

A Linguistic History of English

Volume II The Development of Old English

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The Development of Old English

DON RINGE AND ANN TAYLOR

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Abbreviations

Grammatical terms:

A	adjective (ch. 8)	masc.	masculine
acc.	accusative	N	noun
AcI	accusativus cum infinitivo (accusative and infinitive) construction	NEG	negative particle
adj.	adjective	neut.	neuter
AG	adjective-genitive (languages)	nom.	nominative
AP	adjective phrase	NP	noun phrase
APC	absolute participial clause	O	object
Aux	auxiliary verb	OS	object shift
C/comp	complementizer	OV	object-verb (order)
CLD	clitic left dislocation	P	preposition (ch. 8)
CP	complementizer phrase	pl.	plural
cpd.	compound	POSS DET	= DET POSS
D	determiner	PP	prepositional phrase
dat.	dative	PPTC	past participle (ch. 8)
deriv.	derivative	prep.	preposition
DET POSS	determiner possessive construction	pres.	present
DG	determiner genitive (languages)	pro	pronoun
DP	determiner phrase	PRO	null subject
e	unspecified empty element	PRO _{arb}	null subject with arbitrary reference
ECM	exceptional case marking construction	ptc.	participle
fem.	feminine	RC	relative clause
FRC	free relative clause	RE	resumptive element
gen.	genitive	RP	relative pronoun
HNPS	heavy NP shift	S/Subj	subject
HTLD	hanging topic left dislocation	SC	small clause
indic.	indicative	sg.	singular
inf.	infinitive	spec,XP	specifier of XP
inst.	instrumental	subj.	subjunctive
intr.	intransitive	t	trace
iptv.	imperative	T	tense
LD	left dislocation or left- dislocated phrase	TP	tense phrase
loc.	locative	V	verb
		Vf	finite verb
		VO	verb-object (order)
		VP	verb phrase
		VPR	verb projection raising
		V(P)R	verb (projection) raising
		VR	verb raising
		V ₁ / V ₂ / V ₃	verb first / verb second / verb third
		1, 2, 3	1st, 2nd, 3rd person
		∅	empty operator

Languages and dialects:

Angl.	Anglian
Arm.	Armenian
Av.	Avestan
Gk	Greek
Gmc	Germanic
Hitt.	Hittite
Kent.	Kentish
Lat.	Latin
Lith.	Lithuanian
ME	Middle English
Merc.	Mercian
MHG	Middle High German
ModE	Modern English
Myc.	Mycenaean Greek
North.	Northumbrian
NWGmc	Northwest Germanic
OCS	Old Church Slavonic
OE	Old English
OF	Old Frisian
OHG	Old High German
OIr.	Old Irish
ON	Old Norse
OS	Old Saxon
PCelt.	Proto-Celtic
PGmc	Proto-Germanic
PIE	Proto-Indo-European
PNWGmc	Proto-Northwest Germanic
PWGmc	Proto-West Germanic
Skt	Sanskrit
Toch.	Tocharian
WGmc	West Germanic
WS	West Saxon

Texts (see Mitchell et al. 1975):

<i>Andr</i>	<i>Andreas</i>
<i>BDS</i>	<i>Bede's Death Song</i>
<i>Bede</i>	<i>Bede, Ecclesiastical History</i>

<i>Beo</i>	<i>Beowulf</i>
<i>Cæd</i>	<i>Cædmon's Hymn</i>
<i>CorpGl</i>	<i>Corpus Glossary</i>
<i>CP</i>	<i>Cura Pastoralis</i>
<i>Dan</i>	<i>Daniel</i>
<i>Dream</i>	<i>Dream of the Rood</i>
<i>El</i>	<i>Elene</i>
<i>EpGl</i>	<i>Épinal Glossary</i>
<i>ErfGl</i>	<i>Erfurt Glossary</i>
<i>GenA</i>	<i>Genesis</i> , ll. 1–234, 852–2936
<i>GenB</i>	<i>Genesis</i> , ll. 235–851
<i>GuthB</i>	<i>Guthlac</i> , ll. 819–1379
<i>Jud</i>	<i>Judith</i>
<i>LdGl</i>	<i>Leiden Glossary</i>
<i>Li</i>	<i>Lindisfarne Gospel</i> glosses
<i>LibSc</i>	<i>Liber Scintillarum</i>
<i>LorGl</i>	<i>Lorica</i> glosses
<i>LRid</i>	<i>Leiden Riddle</i>
<i>Mald</i>	<i>Battle of Maldon</i>
<i>MCharm</i>	<i>Metrical Charms</i>
<i>Or</i>	<i>Orosius, History</i>
<i>PPs</i>	<i>Paris Psalter</i>
<i>Ps(A)</i>	<i>Vespasian Psalter</i> glosses
<i>Rid</i>	<i>Riddles</i>
<i>RitGl</i>	<i>Durham Ritual</i> glosses
<i>Ru¹</i>	<i>Rushworth Gospel</i> glosses (Mercian)
<i>Ru²</i>	<i>Rushworth Gospel</i> glosses (Northumbrian)
<i>RuthCr</i>	<i>Ruthwell Cross</i>
<i>Sat</i>	<i>Christ and Satan</i>
<i>Sea</i>	<i>Seafarer</i>
<i>Vain</i>	<i>Vainglory</i>
<i>Wan</i>	<i>Wanderer</i>
<i>YCOE</i>	<i>The York–Toronto– Helsinki Parsed Corpus of Old English Prose</i>

Forms from the early glossaries are cited by the line numbers in Sweet 1885. Charters are cited as “Ct.” with the number in Sweet 1885 (since Sweet’s collection includes only the early charters, which are relevant here).

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Other Conventions

Phonology and morphology chapters

Unshafted arrows < > indicate regular sound change; shafted arrows ← → indicate changes of other kinds, as well as synchronic derivational relationships. Use of both together indicates that both regular sound changes and changes of other types occurred between two cited stages of a word's development. The unshafted arrows are sometimes used alone when changes other than regular sound changes occurred but are irrelevant to the point at issue.

Attested forms are given in italics; prehistoric reconstructed forms are preceded by an asterisk. If both the asterisk and italics are used, the form cited happens not to be attested, but other forms of the same paradigm are attested, and the form cited can be constructed by regular rules with confidence.

Examples given to illustrate particular changes are often condensed; that is, not every reconstructable stage of development is given if not all are relevant to the point at issue. In such examples the meaning of each word cited is identical with that of its last cited ancestor—not with that of the last item to its left in the citation—unless stated otherwise. For instance, in the string

PGmc *h^werbaną ‘to turn’ (Goth. *hvaírban* ‘to wander’, ON *hverfa*) ...

the ON verb means ‘to turn’, not ‘to wander’, and in the string

PGmc *h^warbōną ‘to wander around’ (Goth. *hvarbon*, ON *hvarfa*) > PWGmc *hwarbōn > OE *hwearfian*, OS *hwarbon*, OHG *warbōn* ‘to dwell’

the meaning ‘to dwell’ belongs only to the OHG verb, not to any of the forms cited to its left.

Old English words are cited in normalized Early West Saxon form unless indicated otherwise. Old High German words are usually cited in normalized East Franconian form. Such a policy seems defensible in a book whose primary focus is language change rather than philology in the narrower sense.

Syntax chapters

Old English sentences are normally cited in the orthography of the manuscripts, without marks of length, palatalization, etc., since those are not relevant to syntax. Sentences and other strings preceded by an asterisk are ungrammatical.

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1

Introduction

The purpose of this volume is to outline the linguistic development of Old English (OE) phonology and morphology down to about AD 900 or so, and the development of OE syntax to the end of the OE period. This difference in periodization is dictated by the nature of the material at our disposal. OE phonology and morphology underwent significant changes—some of which are poorly recorded in the surviving documents but can be reconstructed with confidence from later sources—between about 900 and 1100. There is little difference in the syntax between early and late OE texts, however, apart from some fairly small changes in the frequency of different constructions, and it therefore makes sense to treat OE syntax as a whole in a single chapter.

Throughout the volume the focus will be on the West Saxon (WS) dialect, again because of the nature of the material. Most OE documents, including virtually all examples of connected prose except for some short charters, are written in WS. In the phonology and morphology chapters the emphasis will be on early West Saxon (EWS), as dictated by the intended temporal coverage of that part of the volume; however, details of the development of other attested dialects up to about the same time will also be discussed. In the chapter on syntax no effort is made to distinguish between the dialects because there are few (if any) significant syntactic differences between them. It will be seen that the late West Saxon (LWS) works of Ælfric have provided most of the syntactic examples, simply because copious amounts of his writing survive and his syntax is generally clear and straightforward. Especially in the phonology and morphology chapters, ‘OE’ in this volume means WS except when stated otherwise or when WS forms are explicitly adduced.

To a considerable extent the phonology and morphology chapters of this volume, like the whole of the preceding volume, deal with prehistory; the methods of traditional historical linguistics therefore continue to be appropriate. Experience seems to show that the application of modern theory contributes only modestly to our understanding of prehistoric sound change—though we have tried to make use of theoretical advances whenever they seem to offer new insight. Optimality Theory has not been used because it seems ill adapted to the description and

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analysis of contingent events and their effects, especially the numerous instances of phonological opacity that result from the relative chronology of sound changes; see McMahon 2000 for much useful discussion. Little or no attempt has been made to address the syntax of Proto-Germanic, let alone to reconstruct it. This is due not to doubts about the validity or desirability of the enterprise, but to lack of space; see Walkden 2009, 2012 for an encouraging take on this contentious issue.

Moving from the prehistory of Proto-Germanic to the immediate prehistory of Old English amounts to entering a different linguistic world. Whatever close relatives PGmc may have had have disappeared without leaving any descendants, so that one gets the impression of a long period of development in isolation from other Indo-European languages. By contrast, daughters of PGmc attested at an early date are fairly numerous, so that OE can be compared and contrasted with a number of other closely related languages which often illuminate and render intelligible even minor details of its development. The environment of scholarship is different as well. Comparative Germanic linguistics has been worked over so intensively by so many specialists for so long that getting the facts is seldom a problem, though the wealth of conflicting interpretations has to be sorted (and ruthlessly pruned, since in each case no more than one can be correct).

As we move from prehistory into the historical record of English, information of other kinds begins to be available. For the first time we have actual texts and can begin to explore the syntax of the language in detail. Right from the beginning of attestation the OE corpus is dialectally diverse, making conjectures (and occasionally definite statements) about the interrelation of OE dialects possible and fruitful. The course of some of the later sound changes can actually be followed in the earliest texts. The later chapters of this book reflect those evidentiary realities.

In fact, we have so much information about OE that there is a serious question of how much to include (and how many references to cite). The purpose of this book is to make widely available a large body of information detailed enough to be useful to linguists, but beyond a certain point the inclusion of further details would make the book harder to use rather than easier. We have tried to strike a reasonable balance, referring the reader to works by our predecessors for further information when that seemed advisable. This applies especially to the chapter on syntax. Covering the syntax of OE in the same detail as the phonology and morphology would require another volume of similar size (or even more than one). Many possible topics, therefore, are not included or are touched on rather lightly. The aim is to provide fairly wide coverage, with a focus on constructions that differ from those of Present-Day English (PDE) in interesting ways and (to some extent) those that have received the most attention in the recent literature.

Although every effort has been made to make the chapter on syntax as descriptive as possible, many of the important recent discoveries about OE syntax have been made against the background of relatively constrained syntactic theory, and in some areas it is only possible to make sense of the data within some such model. This is particularly true of clausal syntax; thus the sections that cover that topic tend to be more theoretically oriented. The theoretical approach is loosely generative, but as the focus is on accurate description, the more esoteric aspects of current theoretical architectures have been avoided. The evidence base is the York–Toronto–Helsinki Corpus of Old English Prose (YCOE; Taylor et al. 2003), from which all examples are taken.

Ann Taylor is the author of Chapter 8, on the syntactic development of Old English; the other chapters were written by Don Ringe. We have postponed discussion of derivational morphology and the OE lexicon to the following volume. That volume will trace the history of the language well down into the Middle English (ME) period. It has long been clear that the division between OE and ME is an artificial one, imposed by external factors that will be discussed in volume iii; and since the research of our predecessors has made it increasingly feasible to extrapolate across evidential gaps, it seems worth the attempt to adopt a different periodization.

1.1 The state of early Old English

1.1.1 *The system of surface-contrastive sounds*

Since early WS forms will be cited constantly in this volume in an orthography closely based on that of the original sources, I here give a brief description of the surface-contrastive sounds of the language (i.e., its ‘classical’ phonemes) using conventional spellings. For further information see especially Hogg 1992: 10–52 [2011: 10–51]. The early WS consonants can be tabulated as follows, with voiceless and voiced obstruents given in that order separated by a comma; all sonorants were voiced:

	nasals	oral stops	affricates	fricatives	nonnasal sonorants
bilabial	<i>m</i>	<i>p, b</i>			
labiodental				<i>f</i>	
dental				<i>þ</i>	
alveolar	<i>n</i>	<i>t, d</i>		<i>s</i>	<i>l</i>
postalveolar			<i>ç, (ç)ǵ</i>	<i>sc</i>	<i>r</i>
palatal					<i>ǵ</i>
velar		<i>c, (c)g</i>		<i>h, g</i>	
round velar					<i>w</i>

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The dots over some of these consonants are a modern device; they are not found in the original manuscripts, which spell postalveolars, palatals, and velars with the same set of symbols. There was an additional letter *ð*, used interchangeably with *þ*; *x* was often used in place of *cs*. Many of the contrastive consonants had definable allophones, as follows:

- n* was velar [ŋ] when immediately followed by a velar stop (see also below);
- the anterior fricatives *f*, *þ*, *s* were voiced [v, ð, z] in fully voiced environments when the immediately preceding syllable nucleus was stressed;¹
- the voiced affricate [dʒ] and the voiced velar stop [g] occurred only (1) after homorganic nasals, where they were spelled *g*, and (2) as geminates, which were usually spelled *cg*;
- sc* was probably geminate [ʃ:] intervocally, and perhaps word-finally, when the preceding vowel was short;
- h* was the glottal fricative [h] word-initially and the palatal fricative [ç] when preceded by a stressed front vowel; otherwise it was velar [x].

Since nonpalatal *cg* and the consonant cluster *sc* /sk/ are both rare, some discussions do not mark *çg* and *sc* with dots, and that is the convention that was adopted in vol. i. However, in a volume devoted to the separate development of OE it seems better to make the phonology as explicit as possible; therefore *çg* and *sc* will be marked consistently below. Readers should note that in vol. i all instances of *cg* are actually *çg* and all instances of *sc* are actually *sċ*, except *āscian* ‘to ask’.

Some ambiguities in spelling should be noted. The fricatives *g* [ɣ] and *ç* [j] could come to stand immediately following *n* by syncope of an intervening short vowel (see 6.7.3), and that makes the written sequences *ng* and *nç* ambiguous. For instance, *ng* is [ŋg] in *bringan* ‘to bring’ < PGmc *bringana because the consonants had always been in contact, but *ng* is [nɣ] in *syngian* ‘to sin’ < pre-OE *synⁿǣgōjan because the cluster arose by syncope. Similarly, *nç* is [ndʒ] in *mengan* ‘to mix’ < PWGmc *mangijan, but *nç* is [nj] in *mençu* ‘multitude’ ← < PGmc *managīn-. Fortunately the clusters that arose from syncope are rare. How one analyzes this pattern of facts depends on one’s theory of phonology; I know of no work that addresses this particular issue.

Between palatal consonants and back vowels (in that order) an *e* was often written; thus *þencan* ~ *þencean* ‘to think’ is /θentʃan/, *scacan* ~ *sceacan* ‘to

¹ It seems possible that such forms as *strengþu* ‘strength’, oblique *strengþe*, etc. were an exception, their *-þ-* being voiceless like the word-final *-þ* of the alternative nom. sg. *strengþ*, etc., but a clear contrast between voiceless and voiced anterior fricatives is hard to demonstrate. For the development of these and similar forms see 6.7.2, 6.7.3, and 6.8.1. By far the best discussion of this problem is Fulk 2001, 2002.

shake’ is /ʃakan/, etc. After word-initial /j/ followed by a back vowel that practice was universal. Thus *ġeāra* ‘long ago’ is /ja:ra/, *ġeōmor* ‘lamentation’ is /jo:mor/, *ġeoc* ‘yoke’ is /jok/; exceptionally, *ġeong~iung* ‘young’ is /jung/. On the other hand, *ġēar* ‘year’, *ġeolu* ‘yellow’, *ġeorne* ‘gladly’, etc. contain genuine diphthongs. The subsequent development of the words, and in most cases also the etymology, can be used to disambiguate the spellings.

The consonant systems of the other dialects do not seem significantly different (see e.g. Kuhn 1970).

The early WS vowels and diphthongs can be tabulated as follows, with short and long vowels given in that order separated by a comma:

	front		back		diphthongs (all front+back)	
	unround	round	unround	round	glide unround	glide round
high	<i>i, ī</i>	<i>y, ŷ</i>		<i>u, ū</i>	<i>ie, īe</i>	<i>io, īo</i>
mid	<i>e, ē</i>			<i>o, ō</i>		<i>eo, ēo</i>
low	<i>æ, ǣ</i>		<i>a, ā</i>	<i>a/o</i>	<i>ea, ēa</i>	

The macron, too, is a modern device not used by the scribes. The short vowel given as ‘*a/o*’ originally occurred only in stressed syllables before nasal consonants and was written both as *a* and as *o* by the scribes. It seems likely that the two spellings record genuine variation (see especially Toon 1983: 90–114), and it is possible that the variants overlapped phonetically with stable *a* and *o*, neither of which occurred before nasals in stressed syllables. On the other hand, the persistence of both spellings in *arn~orn* ‘((s)he) ran’, which developed from *rann~*ronn* by metathesis, seems to show that this was a potentially contrastive vowel, whatever its phonetics (Hogg 1992: 77 [2011: 75] with references). For further discussion see 5.1.2.

The short diphthongs *ea*, *eo*, *io*, *ie* have traditionally been accepted at face value, i.e. as diphthongs which occupy only one mora (exceptionally, from a crosslinguistic perspective). It has often been suggested that they cannot really have been diphthongs (see e.g. Daunt 1939, Stockwell and Barritt 1955), but that view has generally been rejected (see e.g. Kuhn and Quirk 1953, with references; Campbell 1962: 107–8, with references; and the extensive discussion of Hogg 1992: 16–24 [2011: 16–24] with many further references). The ostensible arguments against the diphthongal interpretation have been addressed by the authors cited. But the ultimate source of the objections to that interpretation, not always expressed, is the conviction that there cannot ever be such a thing as a ‘short diphthong’ (as Hogg 1992: 18 [2011: 18] observes). Yet there is no phonological reason why such segments should not exist. Consonants in which two successive feature bundles are linked to a single C-slot—i.e., affricates—are commonplace; vowels with the same

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configuration—i.e., short diphthongs—are much rarer, but phonological theory suggests that they should occur, and it appears from the decisions made by OE scribes that in OE they did occur. Moreover, metathesis of short vowels and *r* brought into contrast *ea* and *æ* and *a/o*, and likewise *eo* and *e*, before *r*, e.g.:

earn ‘eagle’ ≠ *ærn* ‘building’ ≠ *arn* ~ *orn* ‘(s)he ran’;
beorðor ‘childbirth’, *þeorf* ‘unleavened’, but *berstan* ‘to burst’, *þerscan* ‘to thresh’.

Thus the second graphic elements of the diphthongs can hardly be attempts to note a back or round quality of the following consonant.

In the Anglian dialects there were also front mid round vowels *æ* and *ǣ*; in early WS they had already merged with *e* and *ē* respectively. All the non-WS dialects have fewer diphthongs; most importantly, *ie* and *īe* seem to be contrastive only in early WS.

1.1.2 *Morphosyntactic categories and their morphological expression*

Number, singular or plural, is consistently marked on all nominals except the interrogative pronoun; number of the subject is consistently marked on finite verb forms. OE still has dual first- and second-person pronouns, but the corresponding verb forms for dual subjects have been lost; as expected, plural verb forms are used with dual pronoun subjects.

Verbs mark two tenses, ‘present’ (actually nonpast) and past (traditionally called ‘preterite’), and three moods, indicative, subjunctive, and imperative; imperatives are restricted to the present tense. Person of the subject is marked jointly with number, but only on singular indicative verb forms; person is not distinguished in the plural nor in the subjunctive, and imperatives are restricted to the second person. There is a present (active) infinitive, a present (active) participle, and a past (passive) participle. Passive verb forms are normally periphrastic, though a fossilized 3sg. *hätte* ‘is called’ survives; it is used also for the 1sg., and a pl. *hätton* ‘are called’ has been formed to it (as well as, probably, a 2sg. *hättest*, attested once in *MCharm* 2.3). Periphrastic perfect and pluperfect tenses are also used.

Nouns are assigned to three concord classes, or ‘genders’, on a largely arbitrary basis. Nearly all nominals except (often) the numerals above ‘three’ are marked for number and case; all nominals other than nouns, the first- and second-person pronouns, and the numerals above ‘three’ are also marked for gender. Most adjectives have two complete paradigms, traditionally called ‘strong’ and ‘weak’, whose distribution is almost completely determined by the syntax. The vocative case has been lost, but the instrumental is still

productive in early OE, though it is marked differently from the dative only in the masc. and neut. sg. of strong adjectives and demonstratives. All nominals except the first- and second-person pronouns exhibit syncretism of the nom. pl. and acc. pl.; all neuter nominals also exhibit syncretism of the nom. sg. and acc. sg. All nominals that distinguish gender exhibit gender syncretism in the oblique cases of the plural; the third-person pronoun and the demonstratives exhibit gender syncretism also in the nom.-acc. pl. The interrogative pronoun occurs only in the singular and exhibits syncretism of the feminine gender with the masculine.

Adjectives and many adverbs typically have comparative and superlative forms. There is no distinctive third-person reflexive pronoun in OE; the unmarked third-person pronoun is used in reflexive function as well, rendering many clauses ambiguous.

Case of objects is assigned by governing verbs and prepositions; the number of verbs that govern specific cases lexically is comparatively large.

1.2 Attestation of the dialects of OE

The attestation of OE dialects is very uneven (see e.g. Hogg 1992: 1–9 [2011: 1–9] with references). The vast bulk of the material is West Saxon (WS), the dialect of the southwest, or has been recopied by WS scribes in superficially WS form. In particular, almost all literary OE prose is WS, and most of the poetry, though clearly written in an Anglian dialect or dialects (see below), has been transcribed into (late) WS—though a considerable number of Anglian forms, especially those which differ metrically from the corresponding WS forms, escaped alteration in the process. Of course there must have been significant dialect differences within the WS area, but they can no longer be recovered from the surviving material.

Kentish, the southeastern dialect, is known from charters and glosses.

Mercian, the dialect of the midlands, must have been even more diverse internally than WS, but we have material from only two or three areas. The earliest glossaries are Mercian, but their provenance is almost impossible to determine; there are also some Mercian charters and a short prayer. The glosses to the *Vespasian Psalter* (*Ps(A)*) are almost certainly southwestern Mercian, since their dialect is more or less ancestral to that of the Middle English ‘Katherine group’ (d’Ardenne 1936: 179ff.). But Mildred Budny has demonstrated that the scribe of *Ps(A)* was also the principal scribe of a richly decorated bible produced at Canterbury in the first half of the 9th century (Budny 1984: 633–7, 643–5, 777–80); the glosses to *Ps(A)* must have been produced in the same period, probably also at Canterbury, where at least one

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very accomplished Mercian scribe seems to have lived and worked. Given the links between the Mercian royal house and Canterbury, that is not necessarily surprising, as Budny notes. The northern Mercian of the late 10th century preserved in the glosses to part of the *Rushworth Gospels* is somewhat different.

Northumbrian documents are either very early or relatively late. From the 8th c. we have some short poems and a great wealth of proper names; then there is nothing until the glosses to the *Lindisfarne Gospels*, part of the *Rushworth Gospels*, and the *Durham Ritual*, all from the second half of the 10th century.

The dialect of Essex is known from names in a few early charters; that of East Anglia from a few late charters, all from Suffolk; from Surrey we have a charter and one short inscription in a book. The dialects of Lindsey (later Lincolnshire), Norfolk, and most of the midlands are completely unrecorded in the OE period.

Northumbrian, Mercian, and East Anglian share a number of features and are grouped together as ‘Anglian’ dialects on that basis.

1.3 Early OE documents

The surviving documentation of OE before the middle of the 10th century is modest, but it can be supplemented with various later materials for various purposes. I list the most important early texts here, giving the abbreviations for each used by specialists (see Mitchell, Ball, and Cameron 1975).

The earliest substantial OE document that survives in anything like its original form is a Latin–OE glossary, Mercian in dialect, known from three 8th- and 9th-century copies which often preserve much older spellings. The copies are known as the *Corpus Glosses* (*CorpGl*), the *Épinal Glosses* (*EpGl*), and the *Erfurt Glosses* (*ErfGl*). A number of short Northumbrian poems from the 8th century also survive, notably *Bede’s Death Song* (*BDS*) and *Cædmon’s Hymn* (*Cæd*).

Very important for our understanding of early Mercian are the interlinear glosses to the *Vespasian Psalter* (*Ps(A)*), dating from the first half of the 9th century (see above).

Three early WS prose texts are of major importance: the translation of Pope Gregory the Great’s *Cura Pastoralis* (*CP*), the translation of Orosius’ history of the world (*Or*), and the translation of Bede’s *Ecclesiastical History* (*Bede*); the last exhibits some Mercianisms. All date to the years around 900.

Later texts are important because they fill gaps in our early attestation of dialects, provided it can be demonstrated that they do not show further

innovations on the points at issue; especially important are the glosses to the *Lindisfarne Gospels* (*Li*), from which most of the Northumbrian material in this volume is cited.

Late copies can also be important for the study of OE syntax and occasionally even phonology; two examples especially deserve mention. *Beowulf* (*Beo*) is important for our purposes both because it can be dated to the 8th century with confidence (Fulk 1992: 348–92, corroborated by unpublished work by Susan Pintzuk and Anthony Kroch²) and because its meter is very strict, sometimes allowing us to recover a more original form of the text than the copy we possess. The copy of the Anglo-Saxon laws in *Textus Roffensis*, though written about 1120, also preserves some examples of very archaic word order.

² Pintzuk and Kroch's calculations are based on the relative frequency of tense-final and tense-medial clauses in light of the demonstrable shift from the former to the latter in the attested history of OE, on which see the discussion in Chapter 8.

2

The development and diversification of Northwest Germanic

There is some evidence that North and West Germanic developed as a single language, Proto-Northwest Germanic, after East Germanic had begun to diverge. However, changes unproblematically datable to the PNWGmc period are few, suggesting that that period of linguistic unity did not last long. On the other hand, there are some indications that North and West Germanic remained in contact, exchanging and thus partly sharing further innovations, after they had begun to diverge, and perhaps even after West Germanic had itself begun to diversify.¹

This chapter will discuss PNWGmc innovations, together with a number of other innovations that clearly postdate the PNWGmc period but are widely shared throughout North and West Germanic.

2.1 Northwest Germanic sound changes

2.1.1 *Sound changes narrowly datable to Proto-Northwest Germanic*

In fully stressed syllables PGmc *ē was lowered and backed to *ā in PNWGmc. There are dozens of examples, including the default² past tense stems of strong verbs of classes IV and V; the following are typical:

PGmc *wēpną ‘weapon’, pl. *wēpnō (Goth. pl. *wepna*) > PNWGmc *wāpną > ON *vāpn*, OE *wāpen*, OF *wāpen*, OS *wāpan*, OHG *wāfan*;

¹ A good recent discussion of the internal subgrouping of Germanic, with alternative proposals and citations of the earlier literature, is Grønvik 1998: 67–82.

² The ‘default’ past tense stem is the stem from which all finite past forms *except* the indicative singular (or, in PWGmc., the indic. 1sg. and 3sg.) are constructed. Since the forms constructed from this stem do not all share any single morphosyntactic feature except ‘past tense’, the stem is best treated as a default—that is, it is the basis of all finite past tense forms except those explicitly exempted.

