. We may therefore have to look for a more powerful model, which can only have been supplied by a high frequency verb." Unfortunately, Kortlandt's "more powerful model" comes from OE *ēode* 'went', a form whose relevance to the problem of class VII does not emerge from his presentation.

§ 12. The main alternative to contraction, for those who reject this approach, is a mixture of syncope and compensatory lengthening. The modern tradition here can be said to have begun with Bech (1969), whose solution, greatly modernized and improved, is presented in a pair of overlapping publications by Vennemann (Vennemann 1994, 1997). The kernel of the Bech-Vennemann theory consists of three claims:

1) the synchronically opaque reduplicated forms **hegait*[33] [-γ-] (: **haitan*), **slezēp* (: **slēpan*), **feball* [-β-] (: *fallan* 'fall'), **h^{w}eg^{w}ōp* [-γ^{w}-] (: **h^{w}ōpan* 'boast'), etc. were reanalyzed as containing infixed material (Bech: "infixes" **-eg-*, **-ez-*, etc.; Vennemann: "apophthongs" **-egi-*, **-eze-*, etc.);

2) the enormous variety of infixes (apophthongs) was reduced by analogically generalizing **-z-* as the consonant in all cases: **hezait*, **slezēp*, **fezall*, **h^{w}ezōp*, etc.;

3) syncope brought the infixed **-z-* (Bech) or its descendant **-R-* (Vennemann) into contact with the following consonant, where it was lost with compensatory lengthening and dialectally variable breaking or rounding effects (**heRait* > **heRt* > **hēt*, **sleRēp* > **sleRp* > **slēp*, **feRall* > **fe(o)Rll*[34] > **fē(o)ll*, **h^{w}eRōp* > **h^{w}e(o)Rp*[35] > **h^{w}ē(o)p*).

We will examine these claims below, taking Vennemann (1997) as our point of departure.

[33] Bech's and Vennemann's preforms differ in detail; for purposes of summarizing, I here follow the convention of citing reduplicated forms with the vocalism they had, or would have had, in Gothic. Vennemann's specific reconstructions (**hegit* for **hegait*, **slezep* for **slezēp*, etc.) will be discussed in § 16.

[34] With breaking of **-e-* to **-eo-*, according to Vennemann, in pre-Old English – hence OE *fēoll* but OHG *fial*.

[35] With breaking, according to Vennemann, in West Germanic only – hence OE *-ēo-*, OHG OS *-io-*, but ON *-é-*.

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§ 13. Parts 1) and 2) of the Bech-Vennemann scenario, which set the stage for the sweeping changes of part 3), can be treated relatively briefly. As a phonologist, Vennemann is keenly interested in reduplication as an object of study in its own right. Within Germanic, the most salient differences between reduplication in Gothic and the other languages involve the treatment of initial clusters. Obstruent + sonorant clusters, as we have seen, reduplicate with just the obstruent in Gothic (cf. *slepan* : *saislep*, *fraisan* : *faifrais* 'tempt', etc.), while North and West Germanic, more innovative in this respect, maintain the cluster initially but simplify it medially (cf. ON *grera*, OE *-dreord*, OHG *pleruzzun*). On the face of it, this change has a "morphological" look: learners of early Northwest Germanic, needing to form a preterite to a form like **grōan* and hearing the pattern **rōan* : **rerõ*, created the analogical form **grerõ*, thereby laying the groundwork for a wholesale reformulation of the rule.[36] Vennemann, however, claims otherwise: taking ON *grera* in the form we have it to be secondary, he posits **gregõ* rather than **grerõ* for early Northwest Germanic and attributes the leftward "movement" of the cluster to a sound change – specifically, to a form of metathesis that he calls "slope displacement" (315 ff.). Interesting examples of this process, the status of which as a possible sound change is not in doubt, are cited from Italian dialects (e.g., Sicilian *triatu* for Standard Italian *teatro* 'theater', Tuscan *crompare* for Standard Italian *comprare* 'buy'); see further Blevins and Garrett (1998: 526 f.). But the fact that slope displacement *can* occur as a sound change does not mean that it *did* occur in Northwest Germanic. Vennemann is strangely silent about the direct counterexamples to his rule – words like **bibra-* 'beaver' (OHG *bibar*, OE *beofor*) and **titrōn* 'tremble' (ON *titra*, OHG *zitterōn*), as well as cases where the obstruents are not identical, such as **fugla-* 'bird' (OHG *fogal*, OE *fugol*) or **bidla-* 'bill' (OE *bill*).[37] These and other examples fatally undercut his attempt to "demorphologize" the Northwest Germanic treatment of reduplication.

All of this, of course, is something of a sideshow to the main argument. Vennemann uses a sound law to generate **gregõ* from **gegrõ* and gets *grera* by analogy later; others invoke analogy from the outset and go from **gegrõ* to **grerõ*(> *grera*) directly. Willy-nilly, all sides tacitly acknowledge the introduction of a principle of *onset preservation*, which made the average Northwest Germanic reduplicated form easier

[36] Bech supposes a different but similar analogical sequence: **sezō* led to **rezō*, whence in turn **grezō*.

[37] The same point is made by d'Alquen (*op. cit.* 78-9), from whom the latter two examples are taken.

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to process at the beginning of the word, and harder to process in the middle, than its Proto-Germanic ancestor. This is what led, according to Bech and Vennemann, to the next major step in the evolution of class VII.

§ 14. It is not easy to be sure how mature native speakers of Northwest Germanic, who easily processed reduplicated forms of the type **lelōt*, **rerōd*, **wewōp*, etc.,[38] would have internalized more complex reduplicated structures like **slezēp*, **feball*, or **h$_2$eg$_2$ōp* (by now **hwewōp*). Vennemann, following Bech, supposes that new speakers, unable to master the true principle of reduplication, generalized **-z-* as the internal consonant everywhere, producing forms of the type **fezall*, **hwezōp*, **lezōt*, **hezait*, and **hlezaup* alongside "correct" **slezēp*. To this a skeptic might note that it is not obvious why **-z-* would specifically have been selected for this purpose, since, by Vennemann's own reckoning, only seven verbs had **-z-* in this position, no more than the number that had **-g-* or **-w-*.[39] What *is* obvious is *Vennemann's* reason for picking **-z-*. As he puts it (309-10), "[we are] looking for that consonant which is (a) never preserved as such in the middle of a word, which is however (b) sometimes reflected as *r*, which has (c) something to do with the origin of $\bar{e}_2$, and which is (d) prone to cause breaking of a preceding short *e*. As is well known, there is only a single consonant of that sort ... and that is the consonant **z*." In other words, the reason for positing intermediate preforms **fezall*, **hwezōp*, **lezōt*, etc., rather than, say, **fegall*, **hwegōp*, **legōt* or **fewall*, **hwewōp*, **lewōt* is that Vennemann expects the forms with **-z-* to be useful later.

There is, of course, nothing wrong with pursuing a line of argument because we expect it to be productive, and Vennemann is to be

[38] Or, *mutatis mutandis*, Vennemann's **lelet* (: **lētan*), **rered* (: **rēdan*), **wewop* (: **wōpjan*; see below), which, with their completely predictable root vocalism, would have been even easier to process.

[39] Vennemann's examples of verbs that would have reduplicated with internal **-z-*, based on Seebold (1970), are **sēan*, **snō(w)an* ~ **snūan*, **slēpan*, **swaipan* 'sweep', **swōgan* 'sound', **saltan* 'salt, spice', and **swōan* 'sacrifice' (= ON *sóa*, no preterite attested). This inventory is in fact somewhat misleading. As we shall see in §§ 33-4, the three verbs with initial **sw-* actually reduplicated with internal **-w-* in Northwest Germanic; on the other hand, Vennemann hurts his own case by assuming that initial **sp-*, **st-*, and **sk-* reduplicated with an internal stop rather than **-z-* (**stetaut*, **skrekaud*, etc.). Verbs whose reduplicated forms would have had an internal **-g-* in Vennemann's system include **grōan*, **gangan*, **grētan* 'cry', **haitan*, **haldan*, **hanhan*, **hauwan*, **hlaupan*, **hlōan* 'low', and **hrōpan* 'call'. An internal **-w-* would have been expected in **walkan* 'roll', **wallan* 'boil', **waldan* 'rule', **waltan* 'sway', **wōpjan*, **wēan* 'blow', **hwōpan* 'boast', **hwētan* 'curse', and **hwōsan* 'cough'; see below.

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commended for making his reasoning explicit. But his candor makes it doubly urgent to ask whether the extension of **-z-* to all reduplicated forms makes sense as a real linguistic change carried out by flesh and blood speakers – speakers with no linguistic training and no foreknowledge of the syncopes and compensatory lengthenings that Vennemann sees looming around the corner. My own sense is that it does not. I suspect that the learners of an early Germanic language, to the extent they judged forms like **feball* or **hwewōp* or **hegait* to be opaque, would have done their best to memorize them one at a time, just as learners of modern English memorize *mice* as the plural of *mouse* and *feet* as the plural of *foot*. No doubt there would have been learning errors and low-level analogies, as in any language with complex morphology. But if a reduplicated preterite proved impossibly difficult to process or recall, there was always a simple recourse – to cut the Gordian knot and replace it with a weak (dental) preterite. This is certainly what happened a few centuries later, as, e.g., in Old High German, where all the verba pura became weak (cf. § 6). To assume, as Bech and Vennemann do, that speakers of Northwest Germanic would have segmented the mass of reduplicated preterites into discontinuous roots and infixes (*vel sim.*), one of which was then generalized, seems to me a bit like expecting speakers of English to create analogical plurals **fite* (: *foot*), **gise* (: *goose*) and **mine* (: *man*) by generalizing the umlaut vowel of *mice*.

§ 15. Admittedly, this is all rather impressionistic. But there are other reasons to be doubtful about the alleged propagation of **-z-*. Looking at the clear reflexes of reduplicated forms in North and West Germanic, one is struck by how *little* **-r-* and **-z-* seem to have spread beyond their etymological base. In Old Norse, the internal *-r-* of *rera* and *grera* simply *is* the *(-)r-* of the roots *rō-* and *grō-*, and the internal *-r-* of *sera* and *snera* goes back, via **-z-*, to the *s-* of *sā-* and *snū-*.[40] The only analogical forms are *gnera* (: *gnúa*) and the marginal *bnera*, both obviously based on *snera*. On the other hand, there is no **glera* to *glóa* 'glow' or **flera* to **flóa* 'flow', which are both weak; no **bera* to *búa* 'dwell', which has been incorporated in class VII (pret. sg. *bjó*); and no **mera* to **má* 'wear down', which is again weak. This is not the distribution we would have expected if **-z-* had been limitlessly productive; **bera* (< **bezõ* < **bezũ*) and **mera* (< **mezõ*) would in that case have been just as likely to turn up as *snera* and *sera* (< **sezõ*).

[40] Even the clearly secondary *slera* (: *slá*) shows the continued vitality of the link between the preterite in *-ra* and the presence of an initial *s-*.

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Similarly, in Old High German, three of the four older *r*-preterites are etymologically "correct": the *-r-* of *pleruzzun* goes back, with dissimilation, to the *-l-* of the initial cluster in *bluozan*; the *-r-* of *steroz* goes back, via **-z-*, to the **s-* of *stōzan*; and the **-r-* of *-screrot* could go back to either the **s-* or the **-r-* of *scrōtan*. The only wholly analogical form is the verbum purum *biruun*, which was discussed in § 6. Once again, if **-z-* had been extended to the whole set of reduplicated preterites, this is not what we would expect from a random foursome of survivors.

The *z*-propagation hypothesis is directly refuted by the Anglian forms *heht*, *reord*, etc., *not one of which* shows an unetymological **-r-* from **-z-* (*leort*, dissimilated from **le(o)lt*, is at best ambiguous). Vennemann explains this by invoking the supposed failure of the Anglian dialects to participate in the main line of class VII development. But it beggars belief that an event so early and so basic as the putative spread of **-z-* could have taken place in some Old English dialects and not others. Anglian, it must not be forgotten, has class VII preterites too.

§ 16. Let us, however, suppose that Bech and Vennemann are right, and that preforms of the type **fezall*, **hwezōp*, **lezōt*, **hezait*, **hlezaup*, and **slezēp* once served, at least over most of the Northwest Germanic area, as the reduplicated or "infixed" preterites of **fallan*, **hwōpan*, **lētan*, **haitan*, **hlaupan*, and **slēpan*. Two major steps in the extended scenario now remain: a) syncope, which brought the **-z-*, now rhotacized to **-R-* in Vennemann's version of the theory, into contact with the root-final consonant or consonants; and b) compensatory lengthening, which in the simplest cases had the effect of converting the resulting **-eRC-* sequences to **-$\bar{e}_2$C-*.[41]

In order to evaluate the syncope rule, we will first have to resolve some of the details concerning the exact shape of the pre-syncope forms. In place of the semi-formulaic **fezall*, **hwezōp*, etc. which we have been using thus far, Vennemann (306-8) operates with quite specific and for the most part different preforms:

**fallan*	pret.	**feRall*
**hwōpan*	pret.	**hweRop*
**lētan*	pret.	**leRet*

[41] Partly for reasons of economy and partly for reasons that will become clear below, we will not discuss a third component of the Bech-Vennemann scenario – the process of breaking (Vennemann) or "*w*-infection" (Bech; my term) by which rounding was introduced into the class VII preterites of verbs with *ō-* or *au*-vocalism.

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**haitan*	pret.	**heRit*
**hlaupan*	pret.	**hleRup*
**slēpan*	pret.	**sleRep*

The first case, **fallan* : **feRall*, is straightforward; **feRall* is simply the inherited form **feball*, with **-R-/*-z-* substituted for **-b- ex hypothesi*. But the other forms immediately raise questions. Vennemann tells us that "after the accent shift to the beginning of words, the old preterit root vocalism was shortened and, except for the verba pura, became a function of the defining vocalism of the present tense root form." In keeping with this principle, he sets up **hweRop* with a shortened form of the vowel of **hwōpan*, and **sleRep* and **leRet* with shortened versions of the vowel of **slēpan* and **lētan*, respectively.[42] The **-i-* of **heRit* (: **haitan*) and the **-u-* of **hleRup* (: **hlaupan*) are similarly to be understood as the shortening products of **-ai-* and **-au-*. But no other examples are cited in support of this rule, for which I can find no basis in the known phonological history of Northwest Germanic.[43] All the evidence indicates that long vowels were *not* shortened in unaccented (= non-initial) syllables in Northwest Germanic, or even in West Germanic. Indeed, they still remain long in Old High German; it is useful, as a "reality check," to recall the class II weak verbs (type **salbōn* 'anoint', 3 sg. **salbōþ*), with an **-ō-* that is still marked with a caret by Notker around the year 1000 AD (*salbôn*, *-ôt*). The partly parallel class III weak verbs illustrate the treatment of the unaccented diphthong **-ai-*: cf. OHG *habēt* 'has' < WGmc. **habēþ* < PGmc. **habaiþ*.

To be sure, it is conceivable, for reasons apparently not suspected by Vennemann, that some of his "shortened" forms are actually correct. While no sound law could have produced **heRit* or **hleRup* from preforms like **heRait* or **hleRaup*, it is not out of the question that the original preterite paradigms of these verbs had ablaut (3 sg. **hegait*, **heglaup* : 3 pl. **hegitun*, **heglupun*?), and that the weak stems **hegit-* (> **heRit*) and **heglup-* (> **hleRup*) were generalized in Northwest Germanic. And although there is no phonological basis for Vennemann's **leRet*, the form his theory really requires is **leRt*, which could

[42] Cf. note 38. No principle is given for why the verba pura were exempt from these developments – why, e.g., the preterite of **sēan* was not remade from **seRō̃* to **seRe* at the same time the preterite of **lētan* was remade from **lelōt/*leRōt* to **leRet*, that of **rēdan* was remade to **reRed*, etc.

[43] Vennemann offers no discussion of this point, other than to remark (307) that shortening is also assumed by Lüdke (1957).

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easily have been obtained by substituting *-*R*- for *-*l*- in the ancient weak stem **lelt*- (cf. § 5). Inner-paradigmatic ablaut differences, however, do not seem to play a role in Vennemann's thinking.[44]

§ 17. The actual syncope events by which **feRall*, **hweRop*, **leRet*, **heRit*, **hleRup*, and **sleRep* supposedly yielded **feRll*, **hwe(o)Rp*, **leRt*, **heRt*, **hleoRp*, and **sleRp* are only fleetingly discussed by Vennemann, who is more concerned with abstractly motivating syncope in terms of foot structure than with confronting the concrete evidence that, for Northwest Germanic at the relevant period, no such process actually took place. In fact, it is easy to show that Vennemann's preforms could not have had the treatments he claims for them. **heRit*, the alleged source of OE *hēt*, etc. via **heRt*, has a close match in NWGmc. 3 sg. **naziþ* > **naRiþ* 'saves, redeems' (: **nazjan*, class I weak); yet the daughter forms retain the *-*i*- in West Germanic (OHG *nerit*, OS *nerid*, OE *nereþ*) and only lost it after *i*-umlaut in Old Norse (cf. *telr* 'counts' < **taliþ*).[45] Likewise telling is the West Germanic retention of the stem vowel in the nom. sg. of *i*- and *u*-stem nouns (cf. OS *wini*, OE *wine* 'friend' < **winiz*,[46] OHG OS OE *sunu* 'son' < **sunuz*). The famous fifth-century Gallehus inscription, executed long after the rise of class VII ablaut, at a time when the Angles and Saxons were already beginning their conquest of Britain, contains at least four examples of retained short vowels, including *-a*- as well as *-i*-, in metrically weak position: *ek Hlewagastiʀ holtijaʀ horna tawido* 'I H... made the horn'. The facts are too well known to require further illustration here. There is no way that Vennemann's syncope could have taken place in time for the next step in the drama: the sound change by which **heRt* became **hēt*, **sleRp* became **slēp*, **hleoRp* became **hlēop*, etc.

§ 18. The purported change of **heRt* to **hēt* is the culminating event in the Bech-Vennemann scenario, the development which, if legitimate, would justify all the leaps of faith made thus far. It may come as a

[44] Indeed, Vennemann expressly takes issue (327) with Bammesberger (1986: 63), whose position on **lelt*-, **heht*-, etc. is the same as that adopted here. See further § 23.

[45] Note also the retention of the *-*i*- in the preterite in West Germanic (OHG *nerita*, OS *nerida*, OE *nerede*). Old Norse does have syncope here (*talða*).

[46] The development of *-*i* from *-*iz* in "light" *i*-stems is pan-West Germanic. Although ending was mostly lost in Old High German under the influence of the "heavy" stems (type *ansi* < *-*iz* 'grace'), it is still preserved in *quiti* 'utterance' and a few other words. Cf. Braune-Reiffenstein (202 f.).

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surprise, therefore, to learn that the evidence is unambiguously *against* positing such a rule for Northwest Germanic. Vennemann and others who derive NWGmc. **hēt* from **heRt* attach great importance to PGmc. **mizdō(n)*- 'pay, reward' (Go. *mizdo*), a word that appears in Old High German as *miata* < *mēta*, in Old Saxon as *mēda*, and in Old English as both *mēd* (West Saxon) and *meord* (Anglian). The twofold treatment of the *-*R*- in Old English, which recalls the difference between WS *rēd* and Anglian *reord*, is indeed striking. But as a more thorough inspection of the data reveals, it is also completely unsystematic – in effect, an accident. Preconsonantal *-*R*- has two outcomes in West Germanic:[47] *-r*-, as in *meord*; and loss with compensatory lengthening, as in *mēd*, *mēda*, etc. The first is the normal result, found in a number of words running through West Germanic, e.g., OS OE *hord*, OHG *hort* 'treasure' (cf. Go. *huzd*); OHG OS *marg*, OE *mearg* 'marrow' (cf. OCS *mozgъ*, etc.); OHG *rarta*, OE *reord* 'voice' (cf. Go. *razda*); OHG *ort*, OS OE *ord* 'point'; OHG *gart*, OS *gard*, OE *gierd* 'stick, prickle' (cf. Go. *gazds*). The second treatment – disappearance with compensatory lengthening – is less common. Here the *r*-less variants are normally found alongside forms of the "normal" type, as in the case of *meord*/*mēd*. Other words showing both treatments are OS *līnōn* 'learn' beside OHG *lirnēn*, OE *leornian*; OE *twīn* 'linen, twine' beside MHG *zwirn*, MLG *twern*; and MD *hede* 'hards of flax' beside OE *heordan*. Note also OE *gād* 'goad', probably an *r*-less member of the family of *gierd* < **gazd*-. The impression created by these forms is that the loss + lengthening scenario was a late and dialectal development, perhaps starting somewhere in the northern (Ingvaeonic?) area and spreading geographically on a word-by-word basis.[48] This is not the kind of rule that would have launched a transformative restructuring in West Germanic, much less in the Northwest Germanic period.