- PGmc *slēpaną ‘to sleep’ (Goth. *slepan*) > PNWGmc *slāpaną > OE *slēpan* ~ *slāpan*, OF *slēpa*, OS *slāpan*, OHG *slāfan*;
- PGmc *gēbun ‘they gave’ (Goth. *gebun*) > PNWGmc *gābun > ON *gáfu*, OE *gēafon*, OF *jēvon*, OS, OHG *gābun*;
- PGmc *lētanaþ ‘to let go, to allow’ (Goth. *letan*) > PNWGmc *lātanaþ > ON *láta*, OE *lāetan*, OF *lēta*, OS *lātan*, OHG *lāzan*;
- PGmc *ētun ‘they ate’ (Goth. *etun*) > PNWGmc *ātun > ON *átu*, OE *āton*, OHG *āzun*;
- PGmc *rēdanaþ ‘to consider, to advise’ (Goth. *ga-redan* ‘to take thought for’) > PNWGmc *rādanaþ > ON *rāða*, OE *rēdan*, OF *rēda*, OS *rādan*, OHG *rātan*;
- PGmc *unlēdaz ‘poor’ (Goth. *unleds*) > PNWGmc *unlādaz > OE *unlād*; deriv. of PGmc *lēþą ‘allotment of land’ > PNWGmc *lāþą (ON *lād* ‘land’ (poet.), OE *lēþ* ‘lathe’ (a division of Kent containing several hundreds));
- PGmc *grēdagaz ‘hungry, greedy’ (Goth. *gredags*) > PNWGmc *grādagaz > ON *grādugr*, OE *grādiġ*, OS *grādag*, OHG *grātag*;
- PGmc *dēdun ‘they made, they did’ (cf. Goth. weak past 3pl. *-dedun*) > PNWGmc *dādun > OS *dādun*, OHG *tātun*;
- PGmc *swēsaz ‘one’s own’ (Goth. *swes*) > PNWGmc *swāsaz ‘one’s own, dear’ > ON *sváss* ‘dear, beloved’, OE *swæs*, OF *swēs* ‘related’, OS *swās*, OHG *swās* ‘private, secret’;
- PGmc *blēsaną ‘to blow’ (Goth. *uf-blesan* ‘to inflate’) > ON *blása*, OHG *blāsan*;
- PGmc *wēzun ‘they were’ (Goth. *wesun* with voiceless Verner’s Law alternant levelled in from the sg.) > PNWGmc *wāzun > ON *váru*, OE *wāron*, OF *wēron*, OS, OHG *wārun*;
- PGmc *wrēkun ‘they drove out, they persecuted’ (Goth. *wrekun*) > PNWGmc *wrākun > ON *ráku*, OE *wrācon*, OS *wrākun*, OHG *rāhhun*;
- PGmc *mēgaz ‘kinsman’ (Goth. *megs* ‘son-in-law’) > PNWGmc *māgaz > ON *mágr* ‘kinsman by marriage’, OE *mæg* (pl. *māgas*), OF *feder-mēch* ‘paternal relative’, OS, OHG *māg*;
- PGmc *sēgun ‘they saw’, subj. *sēwī- (Goth. *selvun*, *selvei-* with *lv* levelled in from the sg.) > PNWGmc *sāgun, *sāwī- > ONorw., OSwed. *sāgu*, OIcel. *sáu*, OE (WS) *sāwon*, (Angl.) *sēgon*, OF *sēgon*, OS *sā(w)un*, OHG *sāhun*; all the reflexes of the stressed vowel are normal, though the root-final consonant alternation has been levelled (or, in OHG, *h* levelled in from the sg.);
- PGmc *nēh^w- ‘near’ (Goth. *nehva*) > PNWGmc *nāh^w- > ON *ná-*, OE *nēah*, OS, OHG *nāh*;
- PGmc *k^wēmum ‘they came’ (Goth. *qemun*) > PNWGmc *k^wāmum > ON *kvámu*, OE *c(w)ōmon*, OF *kōmon*, OS, OHG *quāmun*;
- PGmc *mēnō ‘moon’, *mēnōþ- ‘month’ (Goth. *mena*, *menoþs*) > PNWGmc *mānō, *mānōþ- > ON *máni* (poet.), *mánaðr*, OE *mōna*, *mōnaþ*, OF *mōna*, *mōnath*, OS *māno*, *mānuð*, OHG *māno*, *mānōð*;
- PGmc *mēlą ‘(a) time’ (Goth. *mel*) > PNWGmc *mālą > ON *mál*, OE *māel*, OF *mēl* ‘mealtime’, OHG *māl*;

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- PGmc *strēlō ‘arrow’ (cf. OCS *strěla*) > PNWGmc *strālu > OE *stræl* (masc. and fem.), OHG *strāla*;
 PGmc *jērą ‘year’ (Goth. *jer*) > PNWGmc *jārą > ON *ár*, OE *gēar*, OF *jēr*, OS *gēr* ~ *jār*, OHG *jār*;
 PGmc *swēraz ‘heavy’ (Goth. *swers* ‘honored’) > PNWGmc *swāraz > ON *svárr*, OE *swær*, OF *swēr*, OS *swār*, OHG *swār* ~ *swāri*;
 PGmc *bērun ‘they carried’ (Goth. *berun*) > PNWGmc *bārun > ON *báru*, OE *bæron*, OS, OHG *bārun*;
 PGmc *sēanaą ‘to sow’ (Goth. *saian*) > PNWGmc *sāanaą > ON *sá*, OE (WS and Merc.) *sāwan*, OS *sāian*, OHG *sā(j)en*, *sāwen* (the WGmc forms exhibit innovative consonants that eliminated the morphologically expected hiatus, Þórhallsdóttir 1993: 82–137).

Examples later subject to i-umlaut in one or more NWGmc languages:

- PGmc *fētijanaą ‘to adorn’ (Goth. *fetjan*) > PNWGmc *fātijanaą > ON *fæta* ‘to deal well with’, OE *fētan* ‘to load, to adorn’;
 PGmc *dēdiz ‘deed’ (Goth. *missa-deþs* ‘misdeed, sin’) > PNWGmc *dādiz > ON *dād*, OE *dǣd*, OF *dēd*, OS *dād*, OHG *tāt*;
 PGmc *lēkinōnaą ‘to heal’ (Goth. *lekinon*) > PNWGmc *lākinōnaą > ON *lækna*, OE *lācnian*, OHG *lāhhinōn*; the ON word is often regarded as a loan from OE (cf. de Vries 1962 s.v.), but the umlaut suggests otherwise, since most OE attestations of the word exhibit *ā* in the root (while the vowel of North. *lēcniġa* is a higher mid vowel, see 5.1.2);
 PGmc *mēkijaz, acc. *mēkijaą ‘sword’ (Goth. acc. *meki*) > PNWGmc *mākijaz, acc. *mākijaą > Early Runic acc. *makia*, ON nom. *mækir*, acc. *mæki*, OE (Angl.) *mēce*, OS *māki*;
 PGmc *gafrēgijaz ‘known, famous’ (lit. *‘asked after’, deriv. of *freganaą ‘to ask’) > PNWGmc *gafrāgijaz > ON *frægr*, OE *ġefræġe*, OS *gifrāgi*;
 PGmc *k^wēniz ‘woman, wife’ (Goth. *qens*) > PNWGmc *k^wāniz > ON *kvæn* ‘woman’ (poetic), OE *cwæn* > *cwēn*, OS *quān*;
 PGmc *mērijaz ‘famous’ (Goth. neut. *waila-meri* ‘praiseworthy’) > PNWGmc *mārijaz > ON *mærr*, OE *mære*, OS, OHG *māri*.

This sound change is attested from the second half of the 2nd century AD (Grønvik 1998: 87). Technically it was a merger, but preexisting *ā was so rare (see vol. i 4.2, p. 214; 4.3.3 (ii.f), p. 258; 4.3.3 (iv), pp. 264–5) that it had little impact on the structure of the language.

In OE and OF this vowel is reflected by a front vowel in most phonological environments (see the list above). Some scholars have therefore maintained that PGmc *ē never became *ā in the dialects ancestral to those languages, and that the sound change therefore cannot be of PNWGmc date (cf. e.g. Bennett 1950, Grønvik 1981: 43–50, 1998: 87–9). That has never seemed likely, because

in the same languages the reflex of this vowel is instead a back vowel (cf. OE *c(w)ōmon*, *mōna*, *mōnaþ*, OF *kōmon*, *mōna*, *mōnath* above) or its reflex (cf. OE *cwēn* < *cwēn* < **k^wāni*) when a nasal consonant immediately followed (cf. Luick 1914–40: 114 with references), and in OE it is *ā* immediately before *w* (see ‘sow’ above). A change of stressed **ē* to **ā* throughout NWGmc, followed by a rounding of **ā* before nasals, but fronting in most other environments, in northern WGmc (see 5.1), is simply much more credible than a sequence of changes **ē* > **ā* > **ō* (or the like) *only* before nasals and (in part) before **w*.³ Moreover, Patrick Stiles has recently adduced new evidence that a fronting of PWGmc **ā* did occur in the northern WGmc dialects (Stiles 2004: 387–9); the argument can be summarized as follows.

The PGmc adverbs ‘there’ and ‘where?’ were respectively **þar* (Goth., ON *þar*) and **h^war* (Goth. *hvar*, ON *hvar*), with short **a*. In all the WGmc languages the vowel has been lengthened (see 3.1.5), either under heavy deictic stress or by lexical analogy with an already lengthened ‘here’ (cf. Stiles 2004: 388 n. 5). In OHG and OS the lengthened vowel is *ā*, as expected; thus we find OHG *dār*, *wār*, OS *thār*, *hwār*. But in northern WGmc we find long front vowels instead: OE (WS) *þær*, *hwær*, (Angl.) *þēr*, *hwēr*, OF *thēr*, *hwēr*. Especially striking is the fact that in each OE dialect the outcome is exactly the same as that of PGmc **ē*. Since the PGmc vowel of these words was back **a*, it must have been fronted in northern WGmc. In fact short **a* is known to have been fronted in that area, but—crucially—it remained a low front vowel in most OE dialects, including most Anglian dialects. Thus if we suggest that inherited **þar* and **h^war* were first fronted to **þær* and **h^wær* and that the lengthening of their vowels occurred only later, we must posit an additional change to explain why in Northumbrian OE, for example, where ‘(s)he carried’ is *bær* < PGmc **bar*, ‘there’ and ‘where’ are *þēr* and *hwēr* (rather than *þær* and *hwær*, as in WS). It is much more economical to posit the following sequence of changes:

1. PGmc **ē* > **ā* throughout NWGmc;
2. irregular lengthening **þar* > **þār*, **h^war* > **h^wār* throughout WGmc;
3. fronting of non-nasalized low vowels in northern WGmc (see 5.1), including fronting of **ā* to **æ* in WS OE but to **ē* in other attested OE dialects.

That is the majority view, which I accept.

³ The contention of Grønvik 1998: 88–9 that earlier recorded forms with *ē*, such as Caesar’s *Suēbī*, must be PGmc if PNWGmc had **ā* is not necessarily correct. We cannot be sure that all the earlier sources refer to tribes that would later take part in this sound change; in fact, since the sound change (stressed) **ē* > **ā* must have spread through a differentiated dialect continuum, there could easily have been Germanic tribes in the (later) WGmc area whose dialects never underwent the change—so that they are not ‘WGmc’ by our linguistic definition—and left no descendants that were recorded later.

There are few examples of PGmc word-final *-ī in NWGmc that cannot have been affected by morphological change, but those that survive show that in unstressed syllables *-ī was shortened and merged with *-i by an early regular sound change throughout the area. In WGmc the best evidence is provided by the tiny class of fem. nouns in *-usi, *-isi < PGmc *-Vsi (Ringe 2002: 138, 152). The following are typical:

OE (Merc.) *æces*, OS *acus*, OHG *achus* ‘ax’ < PWGmc *akusi ←< PGmc *ak^wisi (see vol. i 4.3.4 (i), pp. 269–70, and this vol., section 6.6.4);

OE *bliss* ‘happiness’ < *blīps* < *blīpisi, cf. *blīpe* ‘happy’; PWGmc *-isi likewise < PGmc *-isi.

(OS *blīðsea* ‘happiness’ is etymologically an acc. sg. form; syncretism of the nom. and acc. sg. of (j)ō-stem nouns under the form of the acc. sg. is normal in OS, as in OHG.) Other probable examples of this shortening are provided by the larger OE class of fem. nouns represented by *bend* ‘fetter’:

OE *bend* ‘fetter’ < *bændi < *bāndi < PWGmc *bandi < PGmc *bandī (cf. Goth. *bandi*, of which the final vowel would not have survived if it had not been originally long).

Examples like *bend* are not completely probative, however, since it cannot be shown that the nom. sg. ending was not replaced by *-iju (remodelled on acc. sg. *-ijō, etc.; see immediately below on *-u), which would also have been lost in OE (cf. Ringe 2002: 151 and section 6.8.2 below), or even by (short) i-stem *-iz. In ON the nom. sg. ending of this entire class of nouns has been replaced by -r (Noreen 1923: 264–5), apparently reflecting i-stem *-iz, except in a handful of names (Noreen 1923: Anm. 2) which are difficult to judge; ON *øx* ‘ax’ can also reflect a preform in *-iz (Noreen 1923: Anm. 2). However, ON *vil* ‘(s)he wants’ can only reflect *wili < PGmc *wili, since a long vowel would have survived after the light root syllable; that is the best ON evidence for this shortening. (In all the languages, of course, the word-final *-ī of 3sg. past subjunctive forms can have been restored by reapplication of the relevant morphological rules; so can i-stem case endings in *-ī, to the extent that they existed (see vol. i 4.3.4 (i), pp. 272–3). I will argue in 7.2.2 that the early OE inst. sg. in -i must have spread from the declension of monosyllabic interrogatives and determiners.)

Evidence for the early date of this shortening of *-ī is provided by the fact that the WGmc losses of word-final *-z and of *-az and *-ą (see sections 3.1.1, 3.1.2) counterferd it. That is, we find developments such as the following:

PGmc		PWGmc		Old English	Old High German
*bandī	>	*bandi	>	<i>bend</i>	—
*gastiz	>	*gasti	>	[<i>giestas</i>]	<i>gesti</i>
*andijaz	>	*andī	>	<i>ende</i>	<i>enti</i>

The failure of the secondary long *-ī of ‘guests’ and ‘end’ to be shortened (so that it survived in OE and OHG instead of being apocoped) shows that the shortening of original long *-ī was either a very early WGmc sound change or a NWGmc sound change; ON *vil* decides in favor of the latter.

Recognition of the regular shortening of *-ī helps make sense of a much better attested but puzzling NWGmc sound change. It is clear that PGmc word-final bimoric non-nasalized long *-ō became *short* *-u in unstressed syllables in PNWGmc. In ON this *-u triggered u-umlaut of the vowel of the preceding syllable and was then lost; in the WGmc languages it was lost after heavy syllables but survived after light syllables; both those developments were exactly like those of inherited short *-u. The examples involve very common inflectional endings:

- 1) ON *gjǫf*, OE *giefu* ‘gift’ (ō-stem nom. sg.) < PNWGmc *gebu < PGmc *gebō, but ON *fjǫðr*, OE *feþer* ‘feather’ (nom. sg.) < PNWGmc *feþru < PGmc *feþrō; in OS and OHG the old nom. sg. form has been eliminated by syncretism with the acc. sg.;
- 2) ON *grǫs*, OE *grasu* ‘grass (coll.)’ (a-stem neut. nom.-acc. pl.) < PNWGmc *grasu < PGmc *grasō, but ON *lǫnd*, OE *land*, OHG *lant* ‘lands’ (nom.-acc. pl.) < PNWGmc *landu < PGmc *landō; in OS and OHG the zero alternant has spread to light stems as well, yielding e.g. OHG *gras* ‘grass (coll.)’ (nom.-acc. pl.);
- 3) OS *dagu*, OHG *tagu* ‘day’ (a-stem inst. sg.) < PNWGmc *dagu < PGmc *dagō; in OS and OHG the ending -u has spread to heavy stems as well, yielding e.g. OS *wordu*, OHG *wortu* ‘word’ (inst. sg.); conversely, it is likely that OE endingless dat./inst. sg. *hām* ‘home’ reflects PNWGmc *haimu (see 7.2.2 below);
- 4) ON *kom*, OE (Angl.) *cumu*, OS *kumu*, OHG *quimu* ‘I come’ < PNWGmc *k^wemu < PGmc *kwemō; in this category ON has levelled out u-umlaut, while the WGmc languages have extended -u to heavy stems as well, e.g. in OE (Merc.) *biddu*, OS *biddu*, OHG *bittu* ‘I ask’.

In principle this change could have happened in at least two ways. PGmc *-ō might first have been shortened to *[o], which was then reinterpreted by native learners as an allophone of */u/ (as suggested by Warren Cowgill, p.c. c.1980). On the other hand, PGmc *-ō might first have become *-ū, which was

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subsequently shortened to *-u. Unfortunately there seem to be no certain cases of inherited word-final *-ū which could be examined to test the latter hypothesis (though OHG u-stem inst. sg. -u is a possible case, Braune and Reiffenstein 2004: 206, §220c Anm. 3 with references). But since there is evidence that the other word-final long high vowel *-ī was shortened to *-i in PNWGmc, the latter hypothesis is the more economical of the two; the sequence of changes would have been:

1. word-final *-ō > *-ū;
2. word-final long high vowels were shortened in unstressed syllables.

That is the hypothesis that I adopt. Both changes were mergers, though the rarity of PGmc word-final *-ū made the structural consequences of the first trivial.

This has interesting consequences. The most important is that the NWGmc clade is validated by a *sequence* of two sound changes; that measurably increases the likelihood that it is a valid clade, i.e., that there really was a more or less unitary PNWGmc language at some time. A second consequence is that ON *sú* ‘that’ (nom. sg. fem.) can reflect PNWGmc *sū < PGmc *sō directly, without (re-)lengthening of its vowel (as we must posit for ON *sá* ‘that’ (nom. sg. masc.) < PNWGmc, PGmc *sa; word-final vowels in monosyllables were lengthened in ON). A third is that the raising of *-ō is seen to be identical, even in its conditioning environment, with a change that occurred in the prehistory of Tocharian (Ringe 1996: 89–90)—necessarily independently, since PNWGmc cannot possibly have been in contact with pre-Proto-Tocharian; evidently this is a natural and repeatable change.

At some time after the change of final *ō to *ū, possibly immediately, *w was lost between a consonant and an unstressed u-vowel. This gave rise to forms in *-u (< *-wū) to stems in *-wa- and *-wō-. The following examples are typical:

- PGmc *sarwą ‘device, tool, weapon’, nom. pl. *sarwō (Goth. *sarwa* pl. ‘armor’) >
 PNWGmc *sarwą, nom. pl. *saru > OE *searu*, gen. sg. *searwes*, nom. pl. *searu*
 ‘artifice, armor’, OHG *saro* ‘armor, gear’;
- PGmc *badwō ‘battle’ (cf. OIr. *Bodb*, name of the goddess of battle, < *bodwā) >
 PNWGmc *badu, *badwō- > ON *bǫð*, gen. sg. *bǫðvar*, OE *beadu*, obl. *beadwe*.

This apparently trivial sound change bled an important WGmc sound change; see section 3.1.1 below for details.

2.1.2 Sound changes partly shared with Gothic

The remaining three sound changes that appear to be of PNWGmc date are not clearly confined to the NWGmc clade; all involve short vowels in unstressed syllables, and all require some discussion.

Throughout NWGmc, unstressed *a merged with *u when immediately followed by *m. The examples are the a-stem dat. (and inst.) pl., strong adj. masc. and neut. dat. sg., and pres. indic. 1pl. endings:

ON *doġum*, OE *dagum*, OS *dagun*, OHG *tagum* ~ *-un* ‘days’ (dat.(-inst.) pl.) <

PNWGmc **dagumaz* / *-*miz* < PGmc **dagamaz* / *-*miz* (Goth. *dagam*);

ON *góðum*, OE *gōdum*, OS *gōdum(u)* ~ *-un* ‘good’ (dat. sg. masc./neut.) ←<

PNWGmc **gōdum(m)ē* < PGmc **gōdammai* (Goth. *godamma*); the languages just cited have all lost the final syllable for unknown reasons

(possibly in a single historically shared change, Stiles 2013: 23; see further below);

OHG has remodelled the ending on that of the default determiner *demu*;

ON *berum*, OHG *berumēs* ‘we carry’ (←) < PNWGmc **berumaz* < PGmc **beramaz* (Goth. *baíram*);

the northern WGmc languages have eliminated the inherited 1pl. form by

syncretism with the 3pl., while OHG has added a syllable of obscure origin and to a large extent levelled out the *-u-* (Braune and Reiffenstein 2004: 261–3).

It is sometimes suggested (e.g. by Campbell 1962: 139) that this change occurred before the ostensibly PGmc merger of *a and *o, apparently on the grounds that it would be ‘easier’ for *o to become *u than for *a to become *u. Such an argument from apparent phonetic plausibility fails to take into account the psychological reality of the phoneme (so Boutkan 1995: 91). Given a vowel system in which the only possible unstressed vowels were *i, *a, and *u (except immediately before *r?; see vol. i 3.2.5 (iii), p. 125, and further below), any substantial rounding and raising of *a in a particular environment might cause native language learners to reinterpret it as an allophone of the only possible unstressed short round vowel, namely *u. The cohesiveness of our reconstructions of PGmc—strongly suggesting a unitary protolanguage—and the reconstructable relative chronology of sound changes (vol. i 3.2.8, p. 152) practically force us to conclude that that is what happened.

Universal in NWGmc, this sound change is almost unattested in Gothic—but not quite. The Gothic strong adj. masc. and neut. dat. sg. normally ends in *-amma* (see above), which appears without final vowel shortening as *-amme-* before the enclitic *-h* in *hvamneh* ‘each one’ (dat. sg.), *hvarjamneh* ‘to everyone’, *hvaþaramneh* ‘to each (of the two)’ and their compounds *þishvamneh*

‘to whomever’, *ainlv arjammeh* ‘to each, to everyone’, *ainlv aþammeh* ‘to each (of the two)’. But in *ainummehun* ‘any, anyone’ (dat. sg.), attested half a dozen times in our fragmentary corpus, *-a-* has clearly been raised to *-u-*,⁴ though in noncompound *ainamma* ‘one’ (dat. sg.) it remains unaffected. The raising of *-a-* in this one form is plausibly ascribed to its position immediately before *-m-* between a primary and a secondary stress (thus *áinummeþhun*; see Braune and Heidermanns 2004: 29, §4 Anm. 2 with references). This Gothic sound change could be completely independent of the NWGmc change; but it is also possible that a single historical change took place over several generations, affecting only the most weakly stressed examples of **-am-* before East Germanic lost contact with the rest of the family and then being generalized to all unstressed **-am-* in PNWGmc.

Whether or not unstressed **er* had merged with **ar* already in PGmc (see vol. i 3.2.5 (iii), p. 125), it seems clear that it became **ar* in the prehistories of all the NWGmc languages, and it seems reasonable to attribute that change to PNWGmc at the latest. In ON the reflex is straightforwardly *ar*. For the WGmc languages the crucial facts are (1) that the shortening of **ē* before word-final *-r* in the kinship terms (see section 3.1.4 below) yields *-er*, not ‘*-ar*’, in OHG (Braune and Reiffenstein 2004: 213, §233 Anm. 1) and (2) that the shortening of word-final **-ār* in ‘four’ yields in every language a sequence spelled with the same variants as inherited short **-er(-)* (Stiles 1985–6, *NOWELE* 6: 88). On the crucial OHG evidence see especially Stiles 1984b: 145–68.⁵

Much more obscure is a possible NWGmc raising and fronting of **a* to **i* in nonfinal unstressed open syllables immediately before **n*. Two examples seem secure:

- Early Runic *minino* ‘my’ (acc. sg. masc.) < PGmc **mīnanō* (Goth. *meinana*; Krause 1971: 108, 152);
- OE (Angl.) *enne* ‘one’ (acc. sg. masc.) < *ænne* (also WS) < *ǣnne* < **āninā* < PGmc **ainanō* (Goth. *ainana*; while the OE spelling ⟨enne⟩ can only reflect a form with

⁴ The form is once spelled *ainomehun*, a typical spelling variation; see Braune and Heidermanns 2004: 35, §14 Anm. 3.

⁵ Stiles 1984b: 121–6 argues that after **-t-* had been introduced in forms such as PIE dat. sg. **swésrey* > **swéstrei* by regular sound change (see the addenda to vol. i, 3.2.6 (iii), pp. 139–41), the nom. sg. **swésōr* and acc. sg. **swésorþ* should have been remodelled as **swéstōr*, **swéstorþ* > pre-PGmc **swéstōr*, **swéstarþ*; only the change of unstressed **er* to **ar*, by which e.g. pre-PGmc **bráterþ* ‘brother’ became **brátarþ*, could provide the preconditions for a proportional analogy leading to PGmc nom. sg. **swéstēr*—and the change **er* > **ar* must therefore be of PGmc date (contra vol. i, 3.2.5 (iii), p. 123). If morphological remodelling proceeded by exact proportions, Stiles’s argument would be clinching. Unfortunately it seems clear that the native-learner errors that evolve into morphological innovations are not so constrained. For that reason I continue to hesitate about the date of the change of unstressed **er* to **ar*.

a short vowel that developed entirely by regular sound change, it is unclear in the case of ⟨æne⟩ whether the vowel is long or short and exactly what remodellings have affected the form).

It appears from these examples that *-a- has been raised to *-i- in an open unstressed syllable between two *-n-'s of which the first was immediately preceded by a high front vocalic (cf. Noreen 1923: 118 with references). Morphological influence of i-stem pronouns (as suggested in Klingenschmitt 1987: 181–4) is a possible alternative explanation, but that seems less likely because the forms in question appears to be part of a larger phenomenon (see below). If regular sound change is the correct explanation, we are probably looking at the relics of a PNWGmc sound change: on the one hand it seems unlikely that a sound change with such precise conditioning could have occurred more than once; on the other hand the fact that there is no other evidence for it in any daughter language is no real argument against a PNWGmc date, since the effects of such a precisely conditioned change would tend overwhelmingly to be levelled out, especially in such a common inflectional ending. Since the NWGmc change of unstressed *-am- to *-um- seems to be paralleled in the dat. sg. masc./neut. of Gothic *ainshun* ‘any(one)’, it is reasonable to ask what the acc. sg. masc. of that lexeme is; unfortunately it is *ainnohun*, with syncope of the stem vowel, and there is no way to tell whether the *-a- had become *-i- before it was syncopated.

However, a possible third example raises doubts and leads to further questions:

ON *morgunn* ~ *myrginn*; Old Norwegian *mørne* ‘in the morning’ < **morginē* (Noreen 1923: 118 with references); OE (early WS) dat./inst. sg. *on merġen* (Cosijn 1886: 15) ‘in the morning’ < **morgini* or **morginu*, cf. also nom. sg. *merġen* < **morgin* beside *morgen*; PGmc **murgana-* ~ **murgina-*, cf. Goth. *maúrgins* but OHG *morgan*.

The OE form, at least, has undergone several remodellings. The *o of the possible preform **morgin-* can only have been levelled in from **morgan-*, in which the *u of PGmc **murganaz* had been regularly lowered (see 2.3.1). The zero ending of the oblique case must reflect a short high vowel, either *-i, apparently a dat. sg. ending levelled from **nahti* ‘night’ (dat. sg.; see 4.2.2, 7.2.2), or inst. sg. *-u. It seems clear that we must recognize both **murgina-* and **murgana-* as widely current preforms. The question is whether the apparent alternation between *-ana- and *-ina- has anything to do with the isolated examples of strong masc. acc. sg. *-inō. In fact such an alternation is not particularly rare in Germanic adjective formation. In vol. i (4.3.3 (ii.d), p. 255) I adduced, without comment, two apparent examples of class II weak

verbs in **-inōnā* derived from adjective stems in **-ana-*; both are relevant and require further comment. Both adjectives are attested with both **-an-* and **-in-* in the suffix:

- OE *āgen*, OS *ēgan*, OHG *eigan* ‘own’, (nt.) ‘property’ < **aiganaz*, **aigana*, but
 ON *eiginn*, OE *ǣgen*, OHG *eigin* ‘own’ < **aiginaz*, with
- Goth. *aigin*, ON *eigin*, OE *ǣgen*, OHG *eigin* (nt.) ‘property’ < **aigina*;
- OE *fægen*, OS *fagan* ‘glad’ < **faganaz*, but
 ON *feginn* ‘glad’ < **faginaz*.