Any lingering hope that **hēt* and **slēp* might nevertheless still be traceable to **heRt* and **sleRp* is dispelled by the evidence from North Germanic. Vennemann states (299) that the change of *-*eR*- to *-*ē*- "occurred everywhere in Germanic except Gothic and Anglian," but he cites no examples from Old Norse. This is not surprising, because there are none. The rules for the treatment of **R* before oral and nasal obstruents in West Norse are quite simple (cf. Noreen (1923: 164): *-*Rd*-

[47] Actually three, if one counts the development in the 2 pl. pronoun **izwi(k)* > **iww(ik)* > **iuw(ik)* (OHG *iuw(ih)*, OS *iu*, OE *ēow(ic)*).

[48] According to a forthcoming paper by Sean Crist, OHG *miata*, the most conspicuous German word to show the lengthening treatment, was an early trade-related borrowing from a pre-Old Saxon dialect.

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gives *-dd-*, as in *hodd* 'treasure' (: Go. *huzd*, etc.), *rǫdd* 'voice' (: Go. *razda*, etc.), *oddr* 'point' (: OS OE *ord*, etc.), *gaddr* 'prickle' (: Go. *gazds*, etc.), *haddr* 'long hair' (: OE *hād*); **-Rn-* gives *-nn-*, as in *rann* 'house' (: Go. *razn*), *hrǫnn* 'wave' (: OE *hærn*), probably *tvinna* 'to duplicate' (: OE *twīn*, etc.); and **-R-* before other stops gives *-r-*, as in *mergr* 'marrow' (: OHG OS *marg*, etc.). Under Vennemann's reconstruction of the preform, the preterite of ON *ráða* should have been ***redd*, not *réð*.

It follows that the compensatory lengthening approach, at least in any form resembling its Bech-Vennemann version, is untenable and must be abandoned.

§ 19. In § 1, at the very outset of our discussion, I likened the task before us to that of a cook in search of a recipe. Many ingredients have accumulated over the years: syncope, contraction, exotic forms of ablaut, compensatory lengthening, analogical shortening, "slope displacement," accent shifts – all variably situable in absolute and relative time. Nothing important by now is likely to have been missed; the solution to the problem of class VII, if and when it is found, will almost certainly consist of some assortment of the above elements, measured out and combined in a new and better way. In the belief that such a formula exists, is in principle discoverable, and is even in a sense waiting to be found, some thoughts can now be offered toward a new solution.

§ 20. Let us begin by viewing the problem in perspective. Proto-Germanic had reduplicated preterites; the rationale for their existence as a class has been discussed in §§ 2-3. In Gothic these forms were maintained and preserved, while in Northwest Germanic they were mostly replaced by the strong (ablauting) preterites of class VII. Why do we find this difference? The answer, in the last analysis, lies in the fact that reduplicated preterites in Proto-Germanic were relatively opaque and hard to learn, being characterized, in individual cases, by a) incomplete reduplication of initial clusters, b) Verner's Law alternations between the reduplication syllable and the root proper, and c) partly unfamiliar ablaut differences between singular and plural. In Gothic vigorous measures were taken to improve the transparency of reduplication: Verner's Law effects were suppressed, ablaut alternations were analogically eliminated, and the reduplication vowel was everywhere generalized as *-ai-* [ɛ]. The case of Northwest Germanic was different. Here, although there were transparency-enhancing changes as well, notably in the treatment of initial clusters, the overall pace and scope of

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the "improvements," such as they were, was insufficient to keep reduplication alive as a living process. Rather, as shown by the few remnants that survive in Old Norse, Old English, and Old High German, the forms ceased to be parsable as what they really were – reduplicated preterites – and either became completely unanalyzable or were misparsed as something else. The latter is what we see in ON *sera*, *snera*, etc. The survival and minor productivity of this small subclass was due to the fact that the 1 sg. forms in *-a* (*sera* < **sezõ̃* < **se-sóh$_1$-h$_2$e*, etc.) happened to end in the same vowel as the 1 sg. of the dental preterite in *-ða* (cf. *talða* < PGmc. **talidõ^N*). Speakers could therefore reanalyze a 1 sg. like *sera* as an anomalous dental preterite, with *-r-* taking the place of *-ð-*. Since the plural forms in *-rum*, *-ruð*, *-ru* lent themselves to this analysis as well (cf. *tǫlðum*, *-ðuð*, *-ðu*), it only remained for the 2 sg. (historically probably **serast*; cf. Go. *saisost*) and 3 sg. (historically **sera* < **sezõ̃* < **se-sóh$_1$-e*) to follow suit and take on the weak endings as well. The attested 2 and 3 sg. forms are *serir* and *seri*, respectively, mimicking the dental preterite forms *talðir*, *-ði*.

The development of the reduplicated preterite **sezõ̃*, **-ōst*, **-õ̃* into the quasi-weak preterite *sera*, *-ir*, *-i* provides an obvious model for understanding the extraction of the quasi-*strong* preterite **hē$_2$t*, **hē$_2$st*, **hē$_2$t* from reduplicated **hegait*, **hegaist*, **hegait*. Clearly, some initial group of remodeled reduplicated forms was reinterpreted as having ablaut, and the rest of class VII "took off" from this nucleus. This is the *communis opinio*, and it will be upheld here. In one respect, however, our starting assumptions will differ from those of many earlier researchers. Over the century from Brugmann to Vennemann, the problem of the origin of class VII has been repeatedly confused with another, quite separate question – that of the origin of PGmc. **ē$_2$*. The mixup is understandable, since one of the goals of a theory of class VII must be to explain why **hē$_2$t* contains **-ē$_2$-*, and the regular phonological source of this vowel is unknown. But a complete account of class VII must not only explain why the preterite of **haitan* is **hē$_2$t*; it must also explain why the preterite of **hlaupan* is **hleup*, and perhaps even why the preterite of **haldan* was **held* rather than **hē$_2$ld* (cf. § 7). While the diphthong **eu* may lack the "mystery" of **ē$_2$*, the origin of the ablaut pattern **hlaupan* : **hleup* is just as obscure, and just as much in need of an explanation, as the origin of the pattern **haitan* : **hē$_2$t*. There is no reason why the class VII ablaut alternations involving **ē$_2$* should be assumed to be more interesting *a priori*, or more "original," than those involving **eu* and possibly **e*.

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One may wonder, therefore, whether the vowel *$\bar{e}_2$ may not have become a kind of will-o'-the wisp, repeatedly luring investigators into futile searches for "long-vowel" solutions to the class VII problem when it might be more productive to look for ways to generate *e*-colored vowels in general. The latter approach was tried unsuccessfully by van Coetsem fifty years ago (cf. § 8). It is time to try again.

§ 21. The creation of class VII began with the first steps taken by Northwest Germanic speakers to improve the learnability of the reduplicated forms they inherited from their Germanic ancestors. The earliest such measure was what we may call the "new cluster rule." Gothic, as discussed in § 13, maintains the Proto-Germanic (and PIE) rule of reduplicating **CR-* clusters as **C...CR-* (*C* = any obstruent, *R* = any liquid or nasal; cf. *faifrais*, *saislep*, *faiflok* 'mourned', *gaigrot* 'wept', etc.), while Northwest Germanic reduplicates **CR-* as **CR...R-* (cf. ON *gróa* : *grera*, OE *on-drædan* : *on-dreord*, OHG *pluozan* : *pleruzzun*). Other initial clusters were similarly dealt with. **sC-* groups, which are copied outright in Gothic (cf. *ga-staistald*, *af-skaiskaiþ* 'departed'), reduplicate as **sC...z-* in Northwest Germanic (cf. OHG *stōzan* : *steroz*);[49] for **sR-*, the one good example, ON *snúa* : *snera*, points to Northwest Germanic **sR...z-*, contrasting with Gothic **s...sR-* (*saislep*). The obvious generalization is that onset preservation (cf. § 13) became the highest priority – in Optimality Theory terms, the highest-ranked violable constraint – for new speakers trying to acquire the reduplication system of their elders.

It has often been suggested (e.g., by Vennemann (306-7, 318 ff.) and van Coetsem (1990 *passim*)) that the changed reduplication rules of Northwest Germanic were a consequence of the movement of the accent

[49] Given how little data we have, of course, it is impossible to be entirely confident about any of the rules relating to *s*-clusters. The reduplication pattern seen in *steroz* < **stezaut*, where the **s-* is repeated word-internally, is at odds with the pattern in OE *speoft* < **spefi*, where the stop is repeated. But the Old High German form fits better into the overall picture and looks older: it is easier to see how a pre-OE form of the type **spe(o)st*, with repetition of the **s-*, could have been replaced by *spe(o)ft* (e.g., under the influence of *be(o)ft*), than how a pre-OHG form of the type **stetaut*, with repetition of the **-t-*, might have become **stezaut* or **steraut*.

An interesting possibility, which time and space will not allow us to pursue here, is that the full reduplication of **s* + stop clusters in Gothic was a Gothic innovation. Proto-Germanic, according to this line of thinking, would have had **seskaid*, **sestald*, etc., with the same reduplication pattern as in most of the other early IE languages (cf. Lat. *sistō* 'take a stand', Gk. ἵστημι < **sisti-*, Av. *hištaiti* (beside innovating Ved. *tiṣṭhati*) < **siśt-*, OIr. *·sissedar*). Gothic would have replaced **s...sC-* by **sC...sC-* as part of its ongoing effort to enhance the transparency of reduplication wherever possible. This would help explain the fact that Gothic, remarkably, is the only language in the IE family to reduplicate **sC*-clusters in their entirety, without simplification of any kind.

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from the root to the reduplication syllable. The explanatory value of such statements is unclear. Since the establishment of word-initial stress was a development of the Proto-Germanic period, forms like Go. *gaigrot* and **staistaut* were probably just as strongly accented on their first syllable as ON *grera* and OHG *steroz*; yet Gothic preserved the Proto-Germanic cluster reduplication rules intact. Vennemann (306-7) notes that the innovative reduplication pattern seen in Lat. *scicidī* (: *scindō* 'split'), *stetī* (: *stō* 'stand'), *spopondī* (: *spondeō* 'promise'), etc. was the creation of a fixed initial stress phase in the history of Latin; he does not, however, mention the fact that Old and Middle Irish, which also had fixed initial stress, never wavered from the PIE system (cf. 3 sg. pret. *bebraig* (: *braigid* 'farts'), *sescaind* (: *sceindid* 'leaps')). There is no way, in short, that the position of the accent could have been a *determining* factor in the restructuring of reduplication in Northwest Germanic. At best, it is probably safe to say that onset preservation of the Northwest Germanic type would never have been introduced into a language where the stress was systematically located somewhere *other* than on the initial syllable.

§ 22. Do the remains of reduplication in Old Norse, Old English, and Old High German allow us to detect any other common Northwest Germanic innovations in the treatment of these forms? The existence of "*r*-preterites" in both Old High German and Old Norse has sometimes been thought to be a historically important isogloss. But the agreement between the two languages in this respect is misleading. Only two of the Norse forms – *rera* and *grera* – even *had* an **-r-* in the Northwest Germanic period; the others – *sera*, *snera*, and the analogical *gnera*/*bnera* owe their *-r-* to an **-R-* < **-z-* that remained distinct from the "normal" *-r-* for many centuries after the breakup of Northwest Germanic (and indeed North Germanic) unity. As far as the Old High German forms are concerned (cf. § 6), at least one (*steroz*) and possibly another (*ki-screrot*) have etymological **-z-*, while a third (*pleruzzun*, *capleruzzi*) owes its *-r-* to a low-level dissimilation of successive liquids (cf. also OE *leort* < **lelt*). This leaves only *biruun*, *biruuūs*, which may indeed, as we have seen, reflect the former existence of a pre-Old High German class of *r*-preterites to verba pura. But such a class, if it ever existed, would have been typologically, not genetically related to the Old Norse *rera*-type.

In fact, the development of *r*-preterites in both Old High German and Old Norse presents a textbook case of how closely related languages tend to evolve in parallel ways. Owing to a number of independent

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factors – the frequency of roots with initial **s-* (including **sC-* and **sR-*), **r-*, and **CR-*, the adoption of the "new cluster rule," the late sound change of **z* to **r*, and the crosslinguistic tendency for liquids in close proximity to each other to undergo dissimilatory changes – internal **-r-* was disproportionately common in the reduplicated forms that survived into the early post-Northwest Germanic period. The example of Old English is instructive: of the seven reduplicated forms in the Anglian dialects, three have *-r-* – one by dissimilation (*leort*), one through the operation of the new cluster rule (*dreord* < **dre-r-*), and one because the root actually began with **r-* (*reord*). In the early North and West Germanic dialects, the relative prominence of forms with internal **-r-* made them marginally less abnormal, and hence marginally more viable, than those containing other consonants. The incrementally greater survival value of forms with **-r-* played no role in Old English, but led to observable, albeit different, results in Old Norse and Old High German.

§ 23. If the proliferation of *r*-forms in Old Norse and Old High German has tended to attract too much attention in discussions of the class VII problem, the quasi-syncope seen in OE *heht*, *beoft*, etc. has attracted too little. All seven reduplicated preterites in Old English are monosyllabic. This cannot be due, as we have seen, to phonological syncope (cf. §§ 5, 17); it must have a morphological explanation along the lines already mentioned. The weak stems corresponding to *rǣdan* and *lǣtan* were *reord-* (< **rerd-* < **re-rh₁dh-*) and *leort-* (< **lelt-* < **le-lh₁d-*), respectively, with regular loss of the laryngeal ("schwa") between consonants in an internal syllable. At some point between Proto-Germanic and Old English two major analogical developments occurred: a) the monosyllabic stems **rerd-* and **lelt-* were extended to the singular, where they replaced earlier **rerōd-* and **lelōt-*; and b) the pattern **rǣdan* : **rerd(un)*, **lǣtan* : **lelt(un)* (*vel sim.*) was generalized to **haitan*, **bautan* and other verbs, whose preterites thus became **heht(un)*, **beft(un)*, etc.[50] It will be worth taking some time to investigate the absolute and relative chronology of these events.

The precise mechanism by which the stem forms **rerd-* and **lelt-* led to the replacement of **heg(a)it-* by **heht-*, **beb(a)ut-* by **beft-*, etc. is

[50] This rather straightforward interpretation of the Old English forms, which has been independently arrived at a number of times, is credited by Fulk (1994: 455) to Bammesberger (1986: 63). The idea was also current at Harvard in the 1970's; it is taken for granted in Sacks (1977).

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not self-evident.[51] Notwithstanding the shorthand formulation above, an actual proportion of the type **rǣdan*, **lǣtan* : **rerd(un)*, **lelt(un)* :: **haitan*, **bautan* :: *X* is not likely; if the "pivot" of the analogy had simply been the infinitive, we would also have expected to find monosyllabic reduplicated preterites created to ordinary strong and weak verbs, as, e.g., pret. ***lelþ(un)* to **līþan* 'go', or even ***sesk(un)* (***serk(un)*?) to **sōkjan* 'seek'.[52] Nor can we assume a spontaneous shortening "epidemic" – a blind reduction of reduplicated preterites by one syllable simply in order to make them monosyllabic. Such a change could not have been implemented without some specific proportional model.

In fact, the easiest way to understand the process that created **heht-*, **beft-*, etc. is to position it at a chronological point in the history of Old English prior to the leveling of the contrast between singular and plural stems. We could then envisage a proportion

sg. **rerōd*, **lelōt* : pl. **rerdun*, **leltun* :: sg. **hegait*, **bebaut*, **drerōd*, **lelaik* : pl. *X*,

where *X* was naturally solved as **hehtun*, **beftun*, **drerdun*, **lelkun* (> *hehton*, *beofton*, *-dreordon*, *leolcon*). The underlying motivation for the change would have been an elementary acquisition error: since **rerōd* and **lelōt* (and possibly others now lost) appeared to "eject" the nucleus of their second syllable in the plural, learners mistakenly generalized the pattern to *all* reduplicated preterites, even in cases where the actual plural stem was disyllabic. The newly created **heht-*, **beft-*, etc., along with inherited **rerd-* and **lelt-*, were subsequently extended to the singular.

§ 24. In the discussion that follows, the morphological process by which disyllabic weak stems of the type **heg(a)it-*, **beb(a)ut-*, etc. were reduced to monosyllabic **heht-*, **beft-*, etc. will be referred to as *com-*

[51] I use the notations **heg(a)it-*, **beb(a)ut-*, etc. to stand for the plural preterite stem in cases where we cannot be sure whether it had zero grade (**hegit-*, **bebut-*, etc.; cf. §16) or simply followed the vocalism of the singular (**hegait-*, **bebaut-*, etc.). In theory, the plural should have had zero grade in cases where the singular had *o*-grade. In practice, however, a) not all singular forms really *did* have *o*-grade (some had pre-Germanic **a-*, **ā-*, or **ō-*vocalism, with or without laryngeal involvement), and b) the possibility of early leveling from the singular to the plural can never be excluded. Caution is therefore indicated; for our present purposes a decision between the **hegait-*, **bebaut-* and **hegit-*, **bebut-* options will not be necessary.

[52] Proto-Germanic did, of course, have reduplicating verbs in **-jan*; the present stem of **sōkjan* (weak) was of exactly the same structure as that of **wōpjan* (reduplicating).

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pression. The dating of compression, in this technical sense, is not exactly determinable. It is not likely to have been a *very* recent development in Old English, since it had to be earlier than the pre-Old English loss of the contrast between singular and plural stems. On the other hand, the singular : plural stem contrast survived beyond the breakup of West Germanic, as shown by the generalization of the strong stems *pleruzz-* < **blelōt-*, *steroz-* < **stezaut-*, and *-screrot* < **skreraud-* (*-z-*?) in Old High German, contrasting with the generalization of **rerd-*, **lelt-* (+ compressed **heht-*, etc.) in Old English. This means that compression can be dated almost anywhere within the proper history of Old English (i.e., between West Germanic and Old English); or within West Germanic (i.e., between Northwest Germanic and West Germanic); or within Northwest Germanic (i.e., between Proto-Germanic and Northwest Germanic). Since Old English is virtually the *only* Germanic language other than Gothic to offer evidence bearing on the form of plural stems,[53] there is no independent reason to prefer one possible dating over another. All we know is that compression occurred somewhere on the *Stammbaum* pathway connecting Old English to Proto-Germanic; we are free to locate it wherever in that interval it proves convenient to place it for other reasons. As we shall see, all the signs point to the earlier end of our chronological range, in the Northwest Germanic period.

§ 25. Let us assume that the history of reduplicating verbs in Northwest Germanic began with two innovations: a) the new cluster rule (§ 21), and b) compression in the plural. Some typical results, using verbs we have already encountered, would have been the following:

Proto-Germanic				Northwest Germanic		
infin.	pret. sg.	pret. pl.		infin.	pret. sg.	pret. pl.
**lētan*	**lelōt*	**leltun*	⇒	**lātan*[54]	**lelōt*	**leltun*
**rēdan*	**rerōd*	**rerdun*	⇒	**rādan*	**rerōd*	**rerdun*
**sēan*	**sezō*	**sezun*	⇒	**sāan*	**sezō*	**sezun*
**grōan*	**gegrō*	**gegrun*	⇒	**grōan*	**grerō*	**grerun*
**blōtan*	**beblōt*	**bebl..tun*[55]	⇒	**blōtan*	**blelōt*	**bleltun*

[53] Further uncertain evidence is offered by ON *serum* (*sørum*), *-uð*, *-u*, etc., apparently with zero-grade **se-z-* < **se-sh₁-*. Full-grade plurals of the type Go. *saisoum* (trisyllabic) would have given Old Norse plurals in **-um*, **-að*, **-a*; it is doubtful, however, whether the endings (2 pl.) **-að* and (3 pl.) **-a* would have survived long enough to be observed.

[54] Here and below, I assume the Northwest Germanic change of PGmc. **ē* to **ā*.

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**haitan*	**hegait*	**heg(a)itun*	⇒	**haitan*	**hegait*	**hehtun*
**stautan*	**stestaut*	**stest(a)utun*	⇒	**stautan*	**stezaut*	**stestun*
**bautan*	**bebaut*	**beb(a)utun*	⇒	**bautan*	**bebaut*	**beftun*

Most of the forms in the Northwest Germanic columns are as good as attested. Old English preserves **leltun* (> *leorton*), **rerdun* (> *reordon*), **hehtun* (> *hehton*), and **beftun* (> *beofton*), and while the corresponding strong stems are not recorded in Old English, the structurally parallel **blelōt* and **stezaut* are found in Old High German (cf. *pleruzzun*, *steroz*).[56] The pairs **sezō* : **sezun* and **grerō* : **grerun* are directly continued by ON *sera* : *sørum* and *grera* : *grørum*, respectively (but see note 53).