The same variation appears in the derived verbs; for instance, we find OS *faganon* ‘to rejoice’ < **faganōnā*, but Goth. *faginon*, OHG *feginōn* ‘to rejoice’ < **faginōnā*. Since neither of these adjectives is, strictly speaking, a participle, and since both exhibit the effects of Verner’s Law, pre-PGmc variation between ablauting suffixes **-eno-* and **-ono-* is at least thinkable—though not very attractive, because it does not explain why both variants remained so widespread throughout the family. But we find the same variation in strong past participles, which must originally have had no vowel before the **-n-* (vol. i 3.3.1 (iii), p. 163; 3.4.3 (ii), pp. 193–4). The strong past participle suffix is always **-ana-* synchronically in Gothic, but note the adjective *fulgins* ‘hidden’, which might originally have been the past participle of *filhan* ‘to conceal’. The attested Early Runic examples all exhibit *-ina-*, but in later ON **u* in the roots of strong past participles is always lowered to *o*, which guarantees that **-ana-* also occurred (Krause 1971: 107). In WGmc we normally find **-ana-*, but the early WS OE variant *cymen* ‘come’ (2×, beside the usual *cumen*) and a considerable number of other forms from several dialects (Campbell 1962: 77, 303, 306–7) seem to reflect **-ina-* instead. Other things being equal, the hypothesis that best accounts for such widespread variation in the attested daughters is that **-an-* became **-in-* by sound change in some forms of some of these adjectives and participles—apparently in PGmc, given that Gothic exhibits a few forms with *-in-*—and in that case Runic *minino* and OE *enne* should be relics of that PGmc sound change, not of a PNWGmc change. But there has been so much levelling in every direction that it is difficult to make out what the original pattern of alternation was. Further study of this problem is needed (so also Boutkan 1995: 78–82 with references).

2.2 Proto-Northwest Germanic morphological innovations

The morphological development of Northwest Germanic was characterized in part by the loss of PGmc inflectional categories preserved in Gothic. All dual verb forms were lost; so was the third-person imperative (which is moribund

in attested Gothic and might have been so in PGmc). Nearly all present passive forms were also lost—replaced by periphrastic forms on the model of the past—but at least one lexeme preserved a ‘synthetic’ present passive, namely *haitanaþ ‘call, name’. The attested forms with old passive endings in NWGmc languages are the following:

- ON 1sg. *heiti* ‘I am named’ < Early Runic *haite* (Krause 1971: 122) < PNWGmc *haitē < PGmc *haitai (or *haitōi??);
- OE sg. *hätte* ‘am/are/is named’ < PNWGmc 3sg. *haitadē < PGmc *haitadai (Goth. *haitada*).

(Other forms of this verb in the same meaning reflect innovations of various kinds.) Of course all these losses could be parallel, or partly parallel, developments; none is securely attributable to PNWGmc.

Whether the dat. pl. and inst. pl. had already begun to undergo syncretism in PGmc, or had been syncretized in PNWGmc, is difficult to determine. They are not formally distinct in any attested Gmc language. That might be because the vowels of their respective endings, *-maz and *-miz, were lost in most paradigms early in the separate histories of Gothic, Norse, and WGmc, making the forms identical. But it would be a mistake to suppose that the syncretism was made *possible* by phonological developments, since we find numerous instances of syncretism between categories that never became phonologically identical. On this point, too, we are unable to reconstruct the PNWGmc situation precisely.

In all attested NWGmc languages (except, marginally, Early Runic) all strong adjectives are inflected as a-stems (including ja- and wa-stems); i- and u-stems have been transferred into the majority class. How that happened is difficult to reconstruct, partly because the PGmc situation remains uncertain (see see vol. i 3.4.5 (i), pp. 202–4). We can at least make the following statements about PGmc strong adjective inflection:

- 1) i- and u-stem adjectives had feminines in *-ī ~ *-(i)jō-, and
- 2) those feminines were identical with those of (i)ja-stem adjectives except in the nom. sg.

What eventually happened in WGmc is clear: one way or another, the distinction between those two fem. types was lost, and then masculine and neuter paradigms in *-(i)ja- were usually backformed to the original feminines of i- and u-stems. What happened in Norse is not so clear. There seems to be an Early Runic i-stem nom. sg. *-mariz* (Krause 1971: 118, 167; cf. Syrett 1994: 45–7, 56–7 with n. 59), but by the time our attestation of Norse becomes adequate nearly all strong adjectives are inflected as pure a-stems; even ja- and

wa-stems have become uncommon (Noreen 1923: 288–96). The only distinguishing mark of most original *i*- and *ja*-stems in ON is *i*-umlaut of the root syllable. It is possible that ON underwent exactly the same development as WGmc; that seems especially likely because among the surviving *ja*-stems are a number of compound adjectives which must originally have been *i*-stems (Noreen 1923: 296, cf. vol. i 4.3.5 (i), pp. 282–3), as well as at least one probable *u*-stem, *sterkr* ‘strong’.⁶ But the most striking thing about ON adjectives is that original *u*-stems often exhibit doublets, one with *i*-umlaut of the root and one without (Noreen 1923: 289). WGmc seldom exhibits comparable doublets; perhaps the clearest example is ‘hard’, an original *u*-stem (cf. Goth. *hardus*) which appears as an *ija*-stem in OHG *herti* but is otherwise inflected as an *a*-stem throughout NWGmc (ON *harðr*, OE *heard*, OS *hard*, OHG *hart*).⁷ The specific changes that gave rise to this pattern of facts are probably beyond recovery.

A morphological innovation which probably does date to the PNWGmc period involves PGmc strong adjective endings that contain the sequence **-aiz-*. In Gothic that sequence is generally preserved, but in the NWGmc languages we instead find **-ez-*;⁸ note the following functional correspondences:

	PGmc	Gothic	ON	OE	OHG
gen. sg. fem.	<i>*-aizōz</i>	<i>-aizos</i>	<i>-rar</i>	<i>-re</i>	<i>-era</i>
dat. sg. fem.	<i>*-aizōi</i> (?)	<i>(-ai)</i> ⁹	<i>-ri</i>	<i>-re</i>	<i>-eru</i>
gen. pl.	<i>*-aizō</i>	<i>-aize</i> , ¹⁰	<i>-aizo</i>	<i>-ra</i>	<i>-ero</i>

(OF agrees with OE; the relevant OS endings are basically the same as those of OHG, though there is more variation in the spelling of the vowels.) Since unstressed **ai* was usually monophthongized to **ē* throughout the NWGmc area (see 2.3.1 (i) below), we might posit a series of regular sound changes

⁶ A preliminary transfer into the *i*-stem paradigm in PNWGmc, as suggested for ‘sweet’ in vol. i (3.2.1 (ii), p. 72; 3.2.4, p. 99; 3.2.7 (i), p. 147), is possible for some *u*-stem adjectives but not demonstrable.

⁷ That ‘hard’ was a *u*-stem in PGmc is demonstrated both by the Gothic paradigm and by the OHG doublet. However, I agree with Strunk 1975: 286–8, 1976, Bammesberger 1990: 262, Heidermanns 1993: 282 that the traditional comparison with the Homeric Gk *u*-stem adjective κρατύς /kratús/ ‘strong’ should be rejected, both because the root of the Greek family of words was **kret-* (cf. the comparative, Ionic κρέσσων /kréssō:n/, Attic κρείττων /kré:ttō:n/ < **kret-y* . . . , and the Lesbian noun κρέτος /krétos/ ‘strength’) and because the semantic match is not compelling. I find the hypothesis of Widmer 2004: 180–2, which posits backformation from an unattested derived neuter noun, too speculative. What can be inferred with some confidence about the prehistory of the word is summarized by Heidermanns 1993: 282. I am grateful to Ronald Kim for the reference to Widmer’s discussion.

⁸ I am grateful to Patrick Stiles for calling this to my attention.

⁹ I agree with Cowgill 2006b: 527–8 that this *z*-less ending must be an innovation specific to Gothic, though I am at a loss for how to account for it. (Cowgill’s suggestion of haplogy doesn’t convince me.)

¹⁰ See Ringe 2006a with references.

*ai > *ē > *e in these forms. But a shortening of *ē alone among the long vowels would be odd, and there is no other unimpeachable evidence for so early a shortening of *ē in unstressed syllables.¹¹ A more plausible hypothesis is that these endings have been remodelled on the basis of the third-person pronoun, of which the corresponding forms should have been *ezōz, *ezōi, *ezō, and of the rhyming forms of *he- ‘this’ (and of *h^we- ‘who?’, if the latter existed; see vol. i 4.3.6 (ii), pp. 289–90). This was already seen, in its essentials, by Campbell 1962: 144; it amounts to indirect evidence that the peculiar PIE ablaut *i ~ *e of these stems survived beyond the disintegration of PGmc, though it has largely been eliminated in the attested WGmc languages. Note that shortening of *ē and an importation of stressed *e by morphological change are the only theoretically possible sources for this vowel, since inherited unstressed *e had been raised to *i in PGmc unless *r (not *z!) followed immediately (see vol. i 3.2.5 (iii), pp. 122–4 and especially 126).

A probable PNWGMc innovation affected the nominative forms of the non-singular second-person pronoun. In PGmc the plural was clearly *jüz; the dual must be reconstructed indirectly but was probably *jut (vol. i 3.4.5 (iv), p. 209; 4.3.6. (iii), p. 290). Throughout NWGMc these forms adopted the *i of the corresponding first-person forms *wiz and *wit, yielding *jiz and *jit (Flasdieck 1933: 208). Thus we find ON pl. *ér*, du. *it*; OE pl. *gē*, du. *gīt*; OS pl. *gī* ~ *gē*, du. *gīt*; OHG pl. *ir*. Mechanical reconstruction yields for PNWGMc the forms given immediately above; the only reason for lingering doubts that this was a historically shared innovation is the suspicion that it might be natural enough to be repeatable.

Whereas in Gothic the weak past suffix is normally *-d-* in the indicative singular and *-ded-* in all other categories, Northwest Germanic exhibits **-d-* throughout the paradigm, as illustrated by a partial paradigm of the weak past ‘filled’:

	Gothic	ON	OE	OS	OHG
indic. 1pl.	<i>fullidedum</i>	<i>fyldum</i>	—	—	<i>fultum</i>
2pl.	<i>fullideduþ</i>	<i>fylduð</i>	—	—	<i>fultut</i>
3pl.	<i>fullidedun</i>	<i>fyldu</i>	<i>fyldon</i>	<i>fuldun</i>	<i>fultun</i>
subjunctive	<i>fullidedei-</i>	<i>fyldi-</i>	<i>fylde-</i>	<i>fuldi-</i>	<i>fultī-</i>

(In northern WGmc the plural forms of the verb have undergone syncretism under the form of the 3pl.; see section 5.2 below.) If the reconstruction offered in vol. i 4.3.3 (ii), p. 251 is correct, the Northwest Germanic non-alternating

¹¹ See 7.2.2 on apparently endless a-stem dat. sg. forms in the attested WGmc languages and 7.2.1 on syncopated forms of OE class III weak presents.

*-d- would have to be a PNWGmc innovation. But it might be the Gothic paradigm which is innovative, considering the recent observations of Paul Kiparsky about the accentuation of the OHG forms (Kiparsky 2009, discussed in the addenda and corrigenda to this volume); in that case Northwest Germanic *-d- would be an archaism, of no value for subgrouping.

It is possible that PNWGmc developed a distinctive feminine nom. and acc. of ‘three’ by adding the usual adjective endings to the stem *þrij-, since both ON and the WGmc languages exhibit such a change. However, the usual OHG fem. nom.-acc. *drīo* (Eichner 1987: 196–200), with the fem. ending apparently added to inherited *drī, strongly suggests that that was a parallel development. For the PWGmc paradigm see section 4.2.4 below.

2.3 Parallel developments in Northwest Germanic

From the preceding discussion it can be seen that only the following developments can be attributed with any confidence to a unitary PNWGmc language:

- 1) a sequence of two regular sound changes, namely
 - (a) raising of word-final bimoric nonnasalized *ō to *ū, followed by
 - (b) shortening of word-final long high vowels;
- 2) an unrelated regular change of *ē to *ā in stressed syllables;
- 3) a regular change of unstressed *-am- to *-um- (which might have begun while PNWGmc was still in contact with the ancestor of East Germanic);
- 4) an analogical replacement of *-aiz- by *-ez- in strong adjective endings;
- 5) probably the nom. pronouns 2pl. *jiz, 2du. *jit, with vowels analogical on the 1pl. and 1du.

That amounts to sufficient evidence that PNWGmc was a unified language for a few generations, though of course it does not preclude significant dialect differences during or even throughout that time. There are also several other innovations which are widely shared in NWGmc but can be shown to postdate the short period of PNWGmc unity; they suggest that the NWGmc dialects remained in contact for some generations after they had begun to diverge significantly.

2.3.1 *Post-PNWGmc sound changes*

2.3.1 (i) *Widely shared vowel shifts* The most salient of the changes that might have diffused through a NWGmc dialect continuum affected the vowel system; two, the monophthongization of unstressed *ai and the phonemic split of short *u, were especially pervasive.

Almost all examples of PGmc *ai in unstressed syllables appear throughout NWGmc as a long mid vowel *ē or its reflexes; so far as can be determined, unstressed *ai and *ē largely merged throughout the linguistic area. The following examples are typical; it should be remembered that the regular reflex of PGmc word-final *-ai and *-ē in Gothic is *-a*.

- PGmc pres. 3sg. passive *-adai, e.g. in *haitadai ‘is called’ (Goth. *haitada*) > *haitadē > PWGmc *haittē (?; cf. the syncope in *sattē, 3.2.1) > OE *hätte*;
- PGmc pres. subjunctive *-ai(-), e.g. in 2sg. *beraiz, 3sg. *berai, 3pl. *berain ‘would carry’ (Goth. *baírais*, 3pl. *baíraina*; 3sg. *baírai* has levelled the diphthong back into word-final position) > *berēz, *berē, *berēn > ON 3sg., 3pl. *beri* (see below on 2sg. *berir*), OE *bere*, *berē*, *beren*, third-person OS *bere*, *beren*, OHG *bere*, *berēn* (the voiceless ending of 2sg. OS *beres*, OHG *berēs* is analogical);
- PGmc pres. *habaisi ‘you have’, *habaiþi ‘(s)he has’ (Goth. *habais*, *habaiþ*) > *habēs, *habēþ > OE (North.) *hæfes*, *hæfeð*, 2sg. OS *hābes*, OHG *habēs* (the WS OE forms exhibit analogical syncope, while the voiced alternant in the endings of 3sg. OS *habed*, OHG *habēt* is analogical);
- PGmc a-stem dat. sg. *-ai, e.g. in *dagai ‘day’ (Goth. *daga*) > *dagē > ON *degi*, OE *dæge*, OS *dage*, OHG *tage*; Early Runic already has *-e* (Krause 1971: 89, 168–9), potential examples of *-ai* being doubtful (Krause 1971: 89, 156, 173–4; cf. Syrett 1994: 84–9);
- PGmc strong adj. nom. pl. masc. *-ai, e.g. in *gōdai ‘good’ (Goth. *godai*, instead of expected *goda, has levelled the diphthong back in from *þai* ‘those’) > *gōdē > OE, OS *gōde*, OHG *guote* (ON *gōðir* has levelled the final consonant of the noun declensions into this ending, cf. Early Runic *-ez* (Krause 1971: 117, 169–70));
- PGmc strong adj. dat. pl. *-aimaz, e.g. in *gōdaimaz (Goth. *godaim*) > *gōdēmaz > OHG *guotēm* (the other languages have generalized *-um*, cf. 2.1.2 above and 2.3.2 below).

Compare the reflexes of the few examples of PGmc unstressed *ē:

- PGmc nom. sg. *fadēr ‘father’ (not attested in Gothic—*fadar* is a vocative—but securely inferrable from Gk πατήρ /patɛːr/, Skt *pitā*, etc.) > OE *fæder*, OHG *fater*;
- PGmc weak past indic. 2sg. *-d/tēz, 3sg. *-d/tē, e.g. in *tawidēz, *tawidē; *wurhtēz, *wurhtē ‘you, (s)he made’ (Goth. *tawides*, *tawida*; *waúrhtes*, *waúrhta*) > Runic Norse (3sg.) *tawide*, *wurte*, ON *ortir*, *orti*, OE (3sg.) *worhte*; the ending of OE 2sg. *worhtes(t)* has been remodelled;
- ?PGmc pres. subjunctive 3sg. *sijē ‘would be’ (vol. i 4.3.3 (iv), p. 262) > OE *sīe* (disyllabic in *BDS* 2; but the stem could have been remodelled to *sijai- already in PGmc, as it clearly was in Gothic).

(OS and OHG weak past 2sg. *-dos*, *-tōs* and 3sg. *-da*, *-ta* exhibit reflexes of an \bar{o} -vowel which must have been levelled in from the 1sg. at a relatively early date (cf. Hollifield 1980: 151); for further discussion see section 3.2.1.¹²).

This monophthongization would be a good candidate for a PNWGmc sound change were it not for two further Early Runic facts. First, it seems that (post-)PGmc **-aiz* yielded Runic *-az* (Krause 1971: 118, 175) > ON *-ar* in the gen. sg. of *i*-stems (see especially the discussion of Stiles 1984a: 10–12, pace Syrett 1994: 93–104, and cf. Rasmussen 1983: 207–8 n. 10, and vol. i 4.3.4 (i), pp. 272–3 on the origin of the ending); since **ai* in this ending apparently survived into the separate history of Norse without having merged with **ē*, the merger cannot have been a PNWGmc change.¹³ Secondly, there is an Early Runic past 3sg. *talgidai* ‘engraved’, roughly contemporary with the *tawide* cited above (c. AD 200; see Ringe 2006a: 191–2 with references). It seems clear that ⟨ai⟩ in this form must be an inverse spelling for / \bar{e} / (if it is not just an error; cf. Syrett 1994: 246–55 with references); but an inverse spelling should have been possible only if the merger of unstressed **ai* and **ē* had occurred not too long before the date of the inscription, and that might preclude a PNWGmc date for the change.

But that is still only part of the story. It was noted above that PGmc word-final **-ai*, like word-final **-ē*, appears in Gothic as *-a*. In fact the two must have merged as **-ē* before being shortened to *-a*, to judge from forms with fossilized enclitics like *hwammeh* ‘each one’ (dat. sg.) cited above under 2.1.2. In other words, the NWGmc merger of unstressed **ai* with **ē* discussed here also occurred under more restricted conditions in Gothic, namely in absolute word-final position. Of course that could have been a parallel development; but (as with the change of unstressed **-am-* to **-um-*) it is also possible that what began as a highly restricted sound change in (post-)PGmc, perhaps spreading through an already well-differentiated dialect continuum, was generalized in PNWGmc, going to completion only after PNWGmc in its turn

¹² On the contention that the weak past forms actually contained PGmc **-ai-* rather than **-ē-* see Hill 2004: 287 n. 84 with references, Ringe 2006a: 191–2. Note further that Hollifield’s suggestion that PGmc word-final **-ē* yielded *-a* in continental West Germanic is based on questionable etymological analyses of adverbs (Hollifield 1980: 145–9); he also claims that the reflexes of **-ē* and **-ai* remained distinct in OS on the basis of an extensive count of spelling variants (Hollifield 1980: 155–8), but he applies no tests of statistical significance and considers no other possible cause for any statistically significant differences. Thus neither of those claims is a cogent argument for **-ai-* in the weak past endings. For a thorough analysis of the OS spellings, which demonstrates that OS underwent the ‘Ingvaenic’ merger of unstressed **ē* and **ā* (section 5.1.2), see Klein 1977.

¹³ ON pres. subj. 2sg. *berir*, etc. can of course reflect later levelling, just like Goth. pres. subj. 3sg. *bairai*.

had disintegrated. The fact that PNWGmc might have been a unitary language for only a century or so (see above) lends some plausibility to that scenario.

A pervasive NWGmc sound change which operated under rather different conditions in different dialects was the allophonic lowering of *u to *[o] in stressed syllables. The details are as follows.

Throughout the NWGmc area stressed *u was apparently lowered to *o when the next syllable contained a nonhigh vowel *and* no nasal in the syllable coda, nor *j, intervened. (Possible revisions of that statement will be introduced below.) Examples are very numerous; the following are typical:

- PGmc *lubą ‘praise’, *lubōną ‘to praise’ > ON *lof*, *lofa*, OE *lof*, *lofian*, OF *lof*, *lovia*, OS *lof*, *lobon*, OHG *lob*, *lobōn*;
- PGmc *utraz ‘otter’ (< PIE *udrós, cf. Skt *udrás*, an aquatic animal) > ON *otr*, OE *oter*, OHG *ottar*;
- PGmc *budanaz ‘offered’ (ptc.; Goth. *anabudans* ‘commanded’) > ON *boðinn*, OE *boden*, OS *gi-bodan*, OHG *gi-botan*;
- PGmc *kuzanaz ‘tested, chosen’ (Goth. *kusans* with analogical voiceless Verner’s Law alternant) > ON *körinn* ~ *korinn*, OE *coren*, OS, OHG *gi-koran*;
- PGmc *huzdą ‘treasure’ (Goth. *huzd*) > ON *hodd* (poetic), OE, OS *hord*, OHG *hort*;
- PGmc *juką ‘yoke’ (Goth. pl. *juka* ‘yoke (of oxen)’) > ON *ok*, OE *geoc*, OHG *joh*;
- PGmc *brukanaz ‘broken’ (Goth. *brukans*) > OE *brocen*, OHG *gibrohhan*;
- PGmc *duhtēr ‘daughter’ (Goth. *daúhtar*) > ON *dóttir*, OE *dohtor*, OF *dochter*, OS *dohtar*, OHG *tohter*;
- PGmc *uhsō ‘ox’ (Goth. *auhsn-*) > ON *oxi*, OE, OF *oxa*, OHG *ohso*;
- PGmc *hulaz ‘hollow’, neut. *hulą ‘hole’ > ON *holr*, *hol*, OE, OF, OHG *hol* (both meanings), OS *hol* ‘hollow’;
- PGmc *þulja- (*þulā-?; see the discussion in the addenda and corrigenda) ~ *þulai- ‘endure’ (Goth. *þulan*) >→ ON *þola*, OE *þolian*, OF *tholia*, OS *tholon*, OHG *dolēn*;
- PGmc *guldanaz ‘paid for’ (ptc.; Goth. *fraguldans* ‘repaid’) > ON *goldinn*, OE *golden*, OS *far-goldan*, OHG *gi-goltan*;
- PGmc *buranaz ‘carried, born’ (Goth. *baúrans*) > ON *borinn*, OE *boren*, OS, OHG *gi-boran*;
- PGmc *wurdą ‘word’ (Goth. *waúrd*) > ON *orð*, OE, OF, OS *word*, OHG *wort*;
- PGmc *hurną ‘horn’ (Goth. *haúrn*) > ON, OE, OF, OS, OHG *horn*;
- PGmc *wurpanaz ‘thrown’ (Goth. *waúrpan*) > ON *orpinn*, OE, OF *worpen*, OS *te-worpan* ‘destroyed’, OHG *gi-worfan*;
- PGmc *wurhtē ‘(s)he made’ (Goth. *waúrhta*) > ON *orti*, OE *worhte*, OHG *worahta*;
- PGmc *surgō ‘worry, sorrow’ (Goth. *saúrga*) > ON, OE *sorg*, OS, OHG *sorga*;
- PNWGmc *upanaz ‘open’ > ON *opinn*, OE, OF *open*, OS *opan*, OHG *offan*;
- PNWGmc *bruþą ‘broth’ > ON *broð-gýgir* ‘broth-cooks’, OE *broþ*, OHG *brod*;
- PNWGmc *hrussa ‘horse’ > ON *hross*, OE *hors*, OS *hros*, OHG *ros*;

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PNWGmc *bugō ‘bow’ (the weapon, deriv. of PGmc *beuganaŋ ‘to bend’) > ON *bogi*,
OE, OF *boga*, OS *swi-bogo* ‘vault’, OHG *bogo*;
PNWGmc *hulmaz ‘island’ > ON *holmr*, OE *holm* ‘island’, poetic ‘sea’, OS *holm* ‘hill’;
PNWGmc *fulkaŋ ‘troop, tribe’ > ON *folk*, OE *folc*, OF, OS, OHG *folk*.

Since many of these lexemes and verb stems had forms in which the following syllable contained a high vowel, some levelling in favor of lowered *o must have occurred. The exceptions to this sound change might reflect levelling in the other direction, e.g.:

PGmc *gulpa ~ *gulda ‘gold’ (Goth. dat. *gulpa*) > ON *gull* ~ *goll*, OE, OF, OS, OHG
gold;
PGmc *gudaŋ ‘god’ (Goth. *gub*) > ON *goð* ~ *guð*, OE, OF, OS *god*, OHG *got*.

Early Runic evidence seems to show that the lowering of *u to o if the next vocalic was nonhigh was at first completely regular in Norse, but subsequent levellings have greatly obscured the original distribution and led to numerous doublets (Noreen 1923: 54–6).

In root-nouns stressed *u was lowered in Norse but not in West Germanic:

PGmc *burg- ‘hill-fort’ (Goth. *baúrgs* ‘town’) > ON *borg*, OE, OF, OS, OHG *burg*, all
‘town’;
PGmc *brust- ‘breast’ (Goth. *brusts*) > OHG *brust*;
PGmc *furh- ‘furrow’ (< post-PIE *p_ṛk-, cf. Welsh *rhych* < PCelt. *rik- < *prik-) >
OE *furh*, OF *furch*, OHG *furuh*;
PGmc *hnut- ‘nut’ (cf. OIr. *cnú*, Lat. *nux*, both only approximately cognate) > ON
hnot, OE *hnutu*, OHG *nu5*;
PNWGmc *turb- ‘turf’ > ON *torf*, OE, OF *turf*, OHG *zurba* (note the preservation
of *u* in OHG even though the noun has been shifted into the *ō*-stems);
PNWGmc *stuþ- ~ *stud- ‘pillar’ > ON *stoð*, OE *stuþu* ~ *studu*.

A possible counterexample in ON is ‘door’:

PGmc *dur- (Goth. pl. *daúrons*) > ON pl. *dyrr*, OF *dure*, OE, OS *duru*, OHG *turi*.

However, in ON this word is plurale tantum (with nom. pl. *-iz), which might account for its retention of *u; moreover, in every other language it has been shifted into the *i*- or *u*-stems, and the retention of *u in those languages might be attributable to the influence of its new stem vowel.

The fact that root-nouns exhibit no lowering of *u in West Germanic is probably, though not certainly, significant. It is true that most of the overt grammatical endings of these nouns contained high vowels: acc. sg. *-u, gen. sg. *-iz, dat. sg. *-i, nom. pl. *-iz, acc. pl. *-unz, inst. pl. (?) *-miz; only gen. pl. *-ō, dat. pl. (?) *-maz, and possibly the unreconstructable inst. sg. ending

contained nonhigh vowels. The *u of the attested WGmc forms might reflect levelling of the root-vowel that occurred before those high-vowel endings throughout the paradigm, including into the nom. sg. (which either ended in *-s or *-z, or was endingless). However, the long list of lexemes and stems that do exhibit lowering seems to suggest that the root-vowel of the nom. sg. (among nouns) or the indic. 3sg. (among verb stems) was usually levelled throughout the paradigm (so Braune and Reiffenstein 2004: 35, §32 Anm. 1, for OHG). If the latter is what happened in root-nouns, then the split of *u into *u and *o is most plausibly ordered before the PWGmc loss of *a in final syllables (see 3.1.2), since nearly all a-stems exhibit lowering but no root-nouns do. It would also follow that in ON *u was lowered *unless* the conditions stated immediately below applied (thus even when no syllable followed).