It is interesting to confront the Northwest Germanic treatment of reduplication, as illustrated above, with the situation in Gothic:

Proto-Germanic				Gothic		
**lētan*	**lelōt*	**leltun*	⇒	*letan*	*lailot*	*lailotun*
**rēdan*	**rerōd*	**rerdun*	⇒	*redan*	*rairoþ*	*rairodun*
**sēan*	**sezō*	**sezun*	⇒	*saian*	*saiso*	*saisoun*
**haitan*	**hegait*	**heg(a)itun*	⇒	*haitan*	*haihait*	*haihaitun*
**stautan*	**stestaut*	**stest(a)utun*	⇒	*stautan*	**staistaut*	**staistautun*[57]

The verbs **grauan*, **blotan*, and **bautan* are not found in Gothic, but if they had been, their preterites would uncontroversially have been **gaigro(un)*, **baiblot(un)*, and **baibaut(un)*. Gothic, as we have seen, did more than Northwest Germanic to maintain the transparency of reduplication – a fact that obviously contributed to its survival in this language. Yet it is important not to exaggerate the degree to which forms like **lelōt* : **leltun*, **hegait* : **hehtun*, and **stezaut* : **stestun* would have posed a problem for learners and speakers of Northwest Germanic. Proto-Northwest Germanic, like Proto-Germanic itself, was a language in which ablaut and even *grammatischer Wechsel* (i.e., Verner's Law alternations) were still living processes. The new cluster rule

[55] Given the absence of a secure etymology, it would be foolhardy to try to specify the vocalism of this form.

[56] It is not clear to me whether the *-u-* in the second syllable of OHG *pleruzz-* is simply a variant spelling for *-o-* (i.e., *-ō-*), the vowel we would have expected from NWGmc. **-ō-* in this position, or whether it requires a special linguistic explanation. In the latter case, I would suggest that the immediate source of the Old High German forms may have been **blelǭt-* rather than phonologically "correct" **blelōt-*, with close **-ǭ-* analogically extended to the reduplicated preterite from the present **blǭtan* (> *bluozan*).

[57] The preterite of Go. *stautan* is fully predictable, though not attested.

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and compression would never have been adopted if the resulting linguistic system had not in some sense been easier for speakers to deal with than the old one. The challenge for us is to determine why these "improvements" in the formation of reduplicated preterites nevertheless led to the rapid *abandonment* of reduplication and its replacement by the class VII ablaut system.

§ 26. At this point it is worth calling attention to a peculiar gap in our data. In our survey of the reduplicated preterites that remain in North and West Germanic (§§ 5-6) we met a total of five forms in Old Norse,[58] seven in Old English, and four in Old High German. Of these sixteen, four were built to roots in **-ē-* (ON *sera*, OE *reord*, *leort*, *-dreord*), three to roots in **-ō-* (ON *rera*, *grera*, OHG *pleruzzun*), three to roots in **-ai-* (OE *heht*, *leolc*, *speoft*), three to roots in **-au-* (OE *beoft*, OHG *steroz*, *-screrot*), and three to roots in final **-ū-* (ON *snera*, *gnera/bnera*, OHG *biruun*). Four of the five basic root vocalisms (cf. § 7) associated with reduplicating and class VII verbs – **-ai-*, **-au-*, **-ē-*, and **-ō-* – are thus included in our sample, along with the "irregular" vocalism **-ū-*. It is a curious fact, however, that *there are no reduplicated forms to roots in* *-a- *plus tautosyllabic liquid or nasal*. Since roots in **-aR-* are actually numerically the commonest of the five phonological types that make up the basic membership of the reduplicating class, this is unlikely to be an accident.

§ 27. The reason why we find no traces of the reduplicated preterites of verbs of the type **haldan*, **fanhan*, etc. becomes clear as soon as we try to work out the details of what such forms would actually have looked like. In the case of **haldan*, the Proto-Germanic reduplicated preterite would have been **hegald* in the singular and either **heguldun* (with zero grade **-guld-* < **-gl̥d-*) or **hegaldun* (without synchronic ablaut) in the plural. In Gothic this was routinely normalized to the quasi-attested **haihald* : **haihaldun*. In Northwest Germanic the singular would have been maintained as **hegald*, but the plural **heguldun/*hegaldun* would have been subject to compression. What, we must now ask, would the compression product of **heguldun/*hegaldun* have been? In the cases we have seen thus far, compression meant ejecting the vowel or diphthong of the second syllable: **heg(a)itun* was shortened to **hehtun*, **beb(a)utun* was shortened to **beftun*, **blelōtun* (*vel sim.*) was shortened to **bleltun*. Deleting the second vowel of **hegul-*

[58] Counting *gnera* and *bnera* as one word, and omitting *slera*.

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*dun/*hegaldun*, however, would have yielded disyllabic ***hegldun*, a phonotactically impermissible sequence that could never have been phonetically realized as such within the synchronic phonological system of Northwest Germanic. Speakers seeking to produce a monosyllabic weak stem to match **heht-*, **beft-*, **blelt-*, etc. would have had to compromise: either the internal cluster would have to be simplified in a way that maintained the transparency of reduplication but obscured the consonantal skeleton of the root (**hegd-*), or the consonantal integrity of the root would have to be maintained by sacrificing the clarity of the reduplication principle (**held-*). Once again, Optimality Theory (cf. § 21) provides a natural framework for understanding the dynamic of the competing pressures. In the end, the forces favoring transparency of the root had the upper hand, and, as first seen by R. Sacks in 1977, the compressed 3 pl. was realized as **heldun*.[59]

The Northwest Germanic preterite of **haldan* thus became **hegald* : **heldun*. Both the singular and plural of this paradigm were reduplicated – the singular transparently so, and the plural, representing underlying /hegld-un/, etc., in the most *un*-transparent manner conceivable. The resulting synchronic situation would naturally have been unstable. New speakers would have had no trouble parsing **hegald* as a reduplicated strong form of the same type as, e.g., **hegait* (: **haitan*) or **hlelaup* (: **hlaupan*), but the plural stem **held-* would have looked less like a compressed reduplication product than a new ablaut variant of the root **hald-*. The inevitable reanalysis of **held-* as an ablaut form led to a crucial further step. Rather than perpetuate the anomaly of a preterite formed by reduplication in the singular (**hegald*) and apparent ablaut in the plural (**heldun*), speakers moved wholly over to ablaut, taking their cue from the class VI strong verbs (**faran* : **fōr* : **fōrun*), where the singular and plural preterite stems were identical. The singular form

[59] Sacks operated with un-Vernerized preforms (**hehald-*, etc.) and conceived of what we have here called compression as an analogical process affecting singular and plural simultaneously. He formulated his discovery as follows:

"Let us now consider what might have happened to the **haldan* class (7c). Replacing a **hehald-* (attested in the Goth. type) with a monosyllabic **hehld-* would produce an intolerable cluster. But an analogical substitution of the vocalism of the reduplicating syllable, as in § 4.2 above [the reference is to compression of **hehait-* to **heht-*, etc. – JJ], could still create an unambiguous monosyllabic form: hence I posit the creation of a **held-*, which most easily accounts for the *-ĕ-* of OI, OS and a few OE relic forms . . . It would also explain why it is precisely this sub-type which alone shows no trace of reduplication in NandWGmc." (Sacks 1977: 244-5)

It is unfortunate that this brilliant insight was never published in a mainstream journal.

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**hegald* was thus replaced by **held*, and the preterite of **haldan* became non-alternating **held* : **heldun*.

The absence of reduplicated preterites of the type **hegald*, **febanh*, etc. in Old Norse, Old English and Old High German was thus a result of the fact that such preterites were replaced by non-reduplicated forms with *e*-vocalism within Northwest Germanic itself.

§ 28. The reader will by now surely have sensed where our discussion is leading. The preterite **held(un)*, which we have almost literally stumbled upon by reconstructing forward from **hegald* : **hegaldun* (**-guld-*), is actually one of the two main candidates for the Northwest Germanic class VII preterite of **haldan* (cf. §§ 7-8). The other possible choice is **hē₂ld(un)*. Our next task must be to try to decide between the two.

The descriptive facts are complicated and confusing. Old High German generally has **-ē₂-* (*hialt*), while Old Saxon and Old Norse mostly have **-ĕ-* (OS *held*, ON *helt*). Old English substitutes **-eu-* in the majority of cases (*hēold*), but not in *fōn* 'take' or *hōn* 'hang', where there is (late) evidence for both quantities (*fēng*, *hĕng*; cf. Sievers-Brunner 1965: 307). There are also long-vowel forms in later varieties of Norse and Low German, and short-vowel forms in Old High German (*kenc*, *infenc*, *arhenc*; cf. § 10).[60] A valuable discussion of the whole range of data is provided by Fulk (1987: 169-72), whose object, in keeping with his contraction-based theory of class VII, is to argue for the priority of the long-vowel forms. Fulk is right to point out that short vowels, where we find them, are often explainable by late tautosyllabic shortening rules; this is a clear possibility in Old Norse, though not so obviously in Old High German. He fails, however, to appreciate the extent to which long-vowel forms can be unoriginal as well – borrowed from the types **haitan* : **hē₂t* and **lētan* (NWGmc. **lātan*) : **lē₂t*, where **-ē₂-* was part of the system from the outset (see below). It is striking to realize that even the familiar OE *heht*, with its clear etymological short vowel, had *-ē-* by the end of the Old English period (Campbell 1959: 306).[61]

It would take a dissertation-length treatment to sort through all the forms, in all the languages and dialects, that might in principle be

[60] The situation in Old Frisian is ambiguous; van Helten (1890: 18, 46) assumes shortened **-ē₂-*.

[61] Campbell's assertion that the long vowel of ME *hēht* is due specifically to contamination with the class VII form *hēt* is overly narrow. The source was the *-ē-* of *all* the preterites with this vowel.

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brought to bear on the question of whether the original class VII form was **hĕld* or **hē₂ld*. From the point of view of the data, both reconstructions are probably defensible, though the evidence of OHG *kenc*, etc., in my view, distinctly favors the short vowel. While **hē₂ld* has been the more usual assumption over the years, this has had more to do with the "*ĕ₂*-centeredness" of the research tradition than with any actual merits of the long vowel choice over the short. In any case, since the philological evidence falls short of being absolutely dispositive, the decision must be made according to which form, **hĕld* or **hē₂ld*, makes better sense within the context of an overall solution to the class VII problem. And by this criterion, for reasons we have now begun to discover, the answer is unequivocally **hĕld*.

§ 29. The events chronicled in § 27, by which the reduplicated preterite **hegald* : **heg..ldun* (and, of course, **febanh* : **feb..ngun*, **feball* : **feb..llun*, etc.) became first **hegald* : **heldun* (**febanh* : **fengun*, **feball* : **fellun*) and then simply **held* : **heldun* (**feng* : **fengun*,[62] **fell* : **fellun*), were in a very real sense the birth of class VII. With the creation of the preterite type **held(un)*, the principle was established that ablaut – specifically, ablaut of **-a-* to **-e-* – could be used as a substitute for reduplication in the formation of preterite stems. In the case of roots of the structure **CaRC-* (including **CaRR-* as a special case), the new mode of forming the preterite completely replaced the old within the Northwest Germanic period; this is why there are no reduplicated relic forms from such roots. But this was only the beginning. The "secession," so to speak, of the type **haldan* : **hegald* from the reduplicating class had the effect of isolating and marginalizing the remaining reduplicated preterites – those built to roots in **-ai-*, **-au-*, **-ē-*, and **-ō-*. The result was the extension of the new **a* : **e* ablaut pattern, incompletely at first, to the other root structures. The results will be surveyed in the sections that follow.