Throughout the NWGmc area stressed *u was *not* lowered when followed by a nasal in the syllable coda,¹⁴ nor when the next vocalic was high and front (i.e. *j, *i, *ī), nor when the next *vowel* was *u (or, no doubt, *ū, though I know of no examples).¹⁵ The following examples with syllable-coda nasals are typical:

- PGmc *sunnōn- ‘sun’ (Goth. *sunno*) > ON (poet.), OS, OHG *sunna*, OE, OF *sunne*;
 PGmc *brunnan- ‘well, spring’ (Goth. *brunna*) > ON *brunnr* (with change of inflectional class), OE *burna* ‘stream’, OF *burna*, OS, OHG *brunno*;
 PGmc *hundaz ‘dog’ (Goth. *hunds*) > ON *hundr*, OE, OF, OS *hund*, OHG *hunt*;
 PGmc *pundą ‘pound’ (Goth. *pund*) > ON, OE, OF, OS *pund*, OHG *pfunt*;
 PGmc *munþaz ‘mouth’ (Goth. *munþs*) > ON *mūðr* ~ *munnr*, OE *mūþ*, OF *mūth*, OS *mūð*, OHG *mund*;
 PGmc *funsaz ‘ready to go, hastening’ (apparently a derivative of *finþana ‘to find’) > ON *fúss*, OE, OS *fūs*, OHG *funs*;
 PGmc *hunslą ‘sacrifice’ (Goth. *hunsl*) > OE *hūsl* ‘eucharist’;
 PGmc *jungaz ‘young’ (Goth. *juggs*) > ON *ungr*, OE *iung* ~ *geong*, OF, OS, OHG *jung*;
 PGmc *tungōn- ‘tongue’ (Goth. *tuggo*) > ON, OS *tunga*, OE, OF *tunge*, OHG *zunga*;
 PGmc *dumbaz ‘mute, dumb’ (Goth. *dumbs*) > ON *dumbr*, OE, OF, OS *dumb*, OHG *tumb* ‘stupid’;
 PNWGmc *kumlą ‘sign’ > ON *kuml* ~ *kumbl* ‘grave monument, helmet ornament’, OE *cumbol* ‘banner’, OS *kumbl* ~ *kumbal* ‘sign (from heaven)’.

¹⁴ However, in ON high vowels were subsequently lowered before *mp, *nt, *nk, which became *pp*, *tt*, *kk* (Noreen 1923: 99, 101–2). Examples of this type have been omitted from the list below.

¹⁵ However, in ON high vowels were subsequently lengthened and lowered upon the loss of preconsonantal *h; the lowering was impeded by a following high vowel, but at the time the change occurred many original unstressed short high vowels had already been lost (Noreen 1923: 100, 103). Examples of this type have been omitted from the list below.

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Examples followed by *j or a high vowel are numerous; their reflexes typically exhibit the effects of i-umlaut:

- PGmc *ubilaz ‘evil, bad’ (Goth. *ubils*) > OE *yfel*, OF *evel*, OS *ubil*, OHG *ubil*;
PGmc *buriz ‘born’ (Goth. *baúr*) > ON *burr* ‘son’ (poetic), OE *byre* ‘son, young man’ (poetic);
PGmc *hupiz ‘hip’ (Goth. *hups*) > OE *hype*, OHG *huf*;
PGmc nom. pl. *suniwiz ‘sons’ (Goth. *sunjus*) > ON *synir*, OS, OHG *suni*;
PGmc *skuldi- ~ *skulþi- ‘debt’ (deriv. of *skulaną ‘to owe’) > ON *skuld* ‘debt’, OE *scýld* ‘debt, guilt’, OF *skeld*, OS *skuld*, OHG *skuld* ‘duty, guilt’;
PGmc *gahugdiz ‘thought’ (Goth. *gahugds*) > ON *-ugð* (*illugð* ‘malice’, etc.), OE *gēhygd*, OS *gihugd*, OHG *gihuct*;
PGmc *hugjaną ‘to think’ (Goth. *hugjan*) > ON *hyggja*, OE *hycġan*, OS *huggian*, OHG *huggen*;
PGmc *wurkijaną ‘to work, to make’ (Goth. *waúrkjan*) > ON *yrkja*, OE *wyrġan*, OHG *wurchen*;
PGmc *fullijaną ‘to fill’ (Goth. *fulljan*) > ON *fylla*, OE *fyllan*, OF *fella*, OS *fullian*, OHG *fullen*;
PGmc *kunją ‘lineage’ (Goth. *kuni*) > ON *kyn*, OE *cynn*, OF *ken*, OS, OHG *kunni*;
PGmc pres. subj. *skulīn ‘they may owe’ (Goth. *skuleina*) > ON *skyli*, OE *scýlen*, OF *skele*, OS *skulin*, OHG *skulīn*;
PGmc *gulþinaz ‘golden’ (Goth. *gulþeins*) > ON *gullinn*, OE *gylden*, OF *golden*, OS *guldin*, OHG *gulđin*.

Examples with *u in the following syllable include especially the plurals of strong pasts and of preterite-presents, but also a few u-stem nouns:

- PGmc *budun ‘they offered’ (Goth. *anabudun* ‘they commanded’) > ON *buðu*, OE *budon*, OS *budun*, OHG *butun*;
PGmc *wurpun ‘they threw’ (Goth. *waúrpun*) > ON *urpu*, OE, OF *wurpon*, OS *wurpun*, OHG *wurfun*;
PGmc *hulpun ‘they helped’ > ON *hulpu*, OE, OF *hulpon*, OS *hulpun*, OHG *hulfun*;
PGmc *skulun ‘they owe, they should’ (Goth. *skulun*) > ON *skulu*, OE *sculon*, OS, OHG *skulun*;
PGmc *sunuz ‘son’ (Goth. *sunus*) > ON *sunr* (and *sonr*, see below), OE, OF, OS, OHG *sunu*;
PGmc *lustuz ‘desire’ (Goth. *lustus*) > OE, OF, OS, OHG *lust*;
PGmc *uhumistaz ‘highest’ (Goth. *aúhumists*) > *yhy mist > OE *ȳmest*.

It isn’t hard to find examples that meet two or even three of the above conditions:

- PGmc *umbi ‘around’ (vol. i 3.2.1 (iv), p. 79) > ON *um*, OE *ymbe*, OS, OHG *umbi*;
PGmc *þunkijaną ‘to seem’ (Goth. *þugkjan*) > ON *þykkja*, OE *þynġan*, OS *thunkian*, OHG *dunchen*;

- PGmc *bundun ‘they tied’ (Goth. *bundun*) > ON *bundu*, OE, OF *bundon*, OS *bundun*, OHG *buntun*;
 PGmc *þunnuz ‘thin’ (vol. i 3.2.6 (iii), p. 139) > ON *þunnr* ~ *þuðr*; >→ OE *þynne*, OS *thunni*, OHG *dunni*;
 PGmc *stubjuz ‘dust’ (Goth. *stubjus*) > OHG *stuppi*;
 PGmc *drunju- ‘noise’ (Goth. *drunjus* ‘voice’) > ON *dryn-hraun* ‘echoing rocks’.

In some phonological environments PGmc stressed *u developed somewhat differently in the different WGmc dialects; there is a clear contrast between the southern and the northern dialects. In the south the conditions for lowering were usually those stated above, and attested OHG shows rather little levelling of the outcomes in verb paradigms, though in nominals the vowel of the (OHG) nom. sg. has been levelled through the paradigm (Braune and Reiffenstein 2004: 35, §32 Anm. 1). In the northern dialects developments were more complex. An intervocalic nasal normally inhibited lowering of preceding *u even when a nonhigh vowel followed; the same exception occasionally appears in OHG, and ON agrees with northern WGmc more often than not:

- PGmc *gumō ‘man’ (Goth. *guma*) > ON *gumi*, OE *guma*, OS *gumo*, but OHG *gomo*;
 PGmc *numanaz ‘taken’ (Goth. *numans*) > ON *numinn*, OE *numen*, OS *ginuman*, but OHG *ginoman*;
 PGmc *sumaz ‘some, someone’ (Goth. *sums*) > ON *sumr*, OE, OF, OS, OHG *sum*;
 PGmc *sumaraz ‘summer’ (cf. OIr. *sam*) > ON *sumar*, OE *sumor*, OF *sumur*, OS, OHG *sumar*;
 PGmc stative *wunja- ~ *wunai- ‘rest’ (Goth. *unwunands* ‘troubled’) >→ ON *una* ‘be satisfied’, OE *wunian*, but OF *wunia* ~ *wonia*, OS *wunon* ~ *wonon*, and OHG *wonēn*, all ‘stay, dwell’;
 PNWGmc *hunagā ‘honey’ > ON *hunang*, OE *huniġ*, OF *hunig*, OS *huneg*, but OHG *honag*.

Some words attested only in WGmc exhibit the same pattern of reflexes:

- PWGmc *bru/onapō > OE *bruneða* (the name of a disease), but OHG *bronado* ‘itch’;
 PWGmc *hru/onō > OE *hruna* ‘fallen tree’, but OHG *rono* ‘tree-trunk’;
 PWGmc *þu/onai- ‘be stretched out’ >→ OE *þunian* ‘be proud’, but OHG *donēn* ‘be stretched out’.

Of course it is possible that this reflects a re-raising, i.e. *u > *o (as in southern WGmc) > *u*; Brunner 1965: 54 gives both alternatives. But the sporadic instances of *u* in southern WGmc as well (cf. OHG *sum* and *sumar*, cited above) at least suggest that lowering simply failed to occur before intervocalic nasals, regularly in the northern dialects and occasionally in the southern as well (Luick 1914–40: 107–8). One word is problematic:

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PGmc *þun(a)raz ‘thunder’ (cf. Lat. *tonāre* ‘to thunder’, Skt *tanyús* ‘thundering’) > ON *bórr* (name of the thunder god); OE *þunor*, OF *thuner*, OS *thunar*; OHG *donar*.

The ON form had no vowel before the *r, and lowering upon loss of the *n is expected (Noreen 1923: 101–2), but the OHG form requires a vowel before the *r to trigger lowering; the testimony of the other languages is ambiguous. Either ON or OHG has innovated; if the latter, the vowel was inserted very early, since it did trigger lowering.

We also find unlowered *u* in other environments in northern WGmc. In trying to work out the original conditions for the sound change one must be careful to exclude words that could have spread from dialect to dialect later, since it is clear that a phonemic split eventually occurred everywhere (see below). Some other examples can be explained as levellings. For instance, OE *lufian* ‘to love’ (*lub-ō-) and the oblique caseform *lufe* ‘love’ can owe their *u* to nom. sg. *lufu* ‘love’ with *-u* < PGmc *-ō (see 2.1.1 above); the same levelling can have occurred in the paradigm of OE *wull* ‘wool’ < *wullu (though its similarity in shape to ‘full’ and ‘wolf’ suggests that it might be a real exception, see below); OE *spurnan* ‘to kick’ (beside *spornan*), OS, OHG *spurnan* ‘to trample’ can owe their *u* to 3sg. *spurniþi, etc., in which it was not lowered; the unattested ancestor of ME *cuss* ‘kiss’ (beside OE *coss*), like OHG *kus* (beside *kos*), can have been backformed to the derived verb *kussijana (> OE *cyssan*, OHG *kussen*) at an early date; and so on. But when all such examples are excluded we are left with a few inherited words in which *u was not lowered in northern WGmc, usually in the neighborhood of a labial fricative or *w and *l (cf. Luick 1914–40: 105–6, who however has not weeded out all possible levellings and later words):

PGmc *fullaz (Goth. *fulls*, ON *fullr*) > OE, OF *full*, OS *ful*, but OHG *fol*;
PGmc *wulfaz (Goths *wulfs*, ON *ulfr*) > OE, OS *wulf*, but OF (!), OHG *wolf*;
PGmc *fuglaz (Goth *fugls*, ON *fugl*) > OE *fugol*, OF *fugel*, OS *fugal*, but OHG *fogal*;
PGmc *tulga- ‘firm’ (Goth. *tulgus*; cf. Skt. *dirg^hás* ‘long’ for the original stem vowel) in adv. OE *tulge* ‘strongly, firmly’, OS *tulgo* ‘very’.

(That unlowered *u in the root syllable could have been levelled from case-forms with *u in the endings is implausible; for the nouns the relevant endings would have been inst. sg. *-u and dat., inst. pl. *-umaz, *-umiz, while for the adj. they would have been masc., neut. dat. sg. *-um(m)ē, neut. nom.-acc. pl. *-u, fem. nom. sg. *-u, and inst. sg. *-u (all genders), all relatively marginal in functional terms.) Unfortunately there are also words of similar shape in which the lowering has occurred after all (Luick 1914–40: 105–6):

PGmc *fulmō ‘(flat) hand’ (< PIE *p₁h₂meh₂, cf. Homeric Gk. παλάμη /paláme:/ ‘palm, hand’, OIr. *lám* ‘hand’) > OE *folm* (poetic), OHG *folma*, cf. OS masc. pl. *folmos*;
 PNWGmc *fulgija- ~ *fulgai- ‘follow’ (ON *fylgja*) >→ OE *fylġan* ~ *folġian*, OF
fulgia ~ *folgia*, OS *folgon*, OHG *folgēn*;
 PNWGmc *fulka ‘troop, tribe’ (ON *folk*) > OE *folc*, OF, OS, OHG *folk*.

The fact that the last two words have no cognates outside Gmc and are not attested in Gothic (and so must be labelled ‘PNWGmc’) cannot be significant, given that the other, ‘(flat) hand’, is a strikingly isolated inheritance from PIE. Still worse, we find inconsistency among a family of indeclinables with initial *u-, also in the vicinity of a labial fricative (Luick 1914–40: 105–6):

OE *ofer* ‘over’ < PGmc *uber (cf. OF *over* ~ *ūr*, OS *oþar*, OHG *obar*; the voiceless Verner’s Law alternant of Goth. *ufar* is surprising), but
 OE *ufan(e)* ‘(from) above’, *b-ufan* ‘above’ (cf. Old Swedish *ufan* ‘from above’) <
 PNWGmc *uban- (cf. ON *ofan*, OF *fon ova*, OS *oþana*, *bioþan*, OHG *obana*).

It is not completely inconceivable that the *u-* of these OE forms was levelled in from *ufor* (adv.), *uferra* (adj.) ‘higher’, *ufemest* ‘highest’, of which the first and last can owe their *u-* to an original *u of the following syllable; but it is difficult to see why exactly that levelling should have occurred. We do not really know why *u failed to lower in these forms.

The most important consequence of this lowering was the fact that a contrast between *u and *o developed by levelling in both directions. Probable examples of levelling in favor of *u have been noted above. Levelling in favor of *o also occurred. Perhaps the earliest attested example is on the Early Runic horn of Gallehus (c. AD 400), where we find not only *horna* ‘horn’ but also the ethnonym *Holtjaz* ‘of Holt’, derived from a place name apparently identical with an ordinary word for ‘woods’, PNWGmc *hultą > *holtą (ON *holt*) > PWGmc *holt ‘woods, wood (the substance)’ (OE, OF *holt*, OHG *holz*); we expect *u* in the *ija*-stem adjective by sound change because of the *i* in the following syllable (see above), but *o* has evidently been levelled in from the base noun. Other examples include OE *snoru*, obl. *snore* ‘daughter-in-law’ < PNWGmc *snuzu, *snuzō- < PGmc *snuzō (ON *snor* ~ *snør*, cf. Skt. *snuṣā*—and note that OHG *snur* has levelled in the other direction); OE *ford*, gsg. *forda* ‘ford’ < PGmc *furduz, *furdauz (OHG *furt*; see vol. i 2.4.2 (i), p. 61; 4.3.4 (i), p. 274); and so on. Perhaps the most striking examples are the paradigms of ‘daughter’ and ‘ox’, given here in part:

PGmc *duhtēr ‘daughter’, acc. sg. *duhterų, dat. sg. *duhtri (Goth. *daúhtar*, *daúhtar*, *daúhtr*) > *dohtēr, *dohterų, *duhtri → *dohtēr, *dohterų, *dohtri >→ ON *dóttir*, *dóttur*, *dóttur*; OE *dohtor*, *dohtor*, *dæhter* (> *dehter*); OF *dochter*, OS *dohtar* ~ *-er*, OHG *tohter* (all forms);

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PGmc *uhsō, acc. sg. *uhsanų, nom. pl. *uhsiniz, obl. *uhsn- (Goth. gen. pl. *auhsne*, acc. pl. *auhsnuns*) >→ ON *oxi*, *oxa*, *yxn(-)* ~ *øxn(-)*; OE *oxa*, *oxan*, *oxan* ~ *æxen* (> *exen*), gen. pl. *oxna* (the paradigms of OF *oxa* and OHG *ohso* have been regularized).

2.3.1 (ii) *Dialectally and lexically restricted vowel shifts* In Norse there appears to have been a comparable lowering of *i to *e (Noreen 1923: 53–4), but no such general lowering occurred in WGmc. Only two words with inherited *i, both with solid PIE etymologies, appear with *e* throughout the WGmc area:

PIE *wih₁rós ‘young’ (cf. Toch. A *wir*) → ‘warrior’ (cf. Skt *vīrás*) → ‘man’ (cf. Lith. *výras*) >→ *wirós (with laryngeal lost, or vowel shortened (see vol. i 3.2.1 (iv), pp. 78–9), for unknown reasons; cf. Lat. *vir*, OIr. *fer*) > PGmc *wiraz (*weraz??; Goth. *wair*, ON *verr*) > OE, OS, OHG *wer*;

PIE *nisdós ‘seat’ (cf. Arm. *nist*) → ‘lair, nest’ (cf. Skt *nīdās*, Lat. *nīdus*) > PGmc *nistaz (*nestaz??) > OE, OHG *nest*.

We cannot be sure that PGmc did not already exhibit *e in these words (so Braune and Reiffenstein 2004: 34, §31 Anm. 1): in the latter because *nest* survives only in WGmc, in the former because the vowel has also been lowered in ON, perhaps by regular sound change, and would have been lowered regularly before *r* in any case in Gothic. The reasons why these two words consistently exhibit *e* remain unrecoverable.

However, there was a modestly extensive lowering of *i to *e* in the southern part of the WGmc area, usually before labial and velar obstruents which were in turn followed by nonhigh vowels (Braune and Reiffenstein 2004: 33–4). In consequence OHG sometimes exhibits *e* in words in which the other WGmc languages have *i*, e.g.:

PGmc *k^wik^waz ‘alive’ (ON *kvikr*) > OE *cwic*, OS *quik*, OHG *quec*; OF *quik* ‘cattle’ (occasionally *quek*, see n. 17 below);

PGmc *wikōn- ‘order, alternation’ (Goth. *wiko* ‘shift, assigned turn’; ON *vika* ‘steersman’s shift, nautical mile’) > OE *wice* (also → *wicu* ~ *wucu*, *ō*-stem), OF *wike*, OS *wika*, OHG *wehha*, all ‘week’;

PGmc *libja- ~ *libai- ‘live’ (Goth. *liban*, ON *lifa*) > OE *libban*, OF *libba*, OS *libbian*, OHG *lebēn*;

PNWGmc *spika- ‘bacon’ (ON *spik*) > OE *spic*,¹⁶ OHG *spek* (?→ OF, OS *spek*);

PNWGmc *libru, *librō- ‘liver’ (ON *lifr*) > OE *lifer*, OF *livere*, OHG *lebara*;

¹⁶ OE *spec*, attested once beside numerous examples of *spic* (Bosworth and Toller 1900 s.v. *spic*, Luick 1914–40: 108), can be an error. ModE *speck* ‘fat meat’ appears first in the 17th century and is clearly a loan from continental WGmc.

PNWGmc *klibja- (*klibā-?) ~ *klibai- ‘adhere to’ (ON *klifa* ‘to harp on (a subject)’ > OE *clifian*, OS *klibon* ‘to take root’, OHG *klebēn*;
 PWGmc *hri/ef ‘womb’ > OE *hrif*, OHG *ref*;
 PWGmc *sli/epr ‘slippery’ > OE *slipor*, OHG *sleffar*;
 PWGmc *smi/ekr ‘fine, elegant’ > OE *smicer*, OHG *smehhar*;
 PWGmc *li/ekkōn ‘to lick’ > OE *liccian*, OS *likkon*, OHG *lecchōn*;
 PWGmc *sti/ekōn ‘to prick, to stab’ > OE *stician*, OHG *stehhōn*;
 PWGmc *sti/egōn ‘to ascend’ > OE *āstigian*, OHG *stegōn*.

There are a few exceptions:

PGmc *skipą ‘ship’ (Goth., ON *skip*) > OE *scip*, OF, OS *skip*, OHG *skef* ~ *skif*;
 PNWGmc *bibja- (*bibā-?) ~ *bibai- ‘tremble’ (ON *bifa*) >→ OE *bifian*, OF *bivia*,
 OS *bibon*, OHG *bibēn*;
 PWGmc *swikōn > OE *swician* ‘to wander, to be treacherous’, OHG *swihhōn* ‘to be
 deserted’ (or are these independent derivatives of PNWGmc *swik^wana^z, which
 survives in OE *swīcan* ‘to wander, to desert, to betray’ and OHG *swihhan* ‘to leave
 in the lurch?’).

The phonological conditioning of this change, though admittedly messy, argues that the lowering was in part a phonological development, though levellings of various kinds might have contributed to the eventual outcomes (cf. Lloyd 1966). Southern forms tended to spread northward on the continent within the historical period because of Frankish political power and cultural dominance; thus OS, Low German, and Netherlandic forms with *e* for **i* are not necessarily evidence for early lowering in northern WGmc.¹⁷

The transfer of the two surviving zero-grade strong presents of class I with **i* in the root into class IV or V (with *e* in the root) is a different case. It is true that both roots end in velar stops, but the apparent lowering is not confined to southern WGmc, nor even (in one case) to WGmc as a whole. The transfer must have taken place by means of the analogical reinterpretation posited by Lloyd 1966: 743–4; that is, because this type of present was so rare (cf. Hock 1973: 340–1), learners reinterpreted the pivotal pres. 3sg. forms *wigidi

¹⁷ This is much more precise than the conclusion of Hock 1973, who does not sort the material into potentially different classes of forms with enough care. On the other hand, Hock’s full discussion of the earlier literature is valuable for an understanding of the issues. The lowering of **i* to *e* in OF exhibits a very different pattern: a majority of examples are found before coronal consonants, and most of those that are well attested actually exhibit variation between *i* and *e* (cf. van Helten 1890: 10–12); moreover, one that usually exhibits *e* in numerous examples, *fretho* ‘peace, protection, compensation’, is a u-stem that consistently exhibits *i* in all other Germanic languages (ON *fridr*, OE *friþu*, OS *fridu*, OHG *fridu* < PGmc *friþuz). It is difficult to escape the conclusion that this is a separate OF development, probably much later than those discussed here, and that apparent agreements with OHG, such as OF *levath* ~ *livath* ‘((s)he) lives’ ≈ OHG *lebēt*, are accidental. OE *eo* for expected *io* is of course the result of a much later merger (Campbell 1962: 124–6).

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‘fights’ and *stikidi ‘pierces’ as forms of underlying */weg-i-/ ~ */weg-a-/ and */stek-i-/ ~ */stek-a-/, remodelling the rest of the conjugation on that basis. The results were as follows:

PGmc *wigana ‘to fight’ (Goth. *du wigana* ‘to fight’, Old Norwegian *viga* ‘to kill’; Seebold 1970: 544–5, cf. vol. i 4.3.3 (i.a), pp. 239–40) >→ ON *vega* ‘to kill’ (past *vá*, *vágu*, ptc. *veginn*), OE *gewegan* ‘to fight’ (*Beo* 2400; ptc. *forweġen* ‘slain’, *Mald* 228), OHG *ubarwehan* ‘to overcome’ (with levelling of the voiceless Verner’s Law alternant from the past indic. sg.);

PGmc *stikana ‘to pierce, to stab’ (Seebold 1970: 467–8, cf. vol. i 4.3.3 (i.a), pp. 239–40) >→ =PWGmc *stekan > ME *steken* ‘to pierce; to fasten; to enclose’ (past *stak*, ptc. *ysteke* ~ *stoken*; *OED* s.vv. *steek* v.^{1,2}), OF pres. 3sg. *stekth* ‘sets up’ (ptc. *thruçh-stetsen* ‘pierced through’; van Helten 1890: 211), OS past 3sg. *stac* ‘pierced’ (*Heliand* 5705), OHG *stehhan* ‘to pierce’ (past *stah*, *stāhun*, ptc. *gistohhan*; Braune and Reiffenstein 2004: 283–4).

(It is true, as Lloyd 1966: 739 emphasizes, that ON past 1, 3sg. *vá* is the expected sound-change reflex both of *waih ‘fought’ and of *wag ‘moved’, and that that could have contributed to the remodelling in that language.)

The raising of *e to *i* before syllables containing *u* was completely confined to OS and OHG; it did not occur in Frisian, English, or Norse (Beeler 1966).

A lexically conditioned ‘minor’ sound change that probably occurred throughout the NWGmc area was the lengthening of the vowel of PGmc *hir ‘here’ (Grønvik 1981: 202–3 n. 52). It has clearly been lengthened and lowered to *ē* in ON *hér*, OE, OS *hēr*, and OHG *hiar*. In OS, however, we also find *hīr*, and that is the only OF form. It is possible that the vowel of those forms was actually short *i*, but that seems very unlikely, given that the vowels of ‘there’ and ‘where’ were lengthened throughout WGmc (see 3.1.5 below; cf. the discussion of Stiles 2004: 388 n. 4)). Still, the fact that the vowel of this word was lowered in only some parts of the WGmc area suggests that the lengthening itself was a post-PNWGmc change. Lengthening and lowering to *ē* also occurred in Goth. *her*, but that was probably an independent parallel change.¹⁸ A consequence is that the short vowel of PGmc *hir must be reconstructed by inference: since ‘there’ was *þa- ‘that’ + *-r and ‘where’ was *h^wa- ‘what?’ + *-r, ‘here’ should have been *hi- ‘this’ + *-r. That raises the possibility that OE *hēr*, etc. actually reflect *he- + *-r, with the lower ablaut alternant of ‘this’ (Grønvik 1981: 202–3 n. 52; see vol. i 4.3.6 (ii), pp. 289–90,

¹⁸ Note that the introduction of *ē in NWGmc must postdate the shift of inherited *ē to *ā described in 2.1 above. There are no other unarguable cognates with Goth. *e* = NWGmc *ē; Goth. *fera*, OHG *fiara* ‘side’ can of course reflect later borrowing.

and section 2.2 above). In any case it seems likely that the vowel was lengthened in this word under heavy deictic stress (Grønvik 1981: 202–3 n. 52).

One last sound change that needs to be discussed here is the raising of **ō* to **ū* in unstressed nonfinal syllables. Such a change clearly occurred before **n* in feminine *n*-stems both in ON and in OS and OHG (cf. oblique sg. ON *tungu*, OS *tungun*, OHG *zungūn* ‘tongue’, etc.). However, there are a few Early Runic oblique forms of feminine names in *-on* (Krause 1971: 119), which show that this cannot be a historically shared change, and there is no clear evidence that it ever occurred in any ancestor of English. It has also been claimed that an unstressed sequence **-ōCu-* yielded **-ūCu-* in PNWGmc or even in PGmc (Luick 1914–40: 269–70, Noreen 1923: 119 Anm. 1 with references, Campbell 1962: 139); I postpone discussion of that hypothesis to section 3.1.5.

Though nonfinal **z* became *r* in every NWGmc language, I postpone discussion of that change until section 3.3.1 for a straightforward reason: it can be proved that this ‘rhotacism’ occurred independently in Norse and in WGmc, and even in the latter group its application was not uniform.

2.3.2 *Post-PNWGmc morphological changes*

There are probable voc. sg. forms in Early Runic (Krause 1971: 116, 118), but otherwise the vocative has undergone syncretism with the nominative throughout NWGmc. Since that is an easily repeatable change, we are unable to reconstruct exactly when it occurred.

Throughout the NWGmc area the *r/n*-stem paradigms of ‘fire’ and ‘water’ were levelled. It is clear that the process was not uniform, because both *r*-stem and *n*-stem forms survived in various dialects of Norse, whereas only forms in *-r* survived in WGmc, but the details are frustratingly difficult to reconstruct. Further discussion of both words will be taken up in section 4.2.2.

As Patrick Stiles has observed (Stiles 2013: 22–3), in Norse and in northern WGmc the ending *-um*, which is expected in the dat./inst. pl. of *a*-stem nouns, appears not only in other noun classes (where it can easily be attributed to levelling between paradigms), but also in two unexpected functions: (1) the strong adj. masc./neut. dat. sg. ending, where we expect to find reflexes of **-um(m)ē* < PGmc **-ammai*, and (2) the strong adj. dat./inst. pl. ending, where we expect to find reflexes of **-ēm* < PGmc **-aimaz* / **-aimiz*. In the latter category OHG actually retains inherited *-ēm*, so it is clear that southern WGmc did not participate in the spread of *-um* to that category; that increases the likelihood that southern WGmc never exhibited **-um* in the dat. sg. of strong adjectives either, though we cannot prove that because the OHG ending *-amu* ~ *-emu* is yet another innovation. It seems very likely that the spread of

-um to and within strong adjective inflection is an innovation that spread from northern WGmc to Norse, or vice versa, when the two were still in contact.

The fourth class of weak verbs, fientives with presents in *-nō- ~ *-na- (vol. i 4.3.3 (ii.g), pp. 259–60), lost their identity as an inflectional class throughout NWGmc, but the outcomes were different in Norse and in WGmc. In ON the inflection of this group has been assimilated completely to that of the second class, so that *vakna* ‘to wake up’, for example, has in all forms the same endings as *kalla* ‘to call’, *lofa* ‘to praise’, *varða* ‘to guard’, etc., with reflexes of long *ō*-vowels not only before the past suffix -ð- but also throughout the present stem. But the formation remained productive in Norse, and any list of a few dozen common ON class II weak verbs is likely to contain several fientives in -na. In WGmc the formation ceased to be productive early, and not even many fossilized examples remain in the attested languages. I can find only the following:¹⁹

OE *liornian* ~ *leornian*, OF *lirnia* ~ *lernia*, OS *linon*, OHG *lirnen* ~ *lernēn*²⁰ ‘to learn’
 ←< PGmc *liznō- ~ *lizna-, derivationally related to *laizijaną ‘to teach’ and
 Goth. *lais* ‘I know’;

OHG *gistorchanēt* ‘congealed’ (attested twice in glosses) ←< PGmc *gasturknō- ~
 *-na- ‘to dry up (intr.)’ (Goth. *gastaúrknan* ‘to dry up, to thicken’, ON *storkna* ‘to
 become thick’);

OE (*on*)*wæcnan*, past (*on*)*wōc* and *onwæcnian*, past *onwæcnode* ‘to wake up (intr.),
 to come into being’ ←< PGmc *waknō- ~ *wakna- ‘to wake up (intr.)’ (Goth.
gawaknan, ON *vakna*);

OE *ginian*, OS *ginon*, OHG *ginēn* ←< PGmc *ginō- ~ *gina- ‘to yawn, to gape’
 (?beside *ginana; see Seebold 1970: 219–20; cf. vol. i 4.3.3 (i.a), p. 240);

OE *weornian* ‘to pine away, to grow weak’, OHG *wernēn* ‘to worry, to torment
 oneself’ ←< PNWGmc *wiznō- ~ *wizna- ‘dry up, wither (intr.)’; also, with
 analogical voiceless Verner’s Law alternant, OE *wisnian*, OHG *wesenēn*, both ‘to
 dry up, to wither’ (ON *visna*).

A further example is somewhat questionable:

OE *hlinian*, OS *hlinon*, OHG *linēn* ←< PGmc *hlinō- ~ *hlina- ‘to lean?’ (cf. Gk
κλίειν /klí:ne:n/, Lat. *inclināre*).

¹⁹ It is not impossible that OE *druncnian* is an inherited fientive, since it can mean ‘to get drunk, to be drunk’; but since it can also mean ‘to furnish with drink’ (at least in late WS), we cannot dismiss the possibility that it was derived from the past participle *druncen* within the separate history of OE.

²⁰ The second OE form exhibits a much later merger of *io* with *eo* (see n. 17 above); the other forms with -e- exhibit relatively late (and independent) lowering of *i before *r*. None of these forms has any bearing on the early lowering of *i discussed above.

Some relic OE forms of this verb apparently belong to weak class III (see 5.2, 7.1.5), which suggests that it might not have been a class IV weak verb in PGmc. It is not surprising that the northern WGmc forms of the other verbs listed here are mostly class II weak verbs (as in ON), and perhaps not very surprising that one verb has a strong variant in OE, considering that the entire class exhibits simple thematic inflection in the present in Gothic. The OHG class III weak inflection must reflect the WGmc interchange between weak classes II and III (see 3.3.2 below), but it is surprising that all the surviving fientives wound up in class III in OHG.

The most striking morphological development of the NWGmc languages, the remodelling of reduplicated strong past stems, was clearly a late parallel development; it will therefore be dealt with in section 3.3.2.

Finally, we need to examine the distribution of class II strong verbs with *ū in the root syllable. In vol. i 4.2.2 (ii), pp. 226–7; 4.3.3 (i.b), p. 241, it was noted that only one such verb can be securely reconstructed for PGmc:

PGmc *lūkanaǵ ‘to close’ > Goth. *galūkan*, ON *lúka*, OE *lūcan*, OF *bi-lūka*, OS *bi-lūkan*, OHG *bi-lūhhan*.

Two others, which are widely attested in the family and always exhibit *ū, might fail to be attested in Gothic by chance:

P(NW)Gmc *sūganaǵ ‘to suck’ > ON *súga*, OE, OS, OHG *sūgan*;

P(NW)Gmc *sūpanaǵ ‘to drink, to slurp’ > ON *súpa*, OE *sūpan*, OHG *sūfan*.

I have argued that PGmc *brūkanaǵ ‘to need’ and *būanaǵ ‘to dwell’ were not strong verbs in PGmc (vol. i 4.3.3 (ii.a), pp. 251–2), though they became strong verbs in individual daughter languages (Seebold 1970: 124–5, 140). Other class II strong verbs with *ū exhibit an interesting pattern of attestation among the languages. Some always show *ū but are attested only in ON and northern WGmc:

ON *lúta*, OE *lūtan* ‘to bow’ (derivs. with *eu, *au, and *u throughout Gmc, Seebold 1970: 340–1);

ON *dúfa*, OE *dūfan* ‘to dip’ (derivs. with *ū and *au in ON and OE, Seebold 1970: 155–6);

OE *crūdan* ‘to crowd’ (OE derivs. with *u, Seebold 1970: 309) and *sūcan* ‘to suck’ (OE derivs. with *u and *au, Seebold 1970: 399), both etymologically isolated (though cf. *sūganaǵ above with the latter);

ON *stúpa* ‘to tower’ (1x; cf. OE class II weak *stūpian* ‘to stoop’; derivs. with *au throughout NWGmc).

Two such verbs not attested in ON have derivatives in *ū throughout WGmc:

OF *dūka* ‘to dip’, OHG past 3pl. *tuhhun*, ptc. *gitohhan* (derivs. with *ū throughout WGmc, Seebold 1970: 156–7);

OE *strūdan* ‘to plunder’ (derivs. with *ū and *u in OE and OHG, Seebold 1970: 478).

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The remaining verbs of this type have byforms with *eu. In several cases northern WGmc consistently exhibits *ū, but both OHG and Gothic (if the verb is attested in the latter) exhibit *eu:

- OE *būgan* ‘to bend’, but Goth. *biugan*, OHG *biogan* (ON past 3pl. *bugu*, ptc. *boginn*, OS past 3sg. *bōg*; numerous derivs. with *eu, *au, and *u, Seebold 1970: 110–11);
- OE *scūfan* ‘to push’, OF *skūva*, but Goth. *afskiuban*, OHG *skioban* (ON derivs. with *ū, WGmc with *u, Seebold 1970: 416–17);
- OE *slūpan* ‘to slip, to slide’ but Goth. *sliupan*, OHG *sliofan* (derivs. with *au and *u, Seebold 1970: 435–6);
- OE *lūcan* ‘to weed’, OF *lūka* ‘to pull’, but OHG *arliohhan* ‘to root out’ (OE deriv. with *u, Seebold 1970: 337);
- OF *slūta* ‘to close’ but OHG *sliozan* (derivs. with *u, Seebold 1970: 436–7).

In one case ON exhibits *eu, WGmc consistently *ū:

- OE, OS *hrūtan* ‘to snore’, OF *hrūta*, OHG *rūzan*, but ON *hrjóta* (ON derivs. with *u, OHG with *eu and *ū, Seebold 1970: 277).

A few verbs exhibit other patterns:

- OE *smūgan* ‘to creep’ but ON *smjúga* ‘to slip in’ (derivs. with *au and *u, and OF *smūge* ‘act of creeping in’, Seebold 1970: 439–40);
- OF *sprūta* ‘to sprout’ but OE *āsprēotan* (late WS, only past forms earlier; *sprūten* in the 12th-century *Trinity College Homilies*; derivs. with *eu, *au, and *u, Seebold 1970: 459);
- OE *þūtan* and *þēotan* ‘to howl, to roar’, ON *þjóta*, OHG *diozan* (derivs. with *eu, *au, and *u, Seebold 1970: 516).

Since Gothic and OHG do not usually share innovations, it appears that most or all of the verbs with *ū must be innovative (either entirely new lexemes or remodellings of older verbs with *eu). It has repeatedly been suggested that the new ablaut pattern was modelled on that of class I verbs with *ī in the root (vol. i 4.2.2 (ii), p. 227; see also the addenda and corrigenda to this volume).

Like the distribution of the nominal ending *-um*, the distribution of *ū in strong verbs strongly suggests an innovation that began in the northern part of a NWGmc dialect continuum, or in northern WGmc at a period when the latter and the Norse dialects were still in intimate contact, so that the exchange of linguistic innovations was still fairly free. That suggests that PWGmc might have been dialectally diverse even before the occurrence of the shared changes that make it a recognizable linguistic entity. We will encounter further evidence to that effect in the following chapter.

3

The development and diversification of West Germanic

The number of distinctive changes shared exclusively by all the WGmc languages is surprisingly large; it leaves no doubt that there was for some generations a unitary PWGmc language, though it seems equally clear that there were always minor dialect divisions within it (see especially Stiles 2013).

This chapter will discuss PWGmc innovations, together with a number of other innovations that clearly postdate the PWGmc period but are widely shared by the daughter languages.

3.1 Proto-West Germanic sound changes

3.1.1 *Changes of coronal consonants*

The most unusual sound change shared by all the WGmc languages was clearly a PWGmc innovation: the intervocalic sequences *zw and *dw were assimilated to *ww (Stiles 1985–6, *NOWELE* 6: 89–94). There is really only one example of each input cluster, but the basic nature of the lexemes involved makes the change virtually certain:

PGmc *fedwōr ‘four’ (Goth. *fidwor*) > *fewwār > PWGmc *feubar (see 3.1.4 on the vowel of the final syllable) > OE *fēower*, OF *fiūwer*, OS *fiuwar*; OHG *fior* has been backformed to *fiorde* ‘fourth’, etc. (Stiles 1985–6, *NOWELE* 6: 91–2);
PGmc *izwiz ‘you (dat. pl.)’ (Goth. *izwis*) > *iwwi > PWGmc *iuwi ~ *iuw (see 3.1.4) > OE *iow*, OF *iū*, OS, OHG *iu*;
PGmc *izweraz ‘your (pl.)’ (Goth. *izwar*) > *iwwar > PWGmc *iuwar > OE *iower*, OF *iūwer*, OS *iuwar*, OHG *iuwer-ēr*.

This appears to have been a single change in which voiced coronal fricatives were assimilated to a following *w. It is even possible that the change affected, in principle, all voiced fricatives, since there are no reconstructable examples of *bw or *gw (Crist 2001: 99–100).¹ Since there were already

¹ Crist observes (2001: 99–100) that those *d which were stops in PGmc were not affected by the change; all the examples in question are word-initial.

instances of *ww in the language, this change was a merger of three surface-contrastive units.

There seem to be no clear counterexamples to this change. Nominal stems in *-dwō- apparently restored *-d- by levelling from the nom. sg.:

PGmc *badwō, *badwō- ‘battle’ > PNWGmc *badu, *badwō- (see 2.1.1) >
 *badu, *bawwō- → PWGmc *badu, *badwō- > OE *beadu*, obl. *beadwe*.

Of the stems in *-dwa-, *skadwa- ‘shadow’ was originally a u-stem (cf. Goth. *skadus*) and might still have been one in WGmc at the time of this sound change; in that case it would have had no forms containing *-dw- which would have been affected by the change. The OE neuter *cwidu*, *c(w)udu*, gen. *cwidwes* ‘gum, cud’ could also have been a u-stem originally (Stiles 1985–6, *NOWELE* 6: 93 with references); note that its only certain cognate, OHG *quiti*, *chuti* ‘putty, glue’ is apparently an i-stem, like many former u-stems (cf. Braune and Reiffenstein 2004: 202–3, 205). Moreover, since all cognates outside of WGmc are doubtful at best,² we cannot even be sure that the word was part of the language when the sound change in question occurred. ON *horr*, OHG *haro* ‘flax’ must reflect PNWGmc *harwaz, not *hazwaz, since *z would have umlauted the preceding vowel to ø in ON (Walde and Pokorny 1928: 449). (See 3.1.2 on a further doubtful counterexample.)

The change of *zw and *dw to *ww must have preceded the change of *Vww to *Vuw (see 3.1.5), which it fed; thus the WGmc clade is validated by the sequence of those two sound changes.

PGmc *z had always been a fricative in all positions, but the other voiced obstruents had both stop and fricative allophones (see vol. i 3.2.4 (i), p. 100). In PWGmc the non-coronal voiced obstruents continued to exhibit that allophony, but *d became a stop in all positions. That is not a mathematical result of the comparative method, which permits the reconstruction only of contrastive oppositions; we know it only because of the relatively good phonetic information we possess about the earliest attested stages of the individual WGmc languages. In OE and OS the reflex of this PWGmc phoneme is written with *d*, not with *ð* or *ḍ* (which reflect PWGmc *þ); in OHG *d is regularly shifted to *t*, which implies that it was phonetically a stop *[d] before the shift. Every word containing intervocalic *d cited from an attested WGmc language is an example of this change.

² All the other supposed cognates listed in Holthausen 1963 s.v. *cwidu* are suggested on the assumption that the root-vowel of the OE word was originally *e; but since there was no raising of *e before *u in northern WGmc, that is probably impossible.

If the change of *dw to *ww makes any sense phonetically (see above), it must have occurred before *d between vocalics became a stop; it follows that the WGmc clade is validated by this sequence of two sound changes as well. (See also 3.2.1.)

An obvious way in which WGmc languages differ from Gothic and Norse is that PGmc word-final *-z has been lost throughout WGmc when the preceding syllable nucleus was unstressed. Examples include many nominal endings, as well as some 2sg. forms of verbs:

- PGmc *þewaz ‘slave’ nom. sg. (Early Runic *þewaz* (Krause 1971: 116, 171); Goth. nom. sg. *þius happens to be unattested) > PWGmc *þeu > OE *þeo(w)*, OHG *deo*;
 PGmc *daganz ‘days’ acc. pl. (Goth. *dagans*) > PWGmc *dagā (? , see below) > OHG *taga*;
 PGmc *gebōz ‘gift’s’ gen. sg. (Goth. *gibos*, ON *gjafar*) > PWGmc *gebā > OE *giefē*, OS *geba*, OHG *geba*;
 PGmc *gebōz ‘gifts’ nom. pl. (Goth. *gibos*, ON *gjafar*) > PWGmc *gebō > OE *giefā*;
 PGmc *rūnōz ‘secrets’ acc. pl. (Goth. *rūnos*; Early Runic *runoz* ‘runes’) > PWGmc *rūnā > OE *rūne*, OHG *rūna*;
 PGmc *gastiz ‘guest’ nom. sg. (Goth. *gasts*, Early Runic *-gastiz*) > PWGmc *gasti > OE *giest*, OHG *gast*;
 PGmc *gastiz ‘guests’ nom. pl. (Goth. *gasteis*, ON *gestir*) > PWGmc *gasti > OS, OHG *gesti*;
 PGmc *gastinz ‘guests’ acc. pl. (Goth. *gastins*) > PWGmc *gasti (? , see below) > OHG *gesti*;
 PGmc *sunuz ‘son’ nom. sg. (Goth. *sunus*, ON *sonr*) > PWGmc *sunu > OE, OF, OS, OHG *sunu*;
 PGmc *sunauz ‘son’s’ gen. sg. (Goth. *sunaus*, ON *sonar*) > PWGmc *sunō > OE, OF *sunā*;
 PGmc *burgiz ‘fort’s’ gen. sg., ‘forts’ nom. pl. (Goth. *baúrgs* ‘city’s, cities’) > PWGmc *burgi > OE *byrg* ‘(fortified) town’s, towns’;
 PGmc *wiliz ‘you want’ (Goth. *wileis*; *wileiz-u* ‘do you want?’) > PWGmc *wili > OS, OHG *wili*;
 PGmc *beraiz ‘you would carry’ (Goth. *baírais*) > PWGmc *berē > OE *bere*;
 PGmc *bēriz ‘you would have carried’ (Goth. **bereis*, ON *bærir*) > PWGmc *bāri > OE *bære*.

What happened to the vowels of the acc. pl. endings *-anz, *-inz, *-unz when word-final *-z was lost is unclear. Long vowels must have resulted, because wherever the endings escaped loss by syncretism they were not lost by sound change: we find OHG acc. pl. *steina* ‘stones’, *gesti* ‘guests’, archaic *situ* ‘customs’ (Braune and Reiffensteinn 2004: 205, § 220c Anm. 3), etc. It is reasonable to suppose that those long vowels were nasalized *-ā̄, *-ī̄, *-ū̄, especially

since the same nasalized long vowels continued to occur before *h in stressed syllables throughout the PWGmc period (see vol. i 3.2.7 (ii), pp. 149–50, and section 4.1), but there is no direct evidence for the nasalization.

The r-stem gen. sg. ending *-urz³ (vol. i 4.3.4 (i), p. 276) lost its *-z in all its surviving reflexes; e.g. *fadurz ‘father’s’ > ON *fǫður*, Angl. OE *fadur* (*Cæd*), *feadur* (*Ps(A)*), *fador* (*Li*). We have no way of knowing whether *-z was simply lost or the cluster first underwent assimilation, i.e. *-rz > *-rr > -r (see 3.3.1).

Though much of the evidence has been eliminated by syncretism and other morphological changes, it is clear that the loss of *-z in unstressed syllables was a pan-WGmc sound change. It might be attested in Tacitus, i.e. late in the 1st century AD (Grønvik 1998: 96 with references), though judgments from Latinized endings can never be completely secure. In any case the hypothesis that it occurred early makes it easier to understand the remodelling of the weak past endings (see section 3.2.1), which in the southern dialects must have preceded the unrounding of bimoric *ō—another pan-WGmc sound change. On the other hand, it seems to have followed the northern WGmc remodelling of u-stem inflection (see 3.1.4). On balance it seems most reasonable to ascribe the loss of word-final *z in unstressed syllables to PWGmc.

Note that this decision entails separating the loss of *-z in unstressed syllables from the loss of *-z in stressed syllables—i.e., monosyllables—which was not uniform throughout WGmc and was clearly a late change, probably post-PWGmc (see section 3.3.1). The relative chronology suggests that those were two historically separate sound changes (so Crist 2001: 107–8). But it is also at least possible that there was a single change whose period of variable implementation lasted for many generations, eventually going to completion in all environments in some dialects but not in others. That seems less likely because loss of *-z does not exhibit the kind of morphological interference that is typical of long-drawn-out sound changes (such as the late OE loss of -n, on which see vol. iii). If that is nevertheless what really happened, the real chronology of changes can have been more complex than the chronology that I reconstruct.

3.1.2 *Changes of final-syllable vocalics*

Another sweeping sound change that characterizes all WGmc languages is the loss of unstressed *a and *ą word-finally and before final *-z. The change

³ It should be noted that this is not the only possible reconstruction of the PGmc ending; *-uraz is also conceivable (Bammesberger 1990: 207).

affected especially the a-stem sg. endings of the direct cases; note the following examples:

PGmc, PNWGmc *þewaz nom. sg. ‘slave’ (cf. Early Runic *þewaz*, Krause 1971: 116, 171) > PWGmc *þeu > OE *þeo(w)*, OHG *deo*;

PGmc *slaganaz nom. sg. ‘slain’ >→ PNWGmc *slaganaz ~ *slaginaz (see 2.1.2; Early Runic *slaginaz*, Krause 1971: 116, 156) > PWGmc *slagan ~ *slagin > OE *slægen*, OF *ge-slegin*, *slein*, OS, OHG *gi-slagan*;

PGmc, PNWGmc *kuningaz ‘headman’ (cf. the early Finnish loanword *kuningas* ‘king’) > PWGmc *kuning ‘king’ > OE *cyning*, OF *kening*, OS, OHG *kuning*;

PGmc, PNWGmc *stainą acc. sg. ‘stone’ (Early Runic *staina*, Krause 1971: 116 etc.) > PWGmc *stain > OE *stān*, OF, OS *stēn*, OHG *stein*;

PGmc *hurną nom.-acc. sg. ‘horn’ > (post-)PNWGmc *horną (Early Runic *horna*, Krause 1971: 116, 148, 166) > PWGmc *horn > OE, OF, OS, OHG *horn*;

PGmc *mēkiją acc. sg. ‘sword’ (cf. Goth. *meki*) > PNWGmc *mākiją (Early Runic *makija*, Krause 1971: 117, 173) > PWGmc *māki > OE (Angl.) *mēče*, OS *māki*.

If *u was lowered to *o before the loss of these low vowels in final syllables, then the vowel loss must have spread through an already differentiated dialect continuum, since u-lowering occurred under partly different conditions in the northern and southern WGmc dialects (see 2.3.1 (i)). But the loss of word-final short low vowels was clearly a PWGmc change, since several other pan-WGmc changes followed it (see below and section 3.1.3). That amounts to claiming that at the time the loss occurred PWGmc was still a single speech community in the larger sense—that is, a group of mutually intelligible dialects in contact—but not in the narrowest sense. Such a hypothesis is at least plausible in this case; in 3.1.4 and 3.2.1 we will encounter cases in which such a hypothesis is necessary.⁴

At first glance it seems difficult to determine whether the loss of word-final *-z following unstressed vowels occurred before or after the loss of *a. The most economical ordering of the sound changes is

⁴ External evidence for the date of the loss of these vowels is inconclusive. The forms of Germanic words preserved in Latin texts must necessarily be treated with great caution, and I have discounted them here. More serious evidence is the appearance of final *-u* in forms of a-stem (!) nominals on continental runic coins and Frisian runic inscriptions (Page 2001: 525–8 with references). As Page repeatedly emphasizes, these are difficult to interpret, not least because the context is so meager; but it seems just possible that they testify to the persistence of some vowel—not necessarily *[-u], to judge from later Frisian outcomes—as a reflex of *-az and/or *-ą as late as the 6th or even the 8th century (Page 2001: 525–8). But if that is true, the Frisian-speaking area must have been by far the last holdout against this apocope, since by the 8th century even the gemination of consonants by *j—which substantially followed the apocope of word-final short low vowels (see below)—lay some centuries in the past in the OE, OS, and OHG speech communities. See also the emphatically cautious remarks of Stiles 1995: 188–91.

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- 1) loss of *-z after all unstressed vowels, followed by
- 2) loss of word-final *-a and *-ą.

The history of ON shows that the reverse ordering is possible, however, since the low vowels in these endings were lost before AD 700 (Noreen 1923: 132–4, Krause 1971: 90–4) but reflexes of *-z were lost only centuries later (and many still survive in modern Icelandic). On the other hand, the *a of gen. sg. *-as was also lost in Norse; in fact, short vowels in final syllables were lost before all obstruents in ON (cf. Noreen 1923: 135–6). If we suggest a similar development for WGmc, we must explain why *a was lost before word-final *-z but not before word-final *-s; or, if *-z had already become some sort of rhotic (see 3.1.3 and 3.3.1), why *a was lost before word-final *-z but not before word-final *-r. Ordering the loss of *-z first is less complex and therefore preferable. The only potential counterexamples are dat. pl. *Aflims*, *Vatvims*, and *Saithamims*, found in inscriptions to the Matrona-goddesses written mainly in Latin in the 2nd and 3rd centuries AD near the lower Rhine (Neumann 1987: 108); but we cannot be certain that the ethnically Germanic Roman soldiers who must have had them inscribed spoke a West Germanic language, and in any case those lost vowels were in the third and fourth syllables of their words and could therefore have been susceptible to unusually early loss. Finally, there are other indications that the loss of final *z in unstressed syllables was an early change (see 3.1.1 and 3.2.1). The balance of evidence therefore favors the ordering suggested at the beginning of this paragraph.

Upon the loss of unstressed *a and *ą, preceding postconsonantal *j and *w became syllabic *i and *u respectively, and preceding *ij > *i. The following examples are typical:

- PGmc *harjaz ‘army’ (Goth. *harjis*, ON *herr*) > PWGmc *hari > OE *here*, OS, OHG *heri*;
- PGmc *balwą ‘harm, evil’ (Goth. *balwa-wesei* ‘wickedness’, ON *ból* ‘misfortune’) > PWGmc *balu > OE *bealu*, OS *balu*, OHG *balo*;
- PGmc *sarwą ‘device, tool, weapon’, nom. pl. *sarwō (Goth. *sarwa* pl. ‘armor’) > PWGmc *saru, nom. pl. *saru (see section 2.1.1) > OE *searu*, OHG *saro*;
- PGmc *gelwaz ‘yellow’ (cf. Lat. *helvos* ‘bay (horse)’) > PWGmc *gelu > OE *gēolu*, OS *gelu*, OHG *gelo*;
- PNWGmc *haswaz ‘gray’ (ON *hǫss*) > PWGmc *hasu > OE *hasu*;
- PGmc *andijaz ‘end’ (Goth. *andeis*) > PWGmc *andi > OE, OF *ende*, OS *endi*, OHG *enti*;
- PGmc *hirdijaz ‘herdsman’ (Goth. *hairdeis*, ON *hirðir*) > PWGmc *hirdi > OE *hierde*, OS *hirdi*, OHG *hirti*;
- PGmc *rikiją ‘rule, kingdom’ (Goth. **reiki*, ON *riki* ‘power’) > PWGmc *riki > OE *riċe*, OF *rike*, OS *riki*, OHG *rihi*;

PGmc *arbiȝa ‘inheritance’ (Goth. *arbi*, ON *erfi* ‘funeral feast’) > PWGmc *arbī > OE *ierfe*, OF *erve*, OS *erbi*, OHG *arbi* ~ *erbi*;
 PGmc *irzizaz ‘mistaken, wrong’ (Goth. **airzeis*) > PWGmc *irri > OHG *irri*; → northern WGmc *irri ‘angry’ > OE *ierre*, OF *īre*, OS *irri*;
 PGmc *mērijaz ‘famous’ (Goth. neut. *waila-meri* ‘praiseworthy’, ON *mærr*) > PWGmc *māri > OE *māre*, OS, OHG *māri*;
 PNWGmc *wītijaȝ ‘punishment’ (ON *víti* ‘(a) fine’) > PWGmc *wīti > OE, OF *wīte*, OS *wīti*, OHG *wīȝzi*.

That this change preceded the WGmc gemination *Cj > *C^jC^j (see below) is demonstrated by facts of two kinds. On the one hand, some OE i-stems have ja-stem byforms (Dahl 1938: 84–6, Campbell 1962: 244, Brunner 1965: 214); that is most easily explained as a result of learner reanalysis based on identical nom. and acc. sg. forms. That is, because (for example)

PGmc *matiz ‘food’ (Goth. *mats*), acc. *matj, gen. *matiz, etc. > PWGmc. *mati, *mati, *matī, etc.,

whereas

PGmc *sagjaz ‘retainer’ (vol. i 3.2.4 (iii), pp. 109–10), acc. *sagja, gen. *sagjas, etc. > PWGmc *sagi, *sagi, *sagjas, etc.,

native learners abstracted such stems as *matja- from nom.-acc. sg. *mati; hence OE *mettas* ‘foods’, with *tt* < *tj, beside the usual sg. *mete* without gemination. On the other hand, relic OHG spellings like *beti* ‘bed’ < PWGmc *badi < PGmc *badja (Goth. *badi*) point to the same conclusion (Dal 1971: 68–9). It follows that the usual attested nom.-acc. sg. forms, such as (neut.) OE *bedd*, OS *bed*, OHG *beti* ‘bed’, OE *cynn*, OS, OHG *kunni* ‘lineage’, and (masc.) OE *hrycg*, OHG *rucki* ‘back’, reflect levelling from the remaining forms of the paradigm, in which the *Cj clusters survived to undergo gemination (with or without suppression of *-i, the regular sound-change reflex of stranded *-j).

One might expect that the occasional u-stem would likewise have become a wa-stem, and at least one did:

PGmc *skaduz ‘shadow’ (Goth. *skadus*) > PGmc *skadu, reinterpreted as nom. sg. of a stem *skadwa- > OS *skado*, OHG *scato*, dat. sg. *scat(a)we*.