§ 30. The most straightforward of the "secondary" class VII verbs are those with roots in **-au-*, e.g., **hlaupan* : *hleup(un)*, **stautan* : *steut(un)*. The **au* : **eu* ablaut pattern in these forms was a simple extension of the **a* : **e* pattern – an extension made possible by the fact that the diphthongs **eu* and **au* were still synchronically analyzed as

[62] It may be noted that the absence of *grammatischer Wechsel* between singular and plural in the preterites **feng* : **fengum* and **heng* : **hengum* is predicted under our emerging theory, which explains the preterite singular stem forms of verbs of the structure **CaRC-* as out-and-out transfers from the plural.

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sequences of **e* + *u* and **a* + *u* in early Germanic. Unlike verbs of the structure **CaRC-*, however, the **hlaupan* type did not complete the shift from reduplication to ablaut within the common period. OE *beoft* and OHG *steroz* and *-screrot* show that at least **bautan*, **stautan*, and **skraudan* retained reduplicated byforms in some of the dialects; it is safe to assume that this was true of other verbs as well. It would be a reasonable inference that the creation of the **au* : **eu* ablaut pattern was an innovation of Northwest Germanic, fully implemented, perhaps, in some initial group of lexical items; but that by the time the pattern was fully productive the dialects had begun to diverge, making possible the survival of individual reduplicated forms as archaisms.

The claim is sometimes made that the **-eu-* of the preterites **hleup*, **steut*, etc. was phonologically distinct from the familiar diphthong **eu* (commonly notated **eo*) of, e.g., class II strong verbs like **beudan* 'offer'. Thus, Fulk (1987: 166) calls it "almost certainly an oversimplification" to identify the two *eu*'s. He cites two allegedly complicating facts brought up by Connolly (1979: 13): first, that in Old High German, the *-io-* of class VII preterites fails to raise to *-iu-* before high vowels, unlike the "normal" *-io-* of class II strong presents (*(h)liof*, pl. *(h)liofun* vs. *biotan*, 1 sg. *biutu*); and second, that in Old Norse, the class VII preterites of verbs in *-au-* invariably have *-jó-*, while "normal" **eu* gives *jó* before coronals but *jú* before labials and velars (*hlaupa*, pret. *hljóp*, but class II *drjúpa* 'drip'). These are not serious problems. The similarity of the two cases is suspicious: neither Old High German nor Old Norse shows a distinctive reflex of the supposedly "different" **eu*, but simply a failure of the normal reflex to undergo a low-level phonological process in a morphologically charged environment. We have seen this sort of thing before – in Gothic, where the reduplication vowel is *-ai-* [ɛ] before all consonants, not just **r*, **h*, and *h*; and in Old English, where breaking of *-e-* to *-eo-* is regular in three forms (*reord*, *-dreord*, *leort*) and irregular in three others (*leolc*, *beoft*, *speoft*). While these latter examples, strictly speaking, involve overapplication rather than underapplication of a rule, the principle is the same: when a new morphological process is created, or an old one refurbished, a very high premium is placed on surface transparency and uniformity. The reason the preterite plural of OHG *(h)loufan* is *(h)liofun* and not **(h)liufun*[63] is not that the *-io-* of the preterite singular *(h)liof* was incapable of being raised before *-u-*, but that the analogical pressure of the singular forms

[63] It *is liufun*, of course, in Upper German, where both the old and new varieties of WGmc. **eu* appear as *iu* before labials and velars.

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caused raising to be resisted, or rapidly reversed, in the plural.[64] So too in Old Norse: while the chronological details are open to discussion, the real explanation for why we find *-jó-* rather than **-jú-* in *hljóp* 'ran' and *jók* 'increased' – and only in these two forms, it should be noted – is that *-jó-* was the preterite vocalism of the common verbs *hǫggva* : *hjó* 'hew' and *búa* : *bjó* 'dwell' (see further note 74), as well as of *ausa* : *jós* 'pour'. The basis for claiming a "special" diphthong in NWGmc. **hleup*, **steut*, etc. appears to include a substantial component of wishful thinking.[65]

§ 31. Our emerging picture has much in common with van Coetsem's conception of the class VII preterite vocalism as a "neo-*e*-grade" substitute for **-a-*. Van Coetsem's theory was fatally undercut by his inability to explain the origin of the **a* : **e* ablaut pattern or to show how his postulated neo-$\bar{e}$-grade diphthong **ei* could have yielded **$\bar{e}_2$* rather than **$\bar{\imath}$*. In § 27, however, we found a solution to the first problem – one that exploited the process of "compression" to generate plural forms of the type **heldun*, **fengun*, etc., from which **-e-* was generalized to the singular. It is time now to turn to the problem of the preterite vocalism **-$\bar{e}_2$-*.

The idea that **$\bar{e}_2$* must go back to some kind of *ei*-diphthong has been common currency since the early days of Germanic philology. The PIE long diphthong **$\bar{e}i$* was the usual choice of the Neogrammarians, not

[64] Cf. Braune-Reiffenstein (50), where attention is called to the similar failure of *io* to become *iu* in declensional forms like dat. sg. *diotu* beside nom. acc. gen. *diota* 'people'.

[65] I will have to leave it to others to evaluate the significance of the fact, reported by Fulk (166) on the basis of van Helten (1896: 446), that Old West Frisian has *iō* in these forms rather than the expected *iā* or *iē*. On the face of it, it does not seem likely that the only substantive evidence for a fine phonetic distinction, not otherwise directly documented, between two *eu*-diphthongs would come from one dialect of a language contemporary with Middle English.

Fueling much of the contemporary discussion over the identity or non-identity of the diphthongs in **hleup* and **beudan* is the view that the ultimate model for **hleup* was a disyllabic form similar to Gothic *aiauk*. But it is not at all clear that such forms ever existed in Proto-Germanic. Gothic is the *only* IE language in which the perfect stems of "vowel-initial" (= usually laryngeal-initial) roots are disyllabic; the other early IE languages all show contraction in such cases (cf., e.g., Ved. perf. 1, 3 sg. *ā́ja* (: *aj-* 'drive'), Gk. ἦχα (: ἄγω 'id.'), ηὔξημαι (: αὐξάνομαι 'increase')). While Gothic *could* simply be more conservative than Sanskrit and Greek in this respect, it is much likelier that *aiauk* and *aiaik* are remodelings, formed by mechanically reduplicating the zero-initial roots *Øauk-* and *Øaik-* as *ØaiØauk-* (*aiauk-*) and *ØaiØaik-* (*aiaik-*), respectively, in the productive Gothic manner. The "real" Proto-Germanic reduplicated preterites of these verbs would then have been the contraction products of **eauk-* and **eaik-*, presumably **ēuk-* (**āuk-*?) and **ēik-* (**āik-*?). Whatever the subsequent treatment of these sequences – on which see below – they would not have been disyllabic.

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because of any significant evidence for the added mora of length, but because "short" **ei* was known to give **ī*. The canonical expression of this point of view was the Brugmann-Wood theory (§ 8); later accounts often assumed **ēi* as well. Van Coetsem opted for short **ei*, positing a structurally reasonable but factually unsupported lowering of **ei* to **ee* (= **ē$_2$*) before low vowels. What seems never to have been considered, by van Coetsem or anyone else in the mainstream tradition, is the possibility of a "second-generation" **ei* – a diphthong created later than the change of the old (PIE) **ei* to **ī*, but early enough to have **ē$_2$* as its reflex in Northwest Germanic.[66] This is the approach that will be taken here. The time span between the Proto-Germanic change of **ei* to **ī* and the breakup of Northwest Germanic was very considerable – easily long enough to accommodate the introduction and subsequent monophthongization of a new diphthong. We will therefore assume that in tandem with the creation of the neo-*e*-grade preterite **hleup* to **hlaupan*, a neo-*e*-grade **heit* was created to **haitan*. The transparent parallelism of **hleup* and **heit* was later obscured by the monophthongization of **heit* to **hē$_2$t*.

A few questions naturally arise in connection with this scenario. Is it legitimate to assume the creation of a new diphthong – in this case **ei* – solely out of *Systemzwang*? The short answer is yes: the creation of a diphthong is not the creation of a new phoneme, but simply the introduction of a new set of phonotactic arrangements. Such developments are perfectly common; the case of the Gothic reduplication vowel comes again to mind. The longer answer, however, is that we do not in fact *know* that the diphthong **ei* was new in the Northwest Germanic system at the time of the creation of **heit*. PIE "short" **ei* had already become **ī* in Northwest Germanic, but the fate of earlier **ēi*, both the PIE long diphthong and the theoretically possible contraction product (e.g., in reduplicated **eaik*, etc.; cf. § 10 and note 65) is unknown. We have rejected the possibility of a long diphthong, either original or contracted, as the source of the preterite vocalism of NWGmc. **hē$_2$t* or **held*. It is entirely possible, however, that a few forms with an etymological long diphthong may have found their way into the Northwest Germanic lexicon via other channels. Inherited **-ēiC-* sequences might have been expected on general grounds to undergo the same shortening ("Osthoff's Law") as other sequences of the type **-V̄RC-*, falling together with **-ĕiC-* and eventually giving **-īC-*. But it is also conceivable that the

[66] I speak of the "mainstream tradition" here because the idea is in fact broached – tentatively, to be sure – by Sacks (*op. cit.*, 248, with footnote).