A similar change might account in part for the shape of OE *sceadu*, obl. *sceadwe*; but since the noun is feminine, and since there is a neuter byform *scead* (gen. sg. *sceades*, etc.), it seems at least as likely that it reflects an old collective, and the details of its development are difficult to recover.

There is an example of inherited *dw which might conceivably show that the change of *dw and *zw to *ww followed the loss of unstressed word-final *a and *ą (see above); in that case we might have to conclude that all the changes discussed so far (or all but the loss of *-z in unstressed syllables) spread through the WGmc dialect continuum after the variable lowering of *u. Unfortunately the example is not clinching. The following development might be suggested (cf. Stiles 1985–6, *NOWELE* 6: 93–4 with references):

PGmc *gaidwą ‘omission, lack, need’ (Goth. *gaidw*) > *gaidu, ?*gaiwwa- →
 PWGmc *gaidu, *gaidwa- > OE (poet.) *gād*.

But several factors combine to make this scenario less than certain. The OE form is attested only in the nom. sg., and the OS cognate *metigēd(e)ono* gen. pl. ‘of famines’ (*Heliand* 4331) is apparently a jō- or ō-stem (the manuscripts disagree); consequently we cannot be sure that this word was still a wa-stem in WGmc when any of the relevant sound changes occurred. Moreover, since in both the certain examples of the change to *ww the original cluster is preceded by a short vowel, we do not know whether the change would have occurred in *gaidwą, where the cluster is preceded by a diphthong. We can only conclude that the relative chronology of assimilation to *ww and final-syllable *a-loss is unrecoverable.

Finally, it should be noted that the loss of *-a, *-ą, *-az also stranded numerous examples of the sonorant consonants *m, *n, *r, *l between obstruents and word-end; for instance, PGmc *akraz ‘field’ > PWGmc *akr, PGmc *fingraz ‘finger’ > PWGmc *fingr, PGmc *fuglaz ‘bird’ > PWGmc *fugl, PGmc *taikną ‘sign’ > PWGmc *taikn, PGmc *maiþmaz ‘gift’ > PWGmc *maiþm ‘treasure’, and so on. These consonants survived without alteration into the 8th century in OE. Presumably they were syllabic, but they do not ‘count’ as syllables in the most archaic stratum of OE poetic formulae. Their development will be discussed in section 6.9.5.

3.1.3 *The resolution of labiovelars and gemination*

In PWGmc labiovelars were resolved into sequences of velar + *w. We can be certain that so subtle a change occurred because of two subsequent changes, as follows.

In a few instances the word-final *-w that resulted from the loss of *-az, *-ą became *-u (see section 3.1.2):

PGmc *k^wik^waz ‘alive’ (ON *kvikr*; cf. vol. i 3.2.1 (i), p. 69; 3.2.3 (ii), p. 91) >
 *k^wikwaz, *k^wikwa- > PWGmc *kwi/eku, *kwi/ek(k)wa- >→ OE *cwic* ~ *cucu*
 (all genders), OS *quik*, OHG *queh* (with single postvocalic *k) ~ *quek* (with *kk,
 see below);

PWGmc *wlaku, *wlakwa- ‘lukewarm’ (cf. Heidermanns 1993: 683) > OE *wlæc* ~ *wlacu* (all genders), MLG *wlak*.

It is not inconceivable that the rare instances of labiovelars that were word-final even before the loss of *-az and *-ą underwent the same development; in that case *sang^w ‘(s)he sang’ (cf. ON *sǫng*), for example, should have become *sangw and then *sangu, only later becoming *sang by lexical analogy with other members of the same ablaut class. But there is no evidence for such a development, and it seems more likely that originally word-final labiovelars simply lost their labialization before the resolution of labiovelars into velar + *w sequences. If that is true, it has significant consequences for the relationship between WGmc and ON. Resolution of labiovelars, followed by gemination (*kw > *kkw; see immediately below), occurred both in ON and in WGmc, but in ON the rounding of word-final labiovelars was not lost; eventually it was transferred to the preceding vowel (thus *sang^w > *sǫng*, for example). In other words, two sound changes shared by ON and WGmc were preceded by at least one unshared WGmc change. Thus the resolution of labiovelars and gemination of velars by *w were either parallel innovations or spread through an already differentiated dialect continuum.

In a few instances the velar consonant resulting from the resolution of labiovelars was geminated by the following *w. Only such a gemination can have given rise to the -k of OHG *quek* (see above); note also the following:

pre-PGmc *tegus, fem. *tegwī ‘thick’ (cf. OIr. *tiug*) > PGmc *þekuz, *þik^wi (cf. Heidermanns 1993: 617–18 and vol. i 3.2.3 (ii), p. 90–1; 4.3.5 (i), pp. 282–3) > *þekuz, *þikkwī (cf. ON *þjokkr* ~ *þykkrr*) >→ PWGmc *þikkwī (masc. ja-stem, fem. jō-stem) > OE *þicce*, OS *þikki*, OHG *dick(i)*; cf. also OF *thiukke* ‘extent’; PGmc *sih^w- ‘to filter’, zero grade *sih^w- in PWGmc *sihhwā ‘sieve’ > OE *siohhæ > *seohhe*;
 PGmc *nak^wadaz ‘naked’ (Goth. *naqaps*) > PWGmc *nak(k)wad > OE *nacod* ~ *nacud*, OHG *nahhut* (with single postvocalic *k) ~ *nackot* (with *kk);
 PGmc *ak^wisi ~ *akuzjō- ‘ax’ (cf. Goth. *aqizi*; vol. i 4.3.4 (i), pp. 269–70) >→ PNWGmc *ak^wisi (ON *ǫx* ~ *ǫx*) > PWGmc *ak(k)wisi > OE (Merc.) *æces*, OHG *accus*.

In word-initial position the velar-plus-*w sequences usually survive, though the daughters tend to lose the semivowel before *ō:

PGmc *h^witaz ‘white’ (Goth. *hveits*, ON *hvítr*) > PWGmc *hwit > OE, OF, OS *hwīt*, OHG *wīz*;
 PGmc *h^werbaną ‘to turn’ (Goth. *hwairban* ‘to wander’, ON *hverfa*) > PWGmc *hwerban > OE *hweorfan*, OF *hwerva*, OS *hwerþan*, OHG *werban*;

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- PGmc *h^wes ‘whose?’ (Goth. *hwis*, ON *hves*) > PWGmc *hwes > OS *hwes*, OHG *wes*;
 PGmc *h^waitijaz ‘wheat’ (Goth. *hwaiteis*) > PWGmc *hwaiti > OE *hwæte*, OHG *weiz̥i*;
 PGmc *h^warbōnā ‘to wander around’ (Goth. *hvarbon*, ON *hvarfa*) > PWGmc *hwarbōn > OE *hwearfian*, OS *hwarbōn*, OHG *warbōn* ‘to dwell’;
 PGmc *h^wöstō ‘(a) cough’ (ON *hósti*; cf. Welsh *pas* ‘whooping cough’) > PWGmc *hwöstō > OE *hwōsta*, OHG *huosto*;
 PNWGmc *h^walaz ‘whale’ (ON *hvalr*) > PWGmc *hwal > OE *hwæl*, OHG *wal*;
 PGmc *k^wiþuz ‘belly, womb’ (Goth. *qīþus*, ON *kviðr*) > PWGmc *kwiþu > OE *cwiþ* (a-stem);
 PGmc *k^wenōn- ‘woman’ (Goth. *qino*, ON *kona*) > PWGmc *kwenā > OE *cwene*, OS, OHG *quena* ‘wife’;
 PGmc *k^wernuz ‘mill’ (Goth. *asilu-qairnus*, ON *kvern*) > PWGmc *kwernu > OE *cweorn*, OF *quern* ‘hand-mill’, OHG *quirn-stein* ‘millstone’;
 PGmc *k^wainōnā ‘to lament’ (Goth. *qainon*, ON *kveina*) > PWGmc *kwainōn > OE *cwānian*;
 PGmc *k^wēmun ‘they came’ (Goth. *qemun*, ON *kvámu*) > PWGmc *kwāmun > OE *cwōmon* ~ *cōmon*, OF *kōmon*, OS, OHG *quāmun*;
 PNWGmc *k^walō ‘torture’ (ON *kvǫl*) > PWGmc *kwalu > OE *cwalu*; cf. also PWGmc *kwalm ‘murder’ > OE *cwealm*, OS, OHG *qualm*.

*w immediately following a non-initial velar was usually lost throughout WGmc. However, there is good evidence that that development occurred within the individual histories of the daughters; for OE the crucial piece of evidence is that *w prevented palatalization of the velar of *þicce* (Luick 1914–40: 840, Anm. 4). Palatalization occurred well within the separate prehistory of OE; thus the loss of *w after velars will be discussed at the appropriate place in Chapter 6. (It follows that the development of *i to *iu* before velar-plus-*w sequences in OF can have occurred within the separate prehistory of that language; see Bremmer 2009: 36 for a comprehensive list of examples.)

The gemination of velars by *w was a minor sound change whose effects are inconsistent in the attested daughter languages and whose impact on the phonology of the language was marginal. By contrast, a PWGmc sound change which affected scores of words and eventually had significant consequences for the phonologies of the daughter languages was the gemination of most consonants by an immediately following *j. This gemination also followed the loss of *-ą and *-az (see above). Gemination by *j is usually formalized as *C_xj > *C_xC_xj, replicating the OS spellings, which are the most conservative representations attested. But the actual phonetic change is more likely to have been *C_xj > *[C_x^jC_x^j], the palatal gesture of the *j having spread regressively and the buccal features of the consonant having spread progressively until they were more or less coextensive in articulatory time (Warren

Cowgill, p.c. c.1980). There is no evidence that the underlying representations of these sequences changed immediately, or even quickly; gemination was at first a superficial rule of phonetic implementation and might have remained so for some generations. Dozens of straightforward examples can be cited; the following are typical:

- PGmc *skapjaną ‘to make, to create’ (Goth. *gaskapjan*, ON *skepja*) > PWGmc *[skap^jp^jan] (= */skapjan/) > OE *scieppan*, OF *skeppa*, OS *skeppian*, OHG *skepfen*;
- PGmc *habjaną ‘to lift’ (ON *hefja*; Goth. *hafjan* has levelled the voiceless Verner’s Law alternant into the present from the past indic. sg.) > PWGmc *[hab^jb^jan] (= */habjan/) > OE *hebban*, OS *hebbian*; OHG *heffen* exhibits the same levelling as the Gothic verb;
- PGmc *sibjō, acc. *sibjō ‘relationship’ (Goth. *sibja*) > PWGmc *[sib^jb^ju], *[sib^jb^jā] (= */sibju/, */sibjā/) > OE *sibb*, *sibbe*; OF *sibbe*, OS *sibbia*, OHG *sipea* exhibit syncretism under the form of the acc.;
- PGmc *sitjaną ‘to sit’ (ON *sitja*) > PWGmc *[sit^jt^jan] (= */sitjan/) > OE *sittan*, OF *sitta*, OS *sittian*, OHG *sizzen*;
- PGmc *satjaną ‘to seat, to set’ (Goth. *satjan*, ON *setja*) > PWGmc *[sat^jt^jan] (= */satjan/) > OE *settan*, OF *setta*, OS *settian*, OHG *sezzen*;
- PGmc *bidjaną ‘to ask for’ (Goth. *bidjan*, ON *biðja*) > PWGmc *[bid^jd^jan] (= */bidjan/) > OE *biddan*, OF *bidda*, OS *biddian*, OHG *bitten*;
- PGmc *þridjō ‘third’ (Goth. *þridja*) > PWGmc *[þrid^jd^jō] (= */þridjō/) > OE *þridda*, OF *thredda*, OS *thriddio*, OHG *dritto*;
- PGmc *midjaz, *midja- ‘middle’ (Goth. *midjis*, *midja-*) > PWGmc *midi (see 3.1.2), *[mid^jd^ja-] (= */midja-/) > OE *midd*, OF *midde*, OS *middi*, OHG *mitti*;
- PGmc *skaþjaną ‘to harm’ (Goth. *skapjan*) > PWGmc *[skaþ^jp^jan] (= */skaþjan/) > OE *sceþþan*;
- PGmc *niþjōz nom. pl. ‘kinsmen’ (Goth. *niþjos*, ON *niðjar*) > OE *niþþas* ‘men’ (poet.; on the ending see sections 4.2.2 and 5.2);
- PGmc *hrisjaną ‘to shake’ (Goth. *afhrisjan* ‘to shake off’) > PWGmc *[hris^js^jan] (= */hrisjan/) > OE *hrissan*;
- PGmc *wakjaną ‘to waken (trans.)’ (Goth. *uswakjan*, ON *vekja*) > PWGmc *[wak^jk^jan] (= */wakjan/) > OE *weccan*, OS *wekkian*, OHG *wecken*;
- PGmc *ligjaną ‘to lie’ (ON *liggja*) > PWGmc *[lig^jg^jan] (= */ligjan/) > OE *licgan*, OF *lidza*, OS *luggian*, OHG *ligger*;
- PGmc *lagjaną ‘to lay’ (Goth. *lagjan*, ON *leggja*) > PWGmc *[lag^jg^jan] (= */lagjan/) > OE *lecgan*, OF *ledza*, OS *leggian*, OHG *leggen*;
- PGmc *bugjaną ‘to buy’ (Goth. *bugjan*, ON *byggja*) > PWGmc *[bug^jg^jan] (= */bugjan/) > OE *bycgan*, OS *buggian*;
- PGmc *hlahjaną ‘to laugh’ (Goth. *hlahjan*, ON *hlæja*) > PWGmc *[hlax^jx^jan] (= */hlahjan/) > OE *hliehhan*;

- PGmc *þanjaną ‘to extend’ (Goth. *uf-þanjan* ‘to exert, to overreach’, ON *þenja*) > PWGmc *[þanⁿjan] (= */þanjan/) > OE *þennan*, OS *thennian*, OHG *dennen*;
- PGmc *brunjōn- ‘mailshirt’ (Goth. *brunjo*, ON *brynja*) > PWGmc *[brunⁿjan] (= */brunjā/) > OE *byrne*, OS *brunnia*, OHG *brunna*;
- PGmc *haljō, acc. *haljō ‘hell’ (Goth. *halja*) > PWGmc *[hal^lju], *[hal^ljā] (= */halju/, */haljā/) > OE *hell*, *helle*; OF *helle*, OS *hellia*, OHG *hella* exhibit syncretism under the form of the acc.;
- PGmc *aljaną ‘zeal’ (Goth. *aljan*, ON *eljan* ‘power’) > PWGmc *[al^ljan] (= */aljan/) > OE *ellen* ‘zeal, courage’, OS *ellian* ‘courage’, OHG *ellen* ‘zeal, courage, power’;
- PGmc *wiljaną ‘to want’ (Goth. *wiljan*, ON *vilja*) > PWGmc *[wil^ljan] (= */wiljan/) > OE *willan*, OF *willa*, OS *willian*;
- PNWGmc *framjaną ‘to further’ (ON *fremja*) > PWGmc *[fram^lm^ljan] (= */framjan/) > OE *fremman*, OF *fremma* ‘to perform’, OS *fremmian*, OHG *fremmen* ‘to accomplish’.

I can find no plausibly inherited examples of *fj. The subsequent development of *[b^lb^l] and *[g^lg^l] shows that they were stops, though intervocalic *b and *g remained fricatives (except, eventually, in OHG). A similar ON sound change affected only *k and *g (the resulting geminates being sometimes levelled out subsequently, as in *vekja*) and probably occurred considerably later (cf. Noreen 1923: 203–4); there is almost certainly no historical connection between the ON and WGmc changes.

Two consonants, *r and *z, did not undergo gemination in PWGmc. The following examples are typical:

- PGmc *arjaną ‘to plow’ (Goth. *arjan*, ON *erja*) > PWGmc *arjan > OE *erian*, OF *era*, OHG *erien*;
- PGmc *harjaz ‘army’, gen. sg. *harjas (Goth. *harjis*, *harjis*) > PWGmc *hari, *harjas > OE *here*, *herges*, OS, OHG *heri*, *heries*;
- PGmc *hazjaną ‘to praise’ (Goth. *hazjan*) > PWGmc *hazjan (see 3.3.1) > OE *herian*;
- PGmc *wazjaną ‘to clothe’ (ON *verja*; Goth. *wasjan* has levelled the voiceless Verner’s Law alternant in from derivationally related words) > PWGmc *wazjan (see 3.3.1) > OE *werian*, OHG *werien*.

Since *z between vocalics clearly became *r* throughout WGmc, the most economical ordering of sound changes would be

- 1) *z > *r, followed by
- 2) gemination of all consonants except *r by *j (which change #1 bleeds).

But such an inference is not at all secure, for the following reason. The change ‘*z > *r’ is a merger, since *r remained *[r]; though it entails that the two

sounds became phonetically identical in identical environments, the actual change is the loss of contrast between them. The immunity of these consonants to gemination, on the other hand, must have been the result of some phonetic peculiarity, probably retroflexion, which made palatalization difficult; and it is not only possible but fairly likely that *z acquired that peculiarity before it merged with *r (cf. the traditional transcription of the Early Runic reflex of *z as *R). Thus gemination and the merger of *z with *r could have occurred in either order.

The eventual development of *wj in OE was complex (see Brunner 1965: 142), but it appears that that cluster too underwent gemination in PWGmc. That is obvious when the preceding vowel was *i:

- PGmc *niwjaz, *niwja- ‘new’ (Goth. *niujis*, ON *nýr*) > PWGmc *niwi, *[niw^jwa-]
(= */niwja-/) > OE (Angl.) *nīowe*, OS, OHG *niuwi*;
PGmc *siwjana ‘to sew’ (Goth. *siujan*, ON *sýja*) > PWGmc *[siw^jjan]
(= */siwjana/) > OE (Angl.) *sīowan*, OHG *siuwen*;
PNWGmc *gliwja, gen. sg. *gliwjas ‘pleasure, joy’ (ON *glý*) > PWGmc *gliwi,
*[gliw^jas] (= */gliwjas/) > OE *glīg*, *glīowes*.

When the preceding vowel was *a the usual OE outcome seems to reflect not *aw^jw^j but *auj, with *j surviving and the diphthong developing normally, e.g.:

- PGmc *awjō ‘island’ (cf. the medieval Latin place-name *Scandinavia* ←
*Skadinawjō ‘the Island of Skåne’) > PNWGmc *awju (ON *ey*) > OE (WS) *ieġ*,
(Angl.) *ēġ*; OHG *ouwa*, which does exhibit the expected gemination, is (as usual)
the inherited acc. sg.;
- PGmc *hawja ‘grass, hay’ (Goth. *hawi*, ON *hey*) > OE *hīeġ*; but note the
gemination in OHG *houwi* (beside *hewi* < PWGmc nom.-acc. sg. *hawi):
- PGmc *strawjana ‘to spread out’ (Goth. **straujan*) > OE (Angl.) *strēġan* ‘to strew’;
but note the gemination in OHG *gīstrouwen* ‘to bestrew’.

But because gemination was not a merger—it involved no loss of contrasts—and did not alter underlying forms, it was *reversible*: a sequence of changes PNWGmc *awj > PWGmc *[aw^jw^j] > pre-OE *[auj] can have occurred, and I suggest that that is exactly what happened. This solution is in principle the same as that of Campbell 1962: 46, though we differ about the details. (See further sections 6.1.2, 6.6.3.)⁵

⁵ It is at least conceivable that OE *æt-īewan* ‘to show’ reflects PWGmc *[atáw^jw^jan] (= */at-awjan/) < PGmc *awjana ‘to show’ (cf. OCS *javiti*?); but since there are several clear cases in which PWGmc *[aw^jw^j] became pre-OE *auj, it seems best to reconstruct a preform *at-auwjan. In any case the apparent cognates Goth. *ataugjan*, ON *eygja*, OHG *zougen* seem to reflect *at-augijana, apparently a derivative of *augōn- ‘eye’ (or have they been altered by folk etymology?). Perhaps the best judgment of this word’s etymology is that we do not fully understand what happened to it.

Gemination of *p, *t, *k, *h also occurred sporadically before *r and *l throughout WGmc. Doublets with geminated and ungeminated consonants are common. A plausible account of this situation is that gemination occurred only when a vowel followed the cluster, and that levelling in both directions followed in the daughters (cf. Luick 1914–40: 824, Campbell 1962: 167–8, Brunner 1965: 187, §228 Anm. 1). However, that cannot account for the consistent lack of gemination in OE *apuldor* ‘apple-tree’, whose first element can only have been *aplu-. Possibly this gemination occurred only in disyllables; as so often, more study is needed. Note the following examples:

- PGmc *apluz ‘apple’ (?; cf. OIr. *ubull*, OCS *jablŭko*) > PWGmc *applu > OE *æppel*, OF *appel*, OS *appul*, OHG *apful*;
 PGmc *snutraz, *snutra- ‘wise’ (Goth. *snutrs*, ON *snotr*) > PWGmc *snotr, *snottra- > OE *snotor* ~ *snottor*, OHG *snottar*;
 PGmc *akraz, *akra- ‘field’ (Goth. *akrs*, ON *akr*) > PWGmc *akr, *akkra- > OE *æcer*, OF *ekker*, OS *akkar*, OHG *ackar*;
 PGmc *tahra- ~ *tagra- ‘tear’ (i.e. ‘eye-water’; Goth. pl. *tagra*, ON *tár*) > PWGmc *tagr ~ *tahr ~ *tahhra- > OE *teagor* (*GuthB* 1340), *tēar*, (North.) *tæhher*, OF *târ*, OHG *zahar* ~ *zahhar*;
 PNWGmc *bitraz, *bitra- ‘bitter’ (ON *bitr*) > PWGmc *bitr, *bittra- > OE *bitor* ~ *bittor*, OS *bitar* ~ *bittar*, OHG *bittar*.

There are a very few examples after long vowels or diphthongs, e.g.:

- PGmc *hlūtraz, *hlūtra- ‘clean’ (Goth. *hlūtrs*) > PWGmc *hlūtr, *hlūttra- > OE *hlūtor* ~ *hlūttor*, OS *hlūtтар*, OHG *lūtar* ~ *lūtтар*;
 PNWGmc *aitrą, *aitra- ‘poison’ (ON *eitř*) > PWGmc *aitr, *aittra- > OE *ātor*, OS *ēttar*, OHG *eitar*.

The scope of this gemination remains unclear; words without any geminate alternants certainly outnumber those with some gemination, but later levelling might account for that, at least in part.

Another source of uncertainty is that a similar gemination recurred in later centuries, at least in OE. For instance, we find beside OE *betera* ‘better’ not only *betra*, with a late syncope of *i after a light syllable, but *bettra*, with a subsequent gemination that can only have occurred far down in the separate development of OE (Brunner 1965: 187). This example shows that the later gemination also occurred before OE *r* reflecting PWGmc *z, and other examples can be cited; for instance, beside *ēar* ‘ear (of grain)’ < PWGmc *ahaz ~ *ahiz- (cf. Goth. *ahs*, OHG *ahar* ~ *ehir*; the *r* of all the nom.-acc. forms has been levelled in from forms with overt endings, see 3.1.2 and 3.3.1) we also find North. *æhher*. Caution is therefore necessary in assessing individual examples of gemination; only those widely shared in WGmc are likely to be old.

3.1.4 Further Auslautgesetze

Nasalization of word-final vowels was contrastive in PGmc (vol. i 4.2.1, p. 216). There is no indication that PGmc nasalization survived in that environment in PWGmc. A result of its loss and of the loss of word-final *-z (3.1.1) was that nom. sg. *-iz, *-uz and acc. sg. *-i, *-u merged in *-i, *-u:

PGmc *gastiz nom. sg., *gastī acc. sg. ‘guest’ (Goth. *gasts, gast*, ON *gestr, gest*) >
 PWGmc nom.-acc. sg. *gasti > OE *ġiest*, OF *jest*, OHG *gast*;
 PGmc *sunuz nom. sg., *sunū acc. sg. ‘son’ (Goth. *sunus, sunu*, ON *sonr, son*) >
 PWGmc nom.-acc. sg. *sunu > OE, OF, OS, OHG *sunu*.

Since a-stem nom. sg. *-az, acc. sg. *-a were lost (see above), and since the nom. and acc. had always been identical in neuters, a large majority of vowel-stem nouns exhibited syncretism of the direct cases in the singular in PWGmc. However, loss of the nasalization of fem. acc. sg. *-ō did not cause merger and syncretism, since non-nasalized nom. sg. *-ō had already become *-u (see 2.1.1). The outcome of *-ō will be discussed below.

The word-final short high vowels *-i and *-u (including the reflexes of *-iz, *-uz, *-i, and *-u) were lost under restricted conditions in PWGmc. They clearly were not lost in fully stressed disyllables, since (1) *i survived long enough to cause i-umlaut in OE even after an initial heavy syllable, (2) there is no reason to believe that *u behaved any differently in that position, and (3) both survived much longer than that after initial light syllables throughout WGmc. They also cannot have been lost in trisyllables in the sequences *-isi, *-iþi, *-iþu, since the final vowels of those sequences survived long enough to be part of the input for syncope in OE (Ringe 2002: 131–43). Final *-i definitely was lost in the third syllable of a word after an unstressed sequence *-aw-, as I will demonstrate below. This partial pattern suggests the following hypothesis:

Word-final short high vowels were lost in third and later syllables if preceded by anything other than a single nonsyllabic which was in turn preceded by a short high vowel.

In other words, unstressed *-iCi, *-iCu, *-uCi, *-uCu survived intact, but in all other sequences of unstressed syllables ending with *-i or *-u the final vowel was lost. Let us see how this hypothesis accounts for the data.

In the first place, pres. indic. 2sg. *-izi, *-isi and 3sg. *-idi, *-iþi should have survived through the PWGmc period; so should class I weak pres. indic. 1sg. *-iju (after heavy root syllables); so should ija-stem neut. nom.-acc. pl. *-iju and iþō-stem nom. sg. *-iju; so should the suffix-and-ending combinations

*-is-i, *-iþ-u, and a few others. In 6.8.2 I will argue that because both syllables survived in PWGmc, both should have been lost after heavy syllables in OE by the sequence of syncope and apocope (thus PWGmc *hilpisi ‘you help’ > *hilpsi > *hilps → *hilpst*, *hilpiþi > *hilppi > *hilppþ*, *strangiþu > *strængiþu > *strængþu > *strengþ*, *bliþisi ‘happiness’ > *bliþsi > *blissi > *blissi > *bliss*, *miliju ‘mile’ > *milju > *mīlu > *mīl*; some other classes of examples have been altered by changes of other kinds).⁶ Secondly, though monosyllabic endings such as pres. indic. 1sg. *-u, iptv. 2sg. *-i (see 3.2.1), a-stem neut. nom.-acc. pl. *-u, ō-stem nom. sg. *-u, ī-stem nom. sg. *-i, and consonant-stem gen. sg., dat. sg., nom. pl. *-i should have been lost after most unstressed syllables, they could easily have been restored in most cases, since they also occurred after stressed (i.e., initial) syllables; in fact, all occurred much more often in the second syllable of the word than in the third, except (probably) the consonant-stem endings (because of the large number of n-stems). Thus *ebnat¹u ‘I level’ should have lost its ending, but it could easily have been restored on the model of *dōmiju ‘I judge’, *helpu ‘I help’, etc.; *saiwalu ‘soul’ (nom. sg.) should have lost its ending, but it could easily have been restored on the model of *laizu ‘learning’, *gebu ‘gift’, etc.; and so on. It is especially disyllabic endings terminating in *-i that should have lost their final vowel; at least some suffix-and-ending complexes terminating in *-i and *-u should also have been vulnerable. I now examine the obvious candidates for loss in turn.

Pres. indic. 3pl. *(j)andi, *(j)anþi should have lost their final *-i without exception, and it is not clear that the parallel with 3sg. *-idi, *-iþi would have been sufficient to prompt its restoration; therefore it is not surprising that there is no trace of *-i in the reflexes of these endings in attested daughters of PWGmc. The same is true of class II weak pres. indic. 3pl. *-ōnþi; but in that class of verbs the pres. indic. 2sg. *-ōsi and 3sg. *-ōþi should also have lost their final *-i. Apparently it was not restored, since it has left no traces in the attested daughters.