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Osthoff shortening of **ēi* would have produced a distinct diphthong **ęi*, which remained separate from "normal" **ei* and was phonologized as /ei/ after the passage of **ei* to **ī*. If so, the phonological system of Northwest Germanic would have included a diphthong **ei* before the creation of **heit* – a fact of potential significance for the more general problem of the origin of **ē$_2$*.[67]

§ 32. We come next to the case of verbs with roots in **-ē-* and preterites in **-ē$_2$-* – the type **lētan* : **lē$_2$t(un)*, **slēpan* : **slē$_2$p(un)*, etc. or, in Northwest Germanic phonetic terms, **lātan* : **lēt(un)*, **slāpan* : **slēp(un)*. The phonetic restatement is important, for once we recall the change of PGmc. **ē* ("**ē$_i$*") to NWGmc. **ā*, it is obvious that the **ā* : **ē* ablaut pattern in this type is simply the "long" version of the **a* : **e* pattern in **hald* : **held*, **hlaup* : **hleup*, and **hait* : **heit* > **hē$_2$t*. Assuming, as we almost certainly may, that the vowel **ē$_2$* was already part of the phonological system of Proto-Germanic or early Northwest Germanic, the proportion would have been

pres. **haldan* : pret. **held(un)*, etc. :: pres. **lātan* : pret. *X*,

where *X* was solved as **lēt(un)*, i.e., **lē$_2$t(un)*.[68]

§ 33. The last and most difficult major group of class VII verbs is the type with the root vowel **-ō-*. Here, for the first and only time, the North and West Germanic facts do not agree. In Old Norse, the one case of a strong verb with *ō*-vocalism is *blóta*, pret. *blét*, while in West Germanic, where the examples are much more numerous, the preterite vocalism is **-eu-* (cf. § 7). The **ō* : **eu* pattern, as both the more robust and the more obviously in need of an explanation, has the first claim to our attention.

[67] These remarks are offered in a spirit of total agnosticism; no general theory of **ē$_2$* is even tentatively advocated here. The reason to believe that the shortened reflex of tautosyllabic **ēi might* have had a more open first component than the old "short" **ei* is simply that PGmc **ē* (i.e., "**ē$_i$*") was itself relatively open. Whether such a shortened diphthong, if it existed, was identical with the **-ei-* of **heit*, and whether it too yielded **ē$_2$*, are completely separate issues.

[68] The equations Go. *her* = ON *hér*, OHG *hiar* 'here', etc. and Go. *fera* = OHG *fiara* 'side' make it practically impossible, in my view, to doubt the Proto-Germanic status of **ē$_2$*. In the extremely unlikely event that there was *no* phonetic **ē* in Northwest Germanic until after the monophthongization of **heit* to **hē$_2$t*, the creation of **lē$_2$t(un)*, etc. could be stipulated to postdate this change.

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There is no easy proportional way to generate the preterite **bleut*; at best, one might wonder whether the rounded root vowel of **blōtan* could have led to an inexact identification with the type **hlaupan*, pret. **hleup*, where the nucleus of the root – a diphthong, in this case – was also rounded. But it is much easier to believe that such an identification could have contributed to the *generalization* of the **blōtan* : **bleut* pattern than that the pattern originated in this way. The actual locus of **ō* : **eu* ablaut, I would suggest, was the nucleus of four verbs in which the **-ō-* was preceded by a **w-*: **wōpjan* 'weep' (Go. *wopjan* (weak), OHG *wuofan*, OS *wōpian*, OE *wēpan*), **hwōpan* 'boast' (Go. *ƕopan*, OE *hwōpan*), **hwōsan* 'cough' (OE *hwōsan*), and **swōgan* 'sound' (OE *swōgan*). In these forms the diphthong **-eu-* would have arisen through the regular workings of the new cluster rule and compression. The case of **wōpjan* was already discussed by Sacks (*op. cit.*, 244), who noted that if the full reduplicated form of this verb was *wewōp-*, then its compressed form would have been **we-wp-*, i.e., **weup-* (cf. OHG *wiof*, OS *wiop*, *OE wēop*). By the same token, the full reduplicated stems of **hwōpan* and **hwōsan* would originally have been **h^{w}eg^{w}ōp-*, **h^{w}eg^{w}ōs-*, whence **hwewōp-*, **hwewōs-* and, with compression, **hwe-wp-* (= **hweup-*; cf. OE *hwēop*), **hwe-ws-* (= **hweus-*; cf. OE *hwēos*). **swōgan* belongs here as well, since the cluster **sw-* is known to have reduplicated as **swe-w-* in Northwest Germanic (**swewōg-* > compressed **swe-wg-* > OE *swēog-*; see below).[69] Starting from **wōpjan* : **weup*, **hwōpan* : **hweup*, **hwōsan* : **hweus*, and **swōgan* : **sweug*, the pattern of forming preterites in **-eu-* to presents in **-ō-* became general in West Germanic, spreading first to the half dozen or so remaining verbs with roots of the structure **C(R)ōC-* and thence to the verba pura in **-ō-* (cf. § 35). None of these developments took place in Old Norse, where **wōpjan* and its congeners failed to propagate the **ō* : **eu* ablaut pattern and were eventually lost. *blóta*, the sole surviving reduplicating verb with a root in **-ō-* followed by a consonant, had a

[69] Since **sC-* clusters reduplicated as **sC...z-* and **sR-* clusters reduplicated as **sR...z-* in Northwest Germanic, it might have been expected that **sw-* would rather reduplicate as **sw...z-*. It is never easy, however, to know how far to trust such intuitions; glides, under the new cluster rule, need not have been treated in the same way as obstruents, nasals and liquids. It is also conceivable that **sw- did* originally reduplicate as **sw...z-*, but that **sw...z-* was later replaced by **sw...w-* under the influence of the reduplication pattern of the verbs in **hw-* (: **hw...w-*). Note that OE *wēop*, *hwēop*, *hwēos*, and *swēog* emerge under this account as reduplicated forms of exactly the same type as *heht*, *leort*, etc.

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preterite in **-ē-* (*blét*), created on the informal model of the phonotactically similar *láta* : *lét*, *ráða* : *réð*, etc.[70]

§ 34. The correctness of this account of the **ō* : **eu* ablaut pattern is confirmed by the irregular behavior of the verb **swaipan* 'sweep' (ON *sveipa*, OS *swēpan*, OE *swāpan*). With its root-internal **-ai-*, this verb ought to have formed a preterite in **-ē$_2$-* in Northwest Germanic, and such a form is actually attested in OS *for-swēp*. Old Norse and Old English, however, depart from the expected pattern: Old Norse has pret. sg. *sveip*, pl. *svipu* (contrasting with *heita* : pret. *hét(u)*), and Old English has *swēop(on)* (contrasting with *hātan* : *hēt(on)*). Appearances notwithstanding, these forms are closely related. OE *swēop* is exactly like *swēog*: the Northwest Germanic reduplicated preterite was **swe-w(a)ip-*, which by compression gave **swe-wp* > **sweup*. Such a form was inherited into North Germanic as well. Phonetically, however, the sequence **sweup* presented the speaker-hearer with three labial segments in rapid succession – the **-w-* of the initial cluster, the offglide **-w-* of the diphthong **-eu-*, and the root-final **-p-*. Unsurprisingly, there was dissimilation, the effect of which was to unround the internal diphthong from **-eu-* to **-ei-*.[71] An almost identical process is well known to students of Greek comparative grammar, where a classic morphological equation links the aorist (ϝ)ειπε/o- 'say' to the Vedic reduplicated aorist *vóca-* 'id.' < **we-uk^{w}-e/o-*. The Greek and Vedic forms are exactly cognate; the diphthong **-eu-* was dissimilated to **-ei-* in Greek in the presence of the flanking labials **w-* and **-k^{w}-*. The *-ei-* of the Old Norse preterite *sveip* thus turns out to have nothing to do, historically speaking, with the *-ei-* of the present *sveipa* < **swaipan*. Naturally, this did not prevent an analogical preterite plural *svipum*, *-uð*, *-u* from being created to *sveip* on the model of class I (*bíta* : *beit* : *bitum* : *bitinn*, etc.).

§ 35. The reduplicating verbs in **-ō-* include a substantial number of verba pura. That the verba pura originally had reduplicated preterites is clear from Gothic (*saian* : *saiso*, etc.) and Old Norse (*sá* : *sera*, *róa* : *rera*, etc.). Much of the tangible evidence for these forms, however, has been lost. Thus, in Old Norse the verba pura are all weak apart from the special case of *búa*, pret. *bjó* and the familiar handful of verbs with

[70] In the particular case of **blōtan*, there is thus no reason to consider the North Germanic preterite **blēt* any "younger" or less original than WGmc. **bleut*. Contrary to the usual opinion, the opposite is probably the case.

[71] This new *ei*, of course, was a purely Scandinavian development, which fell together with the *ei* that resulted from Primitive Norse *ai*.

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preterites in *-ra*. The same is true in Old High German (cf. Matzel 1987), again with the exception of *būan* and its almost unrecognizable reduplicated preterite *biruun* (for **bibū-*; cf. § 6). Old Saxon, with a single exception (see below), has weak verba pura as well. The only language where the verba pura had a fully "normal" development, becoming and remaining class VII strong verbs, is Old English. The Old English verba pura with *ō*-vocalism are *blōwan* 'bloom', *grōwan* 'grow', *hlōwan* 'low', *rōwan* 'row', *snōwan* 'hasten', and *spōwan* 'succeed', with preterites *blēow*, *grēow*, *hlēow*, *rēow*, *snēow*, and *spēow*. The **ō* : **eu* alternation in these forms is the same as in *blōtan* : *blēot*, etc.; the non-organic *-w-* that follows the root is an English (probably Anglo-Frisian) innovation. Descriptively, *flōwan* 'flow' can be included here as well, although the **-w-* in this case was probably etymologically part of the root (**pleu-*).[72]

We can now spell out the history of these forms. When the **ō* : **eu* ablaut pattern was generalized in West Germanic, it also spread to the verba pura in **-ō-*. A verb like **blōan* (< pre-Gmc. **-jan*) thus acquired a preterite **bleu*, with a plural whose underlying form would have been /bleu-un/. This sequence could have been realized in several ways. Two obvious possibilities were **ble.wun*, with the second element of the diphthong transferred to the following syllable, and **bleu.wun*, with retention of the diphthong in the first syllable and the development of an automatic glide between the **-eu-* of the root and the **-u-* of the ending. The latter reading, supported by the model of **heu*, pl. **heuwun* (: **hauwan*) and (probably) **fleu*, pl. **fleuwun* (: **flōwan*), was apparently the one chosen. **bleuwun* gave OE *blēowon* (cf. *flēowon*, *hēowon*, etc.), and the *-w-*, reinterpreted as a constituent of the root, was extended to the preterite singular (*blēow*) and the present (*blōwan*).

§ 36. In theory, the parallel Old English verba pura with West Germanic *ā*-vocalism – *blāwan* 'blow', *cnāwan* 'know', *crāwan* 'crow', *māwan* 'mow', *ge-rāwan* 'divide', *sāwan* 'sow', *þrāwan* 'twist', and *wāwan* 'blow' – ought to have acquired preterites in **-ē-*, copying the ablaut pattern of WGmc. **lātan* : **lēt*. The forms that we actually find, however, are not **blē*, **cnē*, etc., with plurals /blē-un/, /knē-un/, etc., but *blēow(on)*, *cnēow(on)*, etc., exactly as in the verba pura with

[72] Otherwise LIV (485), which sets up a root **pleh₃-* following Harðarson (1993: 183). *flōwan* is exactly cognate with Gk. πλώω 'swim'; the common preform, in my view (cf. Jasanoff 2003: 224), was a lengthened-grade "*molō*-present" **plōw-(e/o-)*, correlated with the Narten present seen in Toch. B 3 sg. subj. *plyewäṃ* (< **plēw-*) 'will float'.

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ō-vocalism.[73] The "*blōwan*-type" and "*blāwan*-type" verba pura, as we shall call them, merged in the preterite – a development that could have taken place in several possible ways:

1) /blē-un/ (*blāwan*-type) was realized as **blēwun*, with a hiatus-breaking **-w-* (possibly phonetic, possibly borrowed from the *blōwan*-type) that subsequently spread to the singular (**blēw*) and the present (*blāwan*), exactly as in the *blōwan*-type. Later, **-eu-* was generalized as the preterite vocalism from the *blōwan*-type to the *blāwan*-type, leading to the replacement of **blēw(un)* by **bleuw(un)* > *blēow(on)*.

2) the replacement of **-ē-* by **-eu-* was the first, not the last step in the partial merger of the two types; the preterite **blē*, pl. /blē-un/ (*blāwan*-type) was remade to **bleu*, pl. **bleuwun* without an intermediate stage **blēw(un)*. **-w-* then spread to the singular and the present, as in the *blōwan*-type.

3) /blē-un/ (*blāwan*-type) was initially *contracted* to **bleun*; the new contracted form, under the influence of the *blōwan*-type plurals in **-euwun*, was interpreted as a fast-speech variant and hypercorrected to disyllabic **bleuwun*. The stem-form **bleuw-*, with its adventitious **-w-*, then spread as in the *blōwan*-type.

It is not clear whether a choice can be made from among these scenarios. The first, unlike the other two, predicts the existence of intermediate forms of the type *blēw(on)*. A few such forms seem in fact to be attested, notably early West Saxon *cnēw* (cf. Campbell 1959: 319). But it is impossible to exclude the possibility that the *-ē-* here is simply a late analogical echo of the *-ē-* in the class VII type *hātan* : *hēt* (*ibid.*).

No discussion of verba pura in Old English can be complete without a mention of the Old Saxon hapax *obar-seu* 'sowed over, übersäte', the oldest and best example of a class VII preterite from a verbum purum outside Anglo-Frisian (the normal preterite of OS *sāian* is *sāida*, *-de*). Since the *-eu* of *obar-seu* can in principle represent either **-eu(w)* or **-ēw*, the form is compatible with all three of the above pre-Old English scenarios. Old English and Old Saxon differ, of course, in that Old Saxon never extended the *-w-* of the preterite forms to the present.[74]

[73] I here provisionally follow Sievers-Brunner (1965: 306), against d'Alquen (1997: 85), in treating the peculiar form *blefla*, corrected in the manuscript to *ge-bleou* 'blew', as a scribal error. If genuine, *blefla* (phonemically /blebla/) would have to be interpreted as a late "improvement" of **blela* < **blelō*.

[74] A later equivalent of OS *-seu* is found in MD *sieu*. For the use of **-w-* as a hiatus breaker outside the preterite in continental West Germanic, see the detailed survey by Thórhallsdóttir (1993: 103 ff., 114 ff.).

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§ 37. The final group of class VII preterites that call for comment are the Old English forms of the type *hēold*, *fēoll*, etc., with *-ēo-* for NWGmc. *-*ĕ*-. While repeated attempts have been made to generate the diphthong in these forms through some kind of early breaking or contraction, a more straightforward explanation is available. The class VII roots of the structure **CaRC-* in Old English fall into two groups – those ending in *-nn-* or a nasal cluster, and those ending in *-ll-* or an *l*-cluster. In the first group the facts are confused: *fōn* (< **fanhan*), pret. *feng* and *hōn* 'hang' (< **hanhan*), pret. *heng* show no sign of *-ēo-* in the preterite at all, while two of the three verbs that do have preterites in *-ēo-* (*gangan* 'go', pret. *gēong*; *bannan* 'summon', pret. *bēonn*; *spannan* 'span', pret. *spēonn*) also have variant preterite forms in *-a-* (*gang*, *geban*; cf. further *blandan* 'mix', pret. *ge-bland*). Whatever the source of these *-a-* variants, their existence fatally undercuts the historical credibility of *gēong*, *bēonn*, and *spēonn*.[75] In the second group of **CaRC-* roots – those ending in *-ll-* or an *l*-cluster – the *-ēo-* is more solidly established.[76] Here, however, it is a striking fact that three of the seven verbs of this type (*wealdan* 'rule', pret. *wēold*; *wealcan* 'roll', pret. *wēolc*; *weallan* 'boil', pret. *wēoll*) begin with *w-*. The situation recalls the case of **wōpjan* and its congeners (§§ 33-4), where the combination of reduplication and compression led to the emergence of diphthongal **weup-*, **sweup-*, etc. from reduplicated **we-w(ō)p-*, **swe-w(ai)p-*, etc. Precisely such a development can be assumed for *wealdan*, etc.: the compressed weak stems **we-w(a)ld-* (: **waldan*), **we-w(a)lk-* (: **walkan*), **we-w(a)ll-* (: **wallan*), were realized as **weuld-*, **weulk-*, **weull-*, respectively, which gave the attested forms. In Old English, *wealdan* and *weallan* imposed their pattern on the rhyming verbs *healdan*, *fealdan* 'fold', **ge-stealdan*[77] 'possess', and *feallan* 'fall'.[78] In the other languages the analogy operated in the reverse direction, and the forms in **-eu-* were eliminated.

The verb **būan* retained its reduplicated preterite **bebū* (3 pl. **bebŭn* or **bebŭun*?) in Northwest Germanic; this became **bibu*, whence *biru(un)* in Old High German. In Old Norse, as acutely observed by Haraldur Bernharðsson (p.c.), **bebū* [bebū] first became **bewu*, which in turn gave **beu* and *bjó* (Noreen 1923: 163, 171 f.).

[75] *blandan* also has a possible preterite *blend*; see Campbell (1959: 318). *gang* was apparently the regular preterite to the parallel class III strong verb **gingan* (cf. ON 3 sg. *gingr*); the underlying PIE present **ĝhongh-/*ĝhengh-* is discussed in Jasanoff (2003: 75).

[76] Despite an Anglian (Ru[1]) occurrence of *fellon* (quantity unknown) for *fēollon* 'fell'.

[77] Surmised on the strength of the comparative evidence and the preterite *-stēold*.

[78] Also drawn into the type, no doubt on account of its initial *wea-*, was *weaxan* 'grow', pret. *wēox* (for "correct" class VI **wōx*).

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§ 38. It is time to summarize. If the approach outlined here is correct, the solution to the class VII problem involves no new ingredients, so to speak, but only a new way of combining them. The essential steps in our "recipe" are the following:

I. Common Northwest Germanic developments

1. *New cluster rule*. Reduplication was restructured in such a way as to preserve root-initial clusters in word-initial position, with cluster reduction word-internally. Exx.: **grerō̃*, **blelōt*, **stezaut*, **swewōg*.

2. *Compression*. Taking their lead from the pattern inherited in **lelōt* : **leltun*, all reduplicated preterites underwent morphological syncope in the plural. Exx.: **hegait* : **hehtun*, **bebaut* : **beftun*, **swewōg* : **sweugun*, **wewald* : **weuldun*.

3. *Creation of* *a : *e *ablaut*. In roots of the structure **CaRC-*, compression produced phonotactically impossible clusters when the initial consonant was an obstruent. Exx.: **hegald* : ***hegldun*, **febanh* : ***febngum*.

In such cases

a) the clusters were simplified by deletion of the initial obstruent. Exx.: **hegald* : **heldun*, **febanh* : **fengum*.

b) the new plural stem, which no longer appeared to be synchronically reduplicated, was extended to the singular. Exx.: **held* (for **hegald*) : **heldun*, **feng* (for **febanh*) : **fengum*.

4. *Extension of* *a : *e *ablaut*. The pattern **haldan* (pres.) : **held* (pret.) was extended, partly on a word by word basis, to other root structures. Specifically,

a) the type **hlaupan* : **hlelaup* : **hlelpun* was replaced by **hlaupan* : **hleup(un)*.

b) the type **haitan* : **hegait* : **hehtun* was replaced by **haitan* : **heit(un)*. **ei* subsequently became **ē* (= **ē$_2$*).

c) the type **lātan* : **lelōt* : **leltun* was replaced by **lātan* : **lēt(un)* (**ē* = **ē$_2$*).

d) in loose imitation of c), the type **blōtan* : **blelōt* : **bleltun* was replaced by **blōtan* : **blēt(un)* [or purely North Germanic?].

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II. Post-Northwest Germanic developments

1. *Extension of* *ō : *eu *ablaut pattern* [West Germanic]. Starting from cases of the type **wōpjan* : **wewōp* (> **weup*) : **weupun* and **swōgan* : **swewōg* (> **sweug*) : **sweugun*, the **ō* : **eu* pattern spread to

a) other verbs with roots of the structure **C(R)ōC-*. Exx.: **blōtan* : **bleut(un)*, **hrōpan* : **hreup(un)*.

b) verba pura. Exx.: **blōan* : **bleu* : **bleu(w)un*, **grōan* : **greu* : **greu(w)un*.

2. *Replacement of* *-ĕ- *by* *-ē- [Old High German, inconsistently elsewhere]. *-ĕ- was supplanted by *-ē- in the preterite of verbs with roots of the structure **CaRC-*. Exx.: OHG *haltan* : *hialt*, *gangan* : *giang*.

3. *Replacement of* *-ĕ- *by* *-eu- [Old English]. The pattern **waldan* : **weuld*, proper to verbs in **w-*, was extended to other verbs with roots of the structure **CaRC-*. Exx.: OE *healdan* : *hēold*, *gangan* : *gēong*.

4. *Spread of* *-w- *in verba pura* [partly West Germanic or Ingvaeonic, partly Old English only]. The *-w- proper to the preterite of verba pura in WGmc. *-ō- (type **blōan* : **bleu* : **bleuwun*) was extended beyond its original sphere,

a) first to the preterite of verba pura in WGmc. *-ā-. Exx.: OE pret. *sēow(on)*, OS *obar-seu* (: WGmc. **sāan* < **sē(j)an*);

b) later, to the present of verba pura of both types: Exx.: OE *blōwan*, *blāwan*, *sāwan*.

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