The effect of this vowel loss on the endings of polysyllabic consonant-stem nouns is more difficult to assess. Inherited z-stem (neut.) gen., dat. sg. *-izi and nom.-acc. pl. *-izu seem to have survived, as expected; masc. and neut. n-stem gen., dat. sg. *-ini also survived intact, so far as we can tell. But many other n-stem endings should have been lost. For instance, masc. n-stem acc. sg. *gumanu and nom. pl. *gumani should both have become *guman, while fem. n-stem acc. sg. *-ōnu, *-īnu and gen., dat. sg. and nom. pl. *-ōni, *-īni should all have become *-ōn and *-īn respectively. We know that the endings

⁶ There were no longer any class I weak pres. indic. endings *-īsi, *-iþi in PWGmc because they had been eliminated by morphological reanalysis; see 3.2.1.

were not restored in the *in*-stems because the resulting word-final **-n* was lost in most of the daughters (see 3.3.1). It therefore seems most likely that the loss of word-final high vowels caused multiple syncretisms in all classes of *n*-stems. The same probably occurred in the paradigm of **mānōþ* ‘month’, to judge from OE nom.-acc. pl. *mōnaþ* (with no umlaut) and the OHG hapax acc. pl. *mānōt*. On the PWGmc inflection of the kinship terms in **-r-* see 4.2.2.

In one instance it seems probable that some differentiation of WGmc dialects had occurred already before the loss of **-i* in third syllables. Though the change responsible was not a regular sound change, it is most convenient to treat it here. The inherited paradigm of ‘son’ should have been the following after **-z* and **-az* had been lost and word-final nasal vowels had lost their nasalization:⁷

	singular	plural
nom.	<i>*sunu</i>	<i>*suniwi</i>
acc.	<i>*sunu</i>	<i>*sunū</i> (?; see 3.1.1)
gen.	<i>*sunau</i>	<i>*suniwō</i>
dat.	<i>*suniwi</i>	<i>*sunum</i>
inst.	<i>*sunu</i> (< <i>*-ū</i> , or a-stem ending < <i>*-ō</i> ?)	<i>*sunum</i> (← <i>*-umi</i> if not already syncretized, see below)

The dat. sg. ending is well attested as *-iu* in OHG (Braune and Reiffenstein 2004: 205, §220c Anm. 3). But in OE and OF we find a different pattern: gen. sg. *suna* < PWGmc **sunō* < **sunau* < PGmc **sunauz*, but also dat. sg. *suna* and nom. pl. *suna* with the same ending. It does not seem unreasonable to suppose that the gen. sg. ending might somehow have spread to the dat. sg. after considerable erosion of word-final syllables had occurred;⁸ but the spread of the same ending to the nom. pl. is surprising. It is much more natural to suppose that the sequence **-iw-* in u-stem endings was replaced by **-aw-* very early in the northern WGmc dialects, as partly also in Gothic (vol. i 4.3.4 (i), p. 272); such a replacement would best make sense *before* the loss of word-final **-z* in unstressed syllables (see 3.1.1), since at that stage the parallelism

⁷ I am not convinced that variations in the spellings of Gothic u-stem noun endings reveal the survival of amphikinetic inflection in PGmc u-stem nouns, pace Braune and Heidermanns 2004: 101–2, §105 Anm. 2 with references. So far as I can see, the data can be accounted for by a late Gothic merger of unstressed vowels—*au* presumably having been shortened—and a conservative spelling tradition which preserved etymological spellings accurately in most categories, but not consistently in this one. It does not seem surprising that proterokinetic inflection should have been generalized in the singular of PGmc u-stem nouns, considering that it is the majority paradigm already in Sanskrit and Latin.

⁸ Such a change could account for the OS dat. sg. *suno* at *Heliand* 5946; the nom.-acc. pl. in OS is *suni* (only).

between gen. sg. *-aw-z, dat. sg. *-iw-i, nom. pl. *-iw-iz would have been clearest and the replacement of *-iw- by *-aw- most natural. After the loss of *-z, *-awi > *-au (by the loss of *-i under discussion), and all three endings would have continued to be homonymous thenceforward. It would also follow that loss of *-i in these endings preceded the monophthongization of unstressed *au (see below). If this scenario is correct, the ‘North Sea’ dialects of PWGmc were identifiably different from the rest in at least one detail from a very early date. It is possible (as Patrick Stiles reminds me) that the suffix alternant *-an- of n-stems might have been generalized in the northern WGmc dialects at the same time that *-aw- replaced *-iw- in u-stems; but there is less reason to date the generalization of *-an- before the loss of many original case endings, because *-an- was inherited at least in all the forms of the direct cases (except the nom. sg.), and its spread from such a robust base seems less extreme. For further discussion see 4.2.2 and 5.2.

A word should be said about the expected inst. pl. ending *-mi < PGmc *-miz. The final vowel should have survived in *-umi, *-imi (thus in a-, i-, and u-stems, and possibly in some consonant stems) but have been lost in *-ōmi. In fact the only clear reflex of this ending is the i-umlaut of OE dat.-inst. pl. *twāem* ‘two’ < *twāmi < PWGmc *twaimi and *hāem* ‘those’ < *hāmi < PWGmc *haimi; otherwise we find only original dat. pl. endings in PWGmc *-m < PGmc *-maz. Of course this does not show that the loss of *-i was more extensive after *m; it is simply a consequence of the complete syncretism of dat. pl. and inst. pl. (not necessarily for phonological reasons only).

Short high vowels were also lost after heavy syllables in unstressed words, but the loss was not uniform either lexically or dialectally. Thus OE *and* ‘and’ < *andi exhibits very early loss of *-i, but OHG *enti* does not; neither OE *ymbe* ‘around’ nor OHG *umbi* exhibits early apocope; OE *īow* ‘you (dat. pl.)’ definitely does (since it does not exhibit i-umlaut), but OHG *iu* might or might not; and so on. Forms without apocope probably escaped this change because they were proclitic (and so not phonologically word-final); the same circumstance is also responsible for the fact that some did not undergo regular apocope later in the individual histories of the daughter languages. But it is also likely that this early apocope was variable in any case.

Word-finally, and before word-final *r, surviving bimoric long *ō*-vowels became PWGmc *ā, while trimoric long *ō*-vowels became PWGmc *ō (cf. Stiles 1988: 129–30). In other unstressed syllables both these vowels became *ō; if the loss of *-i preceded these changes, then both vowels became *ō before (new) final consonants other than *-r. All these changes were mergers. Examples of bimoric *ō in unrounding environments:

- PGmc *fedwōr ‘four’ (Goth. *fidwor*) > *fewwār > PWGmc *feubar (see 3.1.1 and below) > OE *fēower*, OF *fiūwer*, OS *fiuwar*;
- PGmc *watōr nom.-acc. sg. ‘water’ (cf. Goth. *wato* with n-stem inflection generalized) > *watār > PWGmc *watar (see below) > OE *wæter*, OF *weter*, OS *watar*, OHG *waʒʒar*;
- PGmc *gebōz gen. sg. ‘of a gift’ (Goth. *gibos*, ON *gjafar*) and PGmc *gebō acc. sg. ‘gift’ (Goth. *giba*) > PWGmc *gebā > OE *giefē*, OF *jeve*, OS *geþa*, OHG *geba*;
- PGmc *þanō acc. sg. masc. ‘that’, *h^wanō ‘whom?’ (Goth. *þana*, *hwana*; cf. *hwano-h* ‘each’) > PWGmc *þanā, *h^wanā > OE *þone*, *hwone*, OF *thene*, *hwane*, OS *thana*, cf. also *hwena* from the alternative interrogative stem;
- PGmc weak past indic. 1sg. *-dō (cf. Goth. *-da*, Early Runic *-do*) > PWGmc *-dā > OE, OF *-de*, OS *-da* ~ *-de*, OHG *-ta*;
- PNWGmc nom. sg. *tungō ‘tongue’, *hertō ‘heart’ (ON *tunga*, *hjarta*; Goth. *tuggo*, *hairto* have a different but probably also analogical ending, cf. vol. i 4.3.4 (i), pp. 274–5) > PWGmc *tungā, *hertā > OE *tunge*, *heorte*, OF *tunge*, *herte*, OS *tunga*, *herta*, OHG *zunga*, *herza*.

Examples of trimoric *ō in the same environments:

- PGmc *gebōz nom. pl. ‘gifts’ (Goth. *gibos*, ON *gjafar*) > PWGmc *gebō > OE *giefa*, OF *jeva*;
- PGmc *namō ‘name’ (Goth. *namo*) > PWGmc *namō > OE *nama* ~ *noma*, OF *noma*, OS, OHG *namo*;
- PGmc *galikō ‘in the same way, similarly’ (Goth. *galeiko*) > PWGmc *galikō > OS *giliko*, OHG *gilihho*;
- PGmc iptv. 2sg. *salbō ‘anoint!’, subj. 3sg. *salbō ‘(that) (s)he anoint’ (Goth. *salbo*) > OS *salbo*, OHG *salbo*;
- PGmc gen. pl. *-ō, e.g. in *dagō ‘of days’, *gebō ‘of gifts’, *tungōnō ‘of tongues’ (Goth. *gibo*, *tuggono*; on *dage* see Ringe 2006a with references) > PWGmc *dagō, *gebō, *tungōnō > OE *daga*, *giefa*, *tungena*, OF *jeva*, *tungena*, OS *dago*, *gebono*, OHG *tago*, *gebōno*, *zungōno* (the n-stem ending having spread to the ō-stems in OS and OHG);
- PGmc subj. 1sg. *salbō ‘(that) I anoint’ (Goth. **salbo*) > OS *salbo*, OHG *salbo*.

Examples of all long ō-vowels in other unstressed syllables:

- PGmc *mēnōþiz nom. pl. ‘months’ (cf. Goth. acc. pl. *menops*) >(→) nom.-acc. pl. *mānōþi > PWGmc *mānōþ >→ OE *mōnaþ* ~ *mōnaþas*, OHG *mānōda* (1x *mānōt*, Braune and Reiffenstein 2004: 215, §238 Anm. 2);
- PGmc *salbōd(ēd)un ‘they anointed’ (Goth. *salbodedun*) >(→) PWGmc *salbōdun > OE *sealfodon*, (Angl.) *salfadun*, OS *salbodun*, OHG *salbōtun*;
- PGmc derived noun suffix *-ōþuz (cf. e.g. Goth. *gaunopuz* ‘grief’ ← *gaunon* ‘to lament’), e.g. in *fiskōþuz ‘fishing’ (← *fiskōna ‘to fish’, cf. Goth. *fiskon*, OHG *fiskōn*) > *fiskōþu > PWGmc *fiskōþ > OE *fiscaþ* ~ *fiscoþ*;

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PGmc pres. 3sg. *salbōþi ‘(s)he anoints’ (Goth. *salboþ) > *salbōþi > PWGmc *salbōþ > OE *sealfap*, OS *salbōð*; OS *salbōd*, OHG *salbōt* have generalized the voiced Verner’s Law alternant⁹ but exhibit the same development of the vowel; PGmc pres. 3pl. *salbōnþi ‘they anoint’ (cf. Goth. *salbond) > *salbōnþi > PWGmc *salbōnþ > OS *salbōð*; OHG *salbōnt* has generalized the voiced Verner’s Law alternant (like the Gothic form) but exhibits the same development of the vowel; PGmc *armōzō ‘poorer’, *armōstaz ‘poorest’ (Goth. *armosts*) > PWGmc *armōzō, *armōst > OE *earmra*, *earmost*, OS *armost*; OHG has replaced the comparative with *armiuro* (and I cannot find an attested superlative), but cf. OHG *sālīgōro* ‘happier’, *sālīgōsto* ‘happiest’.

Since in Early Runic all these vowels are still written with the *o*-rune (Krause 1971: 88–9), the unrounding of bimoric *ō to *ā in final syllables must be a WGmc sound change; and since the bimoric and trimoric vowels never merged word-finally in WGmc (as they had already in Early Runic, cf. Nielsen 2000: 89), the loss of the contrast between them in other positions (by which *ō became ‘ordinary’ *ō) must have followed the unrounding.

Important developments in the OHG weak past indic. endings preceded this pan-WGmc change; see 3.2.1 for further discussion.

At some point after the unrounding of bimoric *ō, vowels were shortened before word-final *-r in unaccented syllables (Stiles 1985–6, *NOWELE* 6: 88; 1988: 132–4). The most cogent indication that this shortening occurred is the fact that the nom. sg. forms of the r-stem kinship terms exhibit short vowels before -r in OHG, which did not normally shorten vowels in closed final syllables; that the shortening followed the unrounding of *ō is demonstrated by the outcome of ‘four’, and perhaps of ‘water’:

PGmc, PNWGmc *fadēr ‘father’ (ON *faðir*) > PWGmc *fader > OE *fæder*, OF *feder*, OS *fader* ~ *fadar*, OHG *fater*;
 PGmc *fedwōr (Goth. *fidwor*) > *fewwār (see above) > PWGmc *fewwar > OE *fēower*, OF *fiūwer*, OS *fiuwar*;
 PWGmc *watōr ‘water’ (cf. Goth. *wato* with n-stem generalized) > *watār > PWGmc *watar > OE *wæter*, OF *weter*, OS *watar* ~ *water*, OHG *waʒʒar*.

All remaining diphthongs in unstressed syllables were monophthongized to long mid vowels in PWGmc. Examples are very few:

PGmc *sunauz gen. sg. ‘son’s’ (Goth. *sunaus*, ON *sonar*) > PWGmc *sunō > OE, OF *sunā*, OS *sunō* (?; possible at *Heliand* 5788); the ending has largely been replaced by a-stem -es in OHG, but note early OHG *fridō* ‘of peace’ (Braune and Reiffenstein 2004: 205, §220c Anm. 3);

⁹ So has the Gothic form; its -þ actually results from the relatively late Gothic rule of word-final fricative devoicing (Braune and Heidermanns 2004: 76).

PGmc *ahtōu ‘eight’ (Goth. *ahtau*) > PWGmc *ahtō > OE *eahta*, OF *achta*, OS, OHG *ahto*;

PGmc \bar{o} -stem dat. sg. *- $\bar{o}i$, e.g. in *gebōi ‘for a gift’ (Goth. *gibai*) > PWGmc *gebē > OE *giefe*, OF *jeve* (the OS and OHG forms reflect the PGmc instrumental).¹⁰

The monophthongization of *au also occurred in Norse (cf. Early Runic *magoz* ‘son’s’, Krause 1971: 118, 172), but that can easily have been a parallel innovation.

A word should be said about the possible relative chronology of the monophthongization of *au. Since the eventual outcome was * \bar{o} , it would be simplest to order this change after the unrounding of inherited * \bar{o} . But in fact all we really know is that the reflex of *au eventually merged with that of * \bar{o} but not with that of * \bar{o} ; in effect, a scenario in which *au > * \bar{o} directly (Stiles 1988: 121), before the unrounding of inherited * \bar{o} , cannot be excluded (especially given that the nature of the phonetic difference between the two long o-vowels in pre-PWGmc is unrecoverable).

3.1.5 Minor sound changes

I noted in section 2.1.1 that postconsonantal *w was lost before unstressed u-vowels throughout NWGmc. In WGmc *w between a stressed vowel and an unstressed u-vowel was apparently likewise lost:

PGmc *knewō nom.-acc. pl. ‘knees’ (Goth. *kniwa*) > PNWGmc *knewu (see 2.1.1) > PWGmc *kneu > OE *cnēo(w)* (and possibly OS, OHG *kneo*, though those forms could reflect /knew + \emptyset / because the latter ending has been generalized from heavy stems to all stems);

PGmc *fawō nom.-acc. pl. neut. ‘few’ (Goth. **fawa*) > PNWGmc *fawu > PWGmc *fau > OE *fēa*; OHG *fōhiu* has been remodelled;

PNWGmc * \bar{p} rawu, * \bar{p} rawō- ‘emotional pain’ vel sim. (ON *þrá* ‘longing’) > PWGmc * \bar{p} rau, * \bar{p} rawā- ‘threat’ > OE *þrēa* (nom. sg. generalized), OHG *drawa* (acc. sg. generalized).

It cannot be demonstrated that a similar change occurred in ON, and even in WGmc the evidence is virtually confined to OE because of morphological remodelling in the other languages. But since the change clearly occurred before the language-specific developments of OE diphthongs, a WGmc date is

¹⁰ I posit a long diphthong in ‘eight’ because of the cognates in other IE languages; short *au would account equally well for the Germanic forms. I posit dat. sg. *- $\bar{o}i$ for the same reason, but note also that Goth. *-ai* must reflect either *- $\bar{o}i$ or *- $\bar{o}i$, since unstressed short *-ai was reduced to *-a* in Gothic and there is no monosyllabic analogical source for this ending.

plausible. A roughly similar change of *ijō to *iu appears to have occurred in the word ‘friend’ in PWGmc (Luick 1914–40: 118):

PGmc *frijōnd- ‘loving, friend’ (Goth. *frijonds* ‘friend’) > PWGmc *friund ‘friend’ > OE *friond*, OF *friund*, OS *friund*, OHG *friunt*.

But the two changes cannot plausibly be reduced to a single phonological rule. Note also that the latter word is the only one in which a nonfinal long *ō*-vowel can be shown to have become a *u*-vowel throughout WGmc (see below), and that the vowel in question was trimoric *ō̄; in fact, the uniqueness of the sequence *ijō (with stressed *i) makes it inadvisable to attempt any generalizations based on the history of this word.

It is sometimes suggested that *ō became *ū when the next syllable contained *u, and perhaps also before *n, at an early date, certainly by the PWGmc period (cf. Luick 1914–40: 269–70, Noreen 1923: 119 Anm. 1 with references, Campbell 1962: 139, Hogg 1992: 66–7 [2011: 64–5]). The distribution of forms does not support that hypothesis well; the details are as follows.

Feminine and neuter *n*-stems exhibit forms with *u*-vowels in the suffix in ON and in the continental WGmc languages; OE offers a few possible relics. The paradigm of ‘tongue’ in ON, OS, and OHG is typical:

	ON	OS	OHG
sg. nom.	<i>tunga</i>	<i>tunga</i>	<i>zunga</i>
obl.	<i>tungu</i>	<i>tungun</i>	<i>zungūn</i>
pl. nom.-acc.	<i>tungur</i>	<i>tungun</i>	<i>zungūn</i>
gen.	<i>tungna</i>	<i>tungono</i>	<i>zungōno</i>
dat.	<i>tungum</i>	<i>tungon</i>	<i>zungōm</i>

ON has *-u(-)* in all forms except the nom. sg., whose *-a* reflects **-ō̄* (see above), and the gen. pl., in which the stem vowel has been syncopated. OS and OHG exhibit *-ū-* (shortened in OS) always and only before an *-n-* which was originally followed by case endings but became word-final upon their loss (see 3.1.4 above); in the gen. pl., which continued to have an overt ending, we find *-ō-* (also shortened in OS), and *-ō-* also appears before *-m* in dat. pl. *-ōm* (which was the immediate preform of OS *-on*). OE exhibits very few forms of *n*-stem nouns with *u*-vowels in the suffix. A possible example is *Ēastron* ‘Easter’, one of a profusion of oblique forms of this noun (see Brunner 1965: 225, Anm. 3). More solid examples are three early Northumbrian oblique forms (Campbell 1962: 249), masc. *galgu* ‘gallows, cross’ (*RuthCr* 40) and fem. *foldu* ‘earth’ (*Cæd* 9), *eorðu* ‘earth’ (*LRid* 11); all are acc. sg., though the number of examples is so small that that could easily be an accident.

Both because of the OS and OHG gen. pl. forms with *-ō-* and because the suffixal syllable is still written *-on-* in early Early Runic (Krause 1971: 119), there cannot have been any general change of **-ōn-* to **-ūn-* in the PNWgmc period; if the *u*-forms are historically connected at all, **-ū-* must have developed in a much more restricted environment and then spread within these paradigms independently in ON and in WGmc. The suggestion that the sequence **-ōnu-* became **-ūnu-* by regular sound change does make phonetic sense; but the only forms in these paradigms that had **u* in the endings were the acc. sg. and the acc. pl., and the latter probably underwent syncretism with the nom. pl., which ended in **-iz*, very early (note that even Goth. acc. pl. *tuggons* reflects the old nom. pl. form). That seems too small a basis from which to level **ū* through most of the paradigm. A more plausible hypothesis is that after the loss of word-final high vowels which followed unstressed syllables that contained nonhigh vowels (see 3.1.4 above), new word-final **-ōn* became **-ūn* in the more southerly dialects of WGmc; the forms that should have been affected are the acc. sg. (with **-u* lost) and the gen.-dat. sg. and nom.-acc. pl. (with **-i* lost)—exactly the forms that do exhibit the suffix *-ūn*. An obvious question is whether the northern WGmc dialects could have participated in the change. The OE relics suggest that they did, but some caution is advisable: the oblique cases of the singular and the nom.-acc. pl. of OE *n*-stems normally end in *-an*, and while it is clear that *-an* has been levelled into many forms where it did not originally occur, there has to be a ‘critical mass’ of forms in which *-an* arose by sound change to serve as the basis for levelling. Since **-an-* was not inherited in the gen. and dat. sg. of non-fem. *n*-stems, its levelling through the paradigm seems implausible if the acc. sg. and pl., as well as the nom. pl., had not exhibited **-an-*. We should at least consider the possibility that early Northumbrian *-u* < **-un* was a separate development unconnected with the southern WGmc phenomena. On the other hand, if **-an-* had spread at the expense of **-in-* in the northern WGmc dialects at the same time as **-aw-* spread at the expense of **-iw-* (see above; I am grateful to Patrick Stiles for alerting me to this possibility), then **-an-* could have spread from those forms and the nom. pl. much later even if **-an-* had become **-un-* in the accusative forms. A decisive choice between those alternatives does not seem possible.¹¹

¹¹ In any case masc. acc. *galgu* is not necessarily relevant; we must reckon with the possibility that its *-u* is connected with the usual OHG masc. acc. sg. ending *-un* ~ *-on* (Bammesberger 1990: 169). For further discussion see 5.2.

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The evidence from data other than n-stem forms is no better. It does seem reasonably likely that ON nouns in *-uðr* < **-ōþuz* reflect an early raising of **ō* to **ū* before endings containing **u* (possibly a special case of u-umlaut?; cf. Noreen 1923: 275; apparently *mónuðr* ‘month’ was influenced by that class of nouns). But there is no trace of such a development in the corresponding class of nouns in continental WGmc; for instance, the noun derived from OHG *klagōn* ‘to lament’ is *klagōd* (not ‘*-ūd*’). Exactly the same pattern is found in past indic. pl. forms of class II weak verbs: we find, for instance, ON 3pl. *-uð-u* (e.g. in *kǫlluðu* ‘they called’), but *ō*-vowels before the coronal suffix in such forms as OS *salbōdun*, OHG *salbōtun* ‘they anointed’. In this case it seems even clearer that ON and the more southerly WGmc languages did not participate in the same phonological developments.

The pattern of OE facts is frustratingly messy. In addition to the forms in *-u* discussed above, in n-stem nouns we find dat. pl. *-um*, gen. pl. early and northern *-ana* (e.g. in *fiŋgirdocana* ‘of finger-muscles’ *CorpGl* 687, cf. Sweet and Hoad 1978: 33, Campbell 1962: 249)¹² but usually *-(e)na*, otherwise *-an* outside the nom. sg. (and acc. sg. neut.); how many and which sequences yielded *-an* by regular sound change is unclear, but it does seem clear that massive levelling has occurred (in contrast to the situation in OHG), and for that reason it is difficult to use ordinary OE n-stem forms as evidence for any sound change. Otherwise there is little correlation between the appearance of *-u-* (variably spelled *-o-*) in OE unstressed syllables and the appearance of u-vowels reflecting original **ō* in related formations in other Gmc languages, and equally little correlation between OE *-u-* ~ *-o-* and the expected outcomes according to the proposed sound change. In the past of class II weak verbs we might expect to find *-u-* ~ *-o-* in the indic. pl. and in a few caseforms of the ptc., but *-a-* (reflecting PWGmc **-ō-*) elsewhere. What we find is mostly *-od-* in all forms in WS (*-ud-* occasionally in early WS) and mostly *-ad-* in all forms in Kentish and the Anglian dialects (though occasionally *-ud-* in the earliest glosses, and sometimes *-od* in the ptc.—only!—in the 10th-century Kentish glosses; cf. Campbell 1962: 333). The pattern is different but no clearer among nouns in **-ōþu-*: we find both *fiŋcaþ* ‘fishing’ and *huntaþ* ‘hunting’, for instance, in the translation of Orosius. Among superlatives, in forms in which there has been no dissimilation (see 6.10.2), *-ost* (occasionally *-ust*) is commoner than *-ast*, even though few of the original endings contained **u* (Cosijn 1883–8: 129, 138); strangest of all, in the related comparative adverbs with restored *-r* (see 3.3.1) we find *-or* almost exclusively (Cosijn 1883–8: 129),

¹² *ErfGl* 346 gives *fiŋgirdocuna*, but the spelling of that copy’s foreign scribe is not trustworthy.

though they had always been endless (their *-r* was levelled in from the related comparative adjectives). We do need an explanation for the variation between *a* and *o* (and for the fact that class II weak pres. 2sg. *-as(t)*, 3sg. *-aþ* and the second syllable of *mōnaþ* ‘month’ have stable *a*, while *-or* has stable *o*); but the hypothesis of a sound change **ōCu > *ūCu* requires too much levelling from too small a basis to be convincing, and if it is supposed to have occurred in PWGmc (or even earlier), the survival of the resulting alternation for half a millennium or more is also surprising.

It seems clear that word-final vowels in stressed monosyllables were lengthened in PWGmc (Luick 1914–40: 119), though examples are few:

PGmc **bi* ‘around, by; near’ (Goth. *bi*) > PWGmc **bi ~ *bī* > OF *bī*, OE, OS *be ~ bī*, OHG *bi ~ bī*;

PGmc **nu* ‘now’ (Goth. *nu*) > PWGmc **nū* > OE, OF, OS, OHG *nū*;

PGmc **swa* ‘so, thus’ (Goth. *swa*) > PWGmc **swā* > OE *swā*, OF *sā*, OS, OHG *sō*.

A similar lengthening occurred in ON (Noreen 1923: 108), so that we also find ON *nú*, *svá*. But vowels which became word-final within the separate history of Norse were also lengthened in monosyllables; thus the simplest hypothesis is that the Norse and WGmc sound changes were parallel innovations.

An apparently irregular PWGmc sound change lengthened the vowels of the two adverbs ‘there’ and ‘where’:

PGmc **þar* ‘there’, **h^war* ‘where’ (Goth. *þar*, *hvar*, ON *þar*, *hvar*) > PWGmc **þār*, **h^wār* > OE *þær*, *hwær*, OF *thēr*, *hwēr*, OS *thār*, *hwār*, OHG *dār*, *wār*.

It is possible that these vowels were lengthened under heavy deictic stress, as the vowel of ‘here’ probably was throughout Gmc (see 2.1.1, 2.3.1 (ii) with references); alternatively, the length of the vowel of ‘here’ might have led learners to reanalyze **[þar]*, **[h^war]* as allegro forms of **/þār/*, **/h^wār/* (cf. Stiles 2004: 388 n. 5).

Finally, a word should be said about the PGmc geminates **jj* and **ww*. In Gothic and ON they became geminate stops (the famous ‘Verschärfung’).¹³ In WGmc, however, the first member of the geminate normally develops exactly like the second element of an ordinary *i-* or *u-*diphthong. This presupposes a reanalysis by language learners in terms of CV-phonology, and since the dismantling of geminates is a very unusual change (apparently violating the

¹³ Whether this could be a historically shared change is unclear; cf. e.g. Noreen 1923: 165–6, Krause 1971: 163 (commentary on inscription no. 86). In any case it is the only non-trivial innovation shared by East and North Germanic.

Obligatory Contour Principle), we should probably hypothesize that it occurred only once, at the PWGmc stage. The following examples are typical:

- PGmc **twajjō* gen. pl. ‘of two’ (ON *tveggja*; Goth. *twaddje* has an innovative ending, cf. Ringe 2006a with references) > PWGmc **twaijō* > OS *tweio*, OHG *zweio*;
 PGmc **ajjā* ‘egg’ (ON *egg*) > PWGmc **aij* > OE *æġ*, OHG *ei*;
 PGmc **glawwuz* ‘exact’ (ON *gløggr*; Goth. adv. *glaggwuba*) >→ PWGmc **glauw* ‘wise’ > OE *glēaw*, OS, OHG *glau*;
 PGmc **hawwanā* ‘to chop’ (ON *hōggva*) > PWGmc **hauwan* > OE *hēawan*, OF *hāwa*, OHG *houwan*;
 PGmc **blewwanā* ‘to beat’ (Goth. *bliggwan*) > PWGmc **bleuwan* > OHG *bliuwan*;
 PGmc **trewwaz* ‘trustworthy’, **trewwō* ‘agreement’ (Goth. *triggws*, ON *tryggr* ‘trustworthy’, Goth. *triggwa* ‘covenant’) >→ PWGmc *(*ga*)*triuwī*, **trewō*- (nom. sg. **treu*?) > OE (*ġe*)*trīewe*, OF *triūwe*, OS (*gi*)*triuwi*, OHG *gitriuwi* ‘trustworthy’, OE *trēow*, OF *triūwe*, OS *treuwa*, OHG *triuwa* ‘faith, agreement’.

It might therefore be expected that **ijj*, **uww* were reanalyzed as **ij*, **ūw*, and that is what happened:

- PGmc **Frijjōz* gen. sg. ‘of the goddess of marriage’ (ON *Friggjar*) > PWGmc **Frijā*- in OE *Friġedæg*, OHG *Frīatag* ‘Friday’;
 PGmc **skuwwō* ‘shadow’ (Goth. *skuggwa* ‘mirror’, ON *skuggi*) > PWGmc **skūwō* > OE *scūwa*,¹⁴ OHG *scūwo*.

¹⁴ There is a widespread belief that the first vowel of this word was short, but what little evidence there is actually points in the other direction. Only attestations in verse provide evidence. The half-dozen compounds ending in this word are unhelpful, since the first elements of the compounds are stressed heavy monosyllables, immediately following which the distinction between heavy and light syllables is neutralized for metrical purposes. (That includes *heolstorscūwan* in *And* 1253b, since the first element is etymologically **helustr-*, in which the initial light syllable and the following syllable together count as a ‘resolved’ heavy syllable, while the *-r- does not count at all; the poem is early enough that the latter peculiarity is fully expected, cf. Fulk 1992: 76–84.) Attestations of the simplex fall into two groups. On the one hand is *Sat* 453 *dimne and deorcne dēaðes scūwan*, composed of two normal type A half-lines, in which the *ū* must be long for the line to scan. On the other hand are seven lines in the *Paris Psalter*, in all of which *scūa* or *scūan* occurs in a type B half-line and must have short *u* for the line to scan, the sequence *ua* counting as a resolved heavy syllable. In six of them the word is half-line-final; typical are *PPs* 79.10 *His sē brāda scūa beorgas þeakte* and *PPs* 87.6 *þær wæs deorc þēostru and dēapes scūa*. The line-medial example, *PPs* 108.23 *Ic eom scūan ġelīc, swýþe āhylded*, points to the same conclusion. But the single line from *Christ and Satan* is weightier evidence than the consistent scansion in the *Paris Psalter*. Though *Christ and Satan* is not a particularly early poem, neither is it obviously late (Krapp 1931: xxxvi, Fulk 1992: 396). By contrast the *Paris Psalter* is clearly late (Krapp 1932: xvii, Fulk 1992: 410, 414); moreover, its metrical practice is so inexact as to suggest that the versifier was not a fully competent traditional poet (Krapp 1932: xvii). The difference between the two scansions of *scū(w)a* could be accounted for either by the hypothesis that *scūwa* had become *scūa* (with short *u*) by ordinary sound change in the dialect of the *Paris Psalter*’s versifier by the time of its composition, or by the hypothesis that he did not know how to scan a word of that shape (or both, the former development leading naturally to the latter); but in either case we have to conclude that in earlier OE the word was *scūwa*, with a long vowel.

These two words seem to be the only examples.

Syncope of short *i between two dental stops occurred in the past stems and past participles of some class I weak verbs in PWGmc. It is unclear whether that was a regular sound change whose conditioning environment happened to be satisfied only by those verb forms or a morphologically conditioned change; I therefore postpone discussion of it until section 3.2.1.

Loss of word-final *-z in monosyllables and the merger of *z with *r will be discussed in 3.3.1 below, since those two changes must have occurred in that order and the former did not apply throughout WGmc.

3.2 Proto-West Germanic morphological innovations

Though the phonological evidence for a WGmc clade is substantial, the evidence from morphological innovations is even stronger. The three most significant innovations involved the inflection of verbs; other less striking innovations occurred in various areas of the grammar.

3.2.1 *Changes in verb inflection*

In PWGmc the strong past indic. 2sg. was formed from the default past stem, not the past sg. stem (as in Gothic and ON), and its ending must have been *-ī, since it was not lost after heavy syllables (Schröder 1921: 225–6, Grønvik 1998: 103). The i-umlaut which the ending must originally have triggered has been levelled out in OE on the basis of the indicative plural, just as it has in the subjunctive; in OS and OHG the spellings do not indicate i-umlaut or its absence because the root vowel was not short *a in the default past stem of any class of strong verbs, but the expected umlaut does surface in MHG (Paul, Moser, and Schröbler 1969: 187). The following examples are typical:

PGmc *snaist ‘you cut’ (inf. *snīpaną; Goth. *uf-snaist* ‘you slaughtered’) → PWGmc *snidī > OE *snide*, OHG *sniti*;

PGmc *anabaust ‘you commanded’ (inf. *anabeudaną; Goth. *anabaust*) → PWGmc *anabudī > OE *onbude*, OHG *inbuti*;

PGmc *warst ‘you became’ (inf. *werþaną; Goth. *warst*) → PWGmc *wurdī > OE *wurde*, OS *wurđi*, OHG *wurti*;

PGmc *namt ‘you took’ (Goth., ON *namt*) → PWGmc *nāmī > OE *nōme*, OHG *nāmi*;

PGmc *gaft ‘you gave’ (Goth., ON *gaft*) → PWGmc *gābī > OE *gēafe*, OHG *gābi*;

PGmc *hōft ‘you lifted’ (Goth. *and-hoft* ‘you answered’, ON *hóft*) → PWGmc *hōbī > OE *hōfe*, OHG *huobi*;

PGmc *hehaist ‘you called’ (inf. *haitaną; Goth. *and-haihaist* ‘you professed’) → PWGmc *hehēti > OE *hēte*, OHG *hiezi*.

The origin of these forms has long been a subject of debate (see Schröder 1921 for a summary of the arguments with references to the older literature). The more straightforward solution is that these indicative forms, which are identical to the corresponding subjunctive forms in OE, are in fact subjunctive in origin (Scherer 1868: 194–5); that is, the indicative and subjunctive of the strong past 2sg. have undergone syncretism under the form of the subjunctive. (Note that this is a complete replacement of one form by another, not just the spread of an ending.) The *-s* of past subj. 2sg. OS *-is*, OHG *-īs* is a later development not shared by OF and OE (Grønvik 1998: 103).

Incredulity at the outcome of this proposed syncretism, in which the ‘marked’ form took over the function of the ‘unmarked’ form, led von Fierlinger to propose that these 2sg. forms are instead aorist indicatives in origin (von Fierlinger 1885: 430–2), and that hypothesis has largely been adopted by the standard handbooks (cf. Campbell 1962: 298, Brunner 1965: 279, Hogg and Fulck 2011: 222–3). But the aorist hypothesis raises so many difficulties that it cannot be correct. In the first place, the thematic aorist was rare in PIE (cf. Cardona 1960 and vol. i 2.3.3 (ii), p. 29); of course it might have undergone in the dialect ancestral to Germanic the same sort of dramatic expansion that it did in Greek and Indo-Iranian, but there is no independent evidence that that happened. There are literally no other reflexes of the aorist indicative in Germanic. Moreover, it is only in the first three classes of strong verbs that the forms exhibit the zero-grade root typical of thematic aorists; the root ablaut of the indic. 2sg. in all the other classes has to be analogical. In fact the ending also has to be analogical—imported from the subjunctive!—in all except the first two classes, since the short vowel of thematic 2sg. **-i* < PGmc **-iz* < (post-)PIE **-es* would have been lost after heavy syllables (Schröder 1921: 225–6, Grønvik 1998: 103–4, both with references). Nor can the isolated OHG expressions *ni kuri* ‘don’t!’, pl. *ni kurīt*, be cited in support of the aorist hypothesis. If they were inherited aorist forms they would have to be injunctives, comparable to Goth. *ni ogs þus* ‘don’t be afraid!’ (vol. i 4.3.3 (iii), pp. 261–2 with n. 10), and as such they would not support the survival of aorist indicatives in past indicative function. But Braune and Reiffenstein 2004: 272, §322 Anm. 2, are surely correct in analyzing them as PGmc subjunctives (descended from PIE optative forms). However, the strongest argument against the ‘aorist hypothesis’ is that it forces us to posit an improbable sequence of developments, as follows. We have to suppose that a complete aorist paradigm survived beside the ordinary PGmc past, which reflects the PIE perfect, in PGmc; that the entire formation was lost in Gothic, but survived in PNWGmc; that it was also lost in Norse, but survived in pre-PWGmc; and that in PWGmc it underwent conflation with the ordinary past

to produce a single paradigm of hybrid origin. That is not merely implausible, but incredible.

Why the past subj. 2sg. form acquired indicative function as well is not a settled question. Schröder suggested that the use of the 2sg. subj. in ‘dubitative’ questions led to its reanalysis as an indicative form (necessarily by native learners, though he does not say so explicitly; cf. Schröder 1921: 226–9). Grønvik adduces further examples for such a use in early Gmc languages, and—crucially—establishes that such subjunctives could have past reference as well as present reference (Grønvik 1998: 106–9). Whether such usage was common enough to lead to a wholesale restructuring is still not entirely clear. While the suggestion that the inherited indic. 2sg. ending *-t was inconvenient is not by itself convincing—after all, it survived as the pres. indic. 2sg. ending of preterite-present verbs throughout WGmc (cf. OE *wāst*, OS *wēst*, OHG *weist* ‘you know’, PGmc inf. **witanaŋ*; OE *scealt*, OF, OS, OHG *skalt* ‘you ought to’; etc.)—it seems at least possible that difficulties with such forms might have encouraged native learners (i.e., children 3 to 5 years old) to experiment with subjunctive forms instead. But it seems unlikely that the last word has been said on this issue. Note especially that further replacements of indicative forms by subjunctive forms occurred twice in the separate history of High German: pres. indic. 1pl. *-amēs* (etc.) was replaced by subj. *-ēm* in OHG (Braune and Reiffenstein 2004: 263, §307 Anm. 6), and pres. indic. *birn* ‘we are’, *birt* ‘you (pl.) are’, *sint* ‘they are’ were replaced by subj. *sīn*, *sīt*, *sīn* respectively in various dialects of MHG (Paul, Moser, and Schröbler 1969: 215–16). Apparently this type of change is not as unnatural as might be expected. For further discussion, with references, see especially Grønvik 1998: 103–11.

A PWGmc remodelling of the inflection of j-presents with heavy root syllables was first clearly recognized by Warren Cowgill (Cowgill 1959: 8); the development can be described as follows. In PGmc, j-presents with light root syllables exhibited a stem vowel complex *-i- ~ *-ja-, while those with heavy root syllables exhibited *-ī- ~ *-ija-; the underlying forms for both were */-j-i-/ ~ */-j-a-/ (with the alternating vowel of simple thematic presents), at least at first, and the rule system that yielded the surface outcomes was the following:

	after light syllables	after heavy syllables
underlying forms	/-j-/ + /-i- ~ -a-/	/-j-/ + /-i- ~ -a-/
Sievers’ Law	-ji- ~ -ja-	-iji- ~ -ija-
j > Ø / ___i	-i- ~ -ja-	-ii- ~ -ija-
contraction	-i- ~ -ja-	-ī- ~ -ija-

(cf. vol. i 4.2.2 (i), pp. 222–4; 4.3.3, pp. 235–6; 4.3.3 (i), pp. 237–8). In ON these stem vowel complexes developed by regular sound change to $\emptyset \sim -ja-$ and $-i- \sim -a-$ ($-ja-$ after velars) respectively. In Gothic $*-ija-$ merged with $*-ja-$ as $-ja-$, but the distinction between $*-i-$ and $*-ī-$ was maintained; however, $*-j-$ was levelled through the light root syllable paradigm, so that the stem vowel complex was $-ji-$ \sim $-ja-$ after light root syllables and $-ei-$ \sim $-ja-$ after heavy root syllables.¹⁵ That shows that native learners of Gothic were still analyzing these instances of surface $*-i-$ as underlying $/-j-i-/$; by levelling $-j-$ through the paradigm they effectively lost the rule, or part of a rule, dropping $/j/$ between a consonant and $/i/$. (The levelling is easier to understand if it preceded the merger of $*-ija-$ with $-ja-$, which amounted to at least a partial loss of Sievers' Law). The WGmc development was completely different. The $*Cj$ -clusters of the alternation $*-i- \sim *-ja-$ were subject to the phonetic rule of gemination (except when the consonant was $*r$ or $*z$; see 3.1.3), so that the surface form of the alternation became $*[-Ci-] \sim *[-C^iC^a-]$ in most cases. The alternation $*-ī- \sim *-ija-$, on the other hand, was replaced by $*-i- \sim *-ija-$; that is, the $*-i-$ which appeared after light roots was levelled into the position after heavy roots as well. Such a change is necessary to account for the short $-i-$ of the OHG indic. 2sg. and 3sg. and the syncope before the OE endings $-þ$ and $-s$ (*t*). The following forms are typical:

PGmc $*wōpīsi$ 'you call', $*wōpīþi$ '(s)he calls' (Goth. **wopeis, wopeiþ*; cf. ON *æpir* 'you yell, (s)he yells' with innovative ending) \rightarrow PWGmc $*wōpisi$ 'you weep', $*wōpīþi$ '(s)he weeps' \rightarrow OE *wēpst, wēpþ*, OS (3sg.) *wōpid*, OHG *wuofis, wuofit*;

PGmc $*wurkīsi$ 'you make', $*wurkīþi$ '(s)he makes' (Goth. *waúrkeis, waúrkeiþ*; cf. ON *yrkir*) \rightarrow PWGmc $*wurkisi$, $*wurkīþi$ \rightarrow OE *wyrct, wyrctþ*, OF (3sg.) *wercth*, OHG *wurchis, wurchit*;

PGmc $*hauzīsi$ 'you hear', $*hauzīþi$ '(s)he hears' (cf. Goth. *hauseis, hauseiþ*, ON *heyrir*) \rightarrow PWGmc $*hauzisi$, $*hauzīþi$ \rightarrow OE *hīerst, hīerþ*, OF (3sg.) *hērth*, OS *gihōris, (gi)hōrid*, OHG *hōris, hōrit*;

PGmc $*dōmīsi$ 'you judge', $*dōmīþi$ '(s)he judges' (Goth. **domeis, *domeiþ*; cf. ON *dæmir*) \rightarrow PWGmc $*dōmisi$, $*dōmīþi$ \rightarrow OE *dēmst, dēmþ*, OS (2sg.) *giduomis*, OHG *tuomis, tuomit*.

The motivation for this levelling is not immediately obvious. Since word-final $*-ī$ had become $*-i$ already in PNWGmc (see 2.1.1), the iptv. 2sg. could already have ended in $*-i$ in pre-PWGmc (if $*-ī$ had not been restored by levelling in the meantime); such forms could, in principle, be the direct source of OE iptv.

¹⁵ <ei> is the normal Gothic spelling of $/i/$.

2sg. *wēp*, *wyrç*, *hīer*, *dēm*, etc. But iptv. 2sg. forms are probably too small and marginal a basis from which to level *-i- into the indicative, and in any case the endingless OE iptv. forms could just as well be the result of the levelling discussed in this paragraph as the source of it.¹⁶

Native learner reanalysis of the rules that yielded the surface pattern, or of the underlying forms, seems at least as plausible a cause of this levelling. Reanalysis of Sievers' Law cannot be responsible, since that rule continued to apply exceptionlessly to the forms with stem vowel *-a-. I suggest that native language learners instead reanalyzed the forms with stem vowel *-i- as having no underlying */-j-/. Since a sequence *ji never appeared on the surface except word-initially in a few lexemes (such as *jit 'you two' and *jikil 'icicle'), that should have been a possible reanalysis; moreover, a plausible trigger could have been provided by the handful of strong j-presents to be found among scores of simple thematic strong presents. Presented with numerous paradigms like *wididi '(s)he joins', *wedandi 'they join', *wad '(s)he joined', *wādun 'they joined', etc., and only about a dozen like *bidīpi '(s)he asks for', *bidjanpi 'they ask for', *bad '(s)he asked for', *bādun 'they asked for', etc., native learners could easily have concluded that the only peculiarity of the minority type was the *insertion* of *-j- always and only before vowels other than *-i(-) in the present stem (1sg. *-u, 1pl., 3pl. *-a-, subj. *-ē-). Since class I weak presents were identical with strong j-presents, the reanalysis would naturally have been extended to the weak verbs as well. But reanalyzing *-j- out of the forms with stem vowel *-i- would have made the long alternant *-ī- completely opaque: from the native learner's point of view, if *-ja- and *-ija- were both underlying */-ja-/, and *-i- was always underlying */-i-/ (never */-ji-/), how could *-ī- be analyzed? (It might have been important that there was only one surviving strong j-present with a heavy root syllable—namely *wōpijan 'to weep'—so that *-ī- was especially out of place in the class of verbs in which the innovation originated.) Replacement of unmotivated *-ī- by *-i- would have been an obvious learner error, and it would have 'caught on' because it simplified the system.

A third important restructuring in the verb system affected the past stems of class I weak verbs. In PGmc only five such verbs had no linking vowel *-i-

¹⁶ The OS and OHG iptv. 2sg. forms in *-i* must be the result of a later levelling in any case (so Cowgill 1959: 8); a glance at the tables in Gallée 1993, between pp. 244 and 245, and Braune and Reiffenstein 2004, between pp. 260 and 261, will show how easy that must have been. The replacement of *-ī- by *-i- cannot have been triggered by the syncope of *-CijV- to *-CjV-, because an alternation *-Ci- ~ *-Cija- was the necessary model for the northern WGmc remodelling of weak class II pres. *-ō- to *-ōja- (see 5.2).

between the root syllable and the past tense suffix, and all the past stems in question contained the consonant cluster *-ht-: (indic. 3sg.) *buhtē ‘bought’, *sōhtē ‘sought’, *wurhtē ‘wrought, made’, *þanhtē ‘perceived, thought’, *þunhtē ‘seemed’. WGmc acquired several new groups of such past tenses, well before the period when *-i- was lost by regular syncope in the individual histories of the daughter languages. The developments can be summarized as follows.

Short *-i- underwent early syncope between a final *-t- or *-d- of the root syllable and the *-d- of the past tense suffix; moreover, *-i- in that position was syncopeated even after light root syllables (in contrast to the more widespread syncope of high vowels after heavy syllables that occurred much later in WGmc daughter languages). The effects of this change have largely been levelled out in the daughter languages; that is, *-i- has often been restored after light root syllables, and i-umlaut has largely been levelled into these past stems wherever it would be expected according to the majority pattern in each language (whether or not *-i- has also been restored). However, the distribution of the following relic forms shows that the early syncope of *-i- between coronal stops occurred in PWGmc:

- OE (North.) *ge-sætte*, OS *satta* 3sg. ‘set’ < PWGmc *sattē < PGmc *satidē (Goth. *satida*; cf. Early Runic 1sg. *satido*); umlaut levelled into OE *sette*, OS *gi-setta*; PWGmc *sattē > OHG *sazza → *sazta*;
- OS *latta* 3sg. ‘became exhausted’ < PWGmc *lattē ‘hindered’ < PGmc *latidē; umlaut levelled into OS *lettun* ‘they hindered’, OE *lette*; PWGmc *lattē > OHG *lazza → *lazta*;
- OHG *tratta* 3sg. ‘frequented’ < PWGmc *traddē < *tradidē (cf. ON *traddi* ‘trod’ (poetic)); umlaut levelled into OE *tredde* ‘investigated’; so also OHG (3sg.) *quatta* ‘called’, *brutta* ‘frightened’, *scutta* ‘shook’ (beside *scutita*), etc.

In general, OE has levelled i-umlaut into the past stems of class I weak verbs with roots in *-t-* and *-d-* but exhibits consistent syncope even after light syllables;¹⁷ in OHG, verbs with roots in *-z-* < *-t- have been regularized (replacing *-zz- with *-zt-*), but the past stems of those with light roots in *-t-* < *-d- exhibit variable syncope, and i-umlaut is absent in the syncopeated forms. The past participles generally exhibit the same peculiarities, though there are minor deviations in individual instances. The northern languages,

¹⁷ OF exhibits the same syncope; the spelling of the root vowel is generally ambiguous with respect to i-umlaut.

but not OHG, have extended this formation to one more verb by lexical analogy with ‘set’:

3pl. OE (northern Merc.) *lægdun*, OF *leiden*, OS *lagdun* ‘they laid’ < **lagdun* ← PWGmc **lagidun* (OHG *legitun*) < PNWGmc **lagidun* (ON *lagðu*) (←) < PGmc **lagid(ēd)un* (see 2.2).

This early syncope of *-i- makes the most sense phonetically if it occurred between coronal stops, thus after intervocalic *d had become a stop (see 3.1); that allows us to add a third innovation to a chronologically ordered sequence validating the WGmc clade:

- 1) *zw, *dw > *ww (see 3.1); then
- 2) *d becomes a stop in all positions; then
- 3) *-i- is lost in medial syllables between coronal stops.

It is possible that the *-a- of the passive relic **haitadē* ‘is called’ was also syncopeated by the same early change, yielding **haittē* > OE *hätte*; in that case the change was probably a regular sound change affecting all short vowels. But since syncope in this relic could have occurred later, we cannot base any conclusions on this line of speculation.

The past stems of class I weak verbs with root syllables in *-al- also appear without *-i- before the suffix widely in WGmc. At least five straightforward examples are attested both in OE and in OHG, sometimes beside regularized variants with *-i-:

OE *cwealde* ‘killed’ (beside North. *ācwælede*), OHG *qualta* ‘tormented’ (beside *quelita*; OS has only 3pl. *quelidun*) < PWGmc **kwaldē*;
 OE *dwealde* ‘led astray’, OHG *twalta* ‘hindered’ < PWGmc **dwaldē*;
 OE *sealde* ‘gave, handed over’, OS *salda*, OHG *salta* (beside *selita*) < PWGmc **saldē*;
 OE *stealde* ‘placed’ (beside early North. *āstelidæ*, *Cæd* 4), OHG *stalta* < PWGmc **staldē*;
 OE *tealde* ‘counted’ (beside North. *gitelede*), OS *talda*, OHG *zalta* (beside *zelita*) < PWGmc **taldē*.

Once again the past participles exhibit the same peculiarity, with minor variations.¹⁸ There is also an example that belongs to different paradigms in OE and OHG:

¹⁸ The only relevant OF forms are ptc. *seld* ‘given’ and *unbiteld* ‘unclaimed’; since *a usually appears as *a* before *lC* in OF (van Helten 1890: 1), it is likeliest that these participles reflect regular forms in *-alid. Of course it is perfectly possible that inherited participles in *-ald were regularized to *-alid, then syncopeated after further sound changes had occurred.

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OHG *giwalta* ‘chose’ (1x) (beside *welita*; pres. *wellen* ‘choose’) = OE (Angl.) *walde* ‘wanted’ (pres. *willa(n)* ‘want’);

in this case it seems clear that the OHG situation is original and that Anglian OE has conflated the paradigms of ‘want’ and an intensive class I weak verb derived from it. On the other hand, there is at least one WGmc class I weak verb in *-aljan which exhibits no past forms without *-i-: the past of OE *behellan* ‘cover, conceal’ is consistently *behelede* (already in *CP* and still in late West Saxon); the corresponding past stems of OS *behellian* and OHG *behellen* are unfortunately unattested. In OHG other class I weak verbs with light root syllables in *-l-* variably exhibit the same peculiarity, but that is not true in OE; thus we find, e.g., OHG *mulita* ‘ground’ (pres. *mullen*) and *hulita* ‘covered’ (pres. *hullen*), but in OE only *behylede* ‘veiled’ (once in the works of Ælfric) and *beswyled* ‘drenched’ (*Dream* 23, late WS)—and the past of OS *bihullian* ‘cover’ is not attested.

These past tenses without the expected *-i- have been explained by positing an unusually early syncope of that vowel (so e.g. Brunner 1965: 320–1). But it is difficult to see why syncope should have occurred exceptionally early after a light syllable. The distribution of these past tenses—with highly specific phonological conditioning, but not entirely consistent in phonological terms—instead suggests lexical analogy as the source of the pattern, and the starting point is revealed by the confusion between the verbs ‘want’ and ‘choose’. PWGmc **wiljan* (**[wilʲʲan]*), 3sg. pres. **wili*, past **weldē* is preserved essentially unchanged in OS *willian*, *wili*, *welda*; in WS OE *willan*, *wile*, *wolde* the only change has been the replacement of the root vowel in the past stem with that of *scōlde* ‘should’. PWGmc **waljan* (**[walʲʲan]*), past **waldē* is preserved essentially unchanged in OHG *wellen*, *walta* ~ *welita*. Otherwise, however, we find a widespread pattern of confusion and loss. Even in OHG, which still has both verbs, the present of ‘to want’ is mostly *wellen* < **waljan*, homonymous with ‘to choose’ (Braune and Reiffenstein 2004: 312–13, especially §385 Anm. 3), and the only forms still reflecting inherited **wil-* are pres. indic. 1sg. *willu*, 2, 3sg. *wili*. OS and southern OE have lost ‘choose’ completely; in Anglian OE, as noted above, *walde* has become the past of ‘want’, and there are some pres. forms in *well-* that might also have originally been forms of ‘choose’ (though backformation from the past seems more likely, since we also find *wall-* in Northumbrian; see Campbell 1962: 346–7, Brunner 1965: 357 for the facts in detail).¹⁹ Evidently there was a close association in PWGmc between **wiljan* ‘want’ and its derivative **waljan* ‘choose’. It seems

¹⁹ The OF situation seems to resemble that of Anglian OE; see van Helten 1890: 240.

reasonable to suggest that the minor, lexically conditioned rules relating pres. *wiljan to past *wel-d- (underlying root */wel-/ with raising in the pres. stem, see vol. i 4.2.2 (i), pp. 220–1) were extended to the verb *waljan, yielding a past *wald- that replaced inherited *walid-, and that the ‘i-drop’ rule subsequently spread to all or most of the verbs that rhymed with *waljan.

A third group of WGmc class I weak past stems without the expected *-i- before the suffix includes most of the verbs with root syllables ending in *-ak-; the past stems end in *-ah-t- in the northern languages instead of expected *-akid-. But though the relevant OHG past stems also end in *-aht-*, that is the expected OHG outcome of *-akid- in a class I weak past stem when another syllable followed (Braune and Reiffenstein 2004: 293, 297–8); moreover, in the past ptc. the sequence *-aht-* seems to be confined to forms with overt endings, the endingless forms ending in *-eckit* (with geminate *-ck-* levelled in from the pres. stem, apparently replacing original *-hh- < single *-k-). These facts suggest that the third group was a northern WGmc innovation that arose after the PWGmc period; they will be dealt with in 3.3.2, where a further reason for believing them to be a later innovation will be advanced.

In every attested WGmc language the 1sg. and 3sg. of the subjunctive have undergone syncretism under the form of the 3sg.; apparently native learners applied the impoverishment rule yielding identical forms in the strong past indicative to the past subjunctive and the present subjunctive as well. That is, the rule (informally stated)

*[1] / [sg., past, indic., strong],

which can be paraphrased as ‘no special form for the 1sg. in the past indicative of strong verbs’ (with the automatic result that the form unmarked for person and number, the 3sg., would be used instead) was extended to all subjunctive forms as well. Though this is a repeatable change (since it occurred much later in the pres. subj. of ‘be’ in ON), its uniformity across the subgroup makes it reasonable to assign it to PWGmc. In paradigms with voiced endings (see vol. i 3.4.3 (ii), pp. 182–4) the ending of the 2sg. had also become identical with that of the 3sg. by loss of its final *-z (both *-ē in the present subjunctive, both *-ī in the past subjunctive); thus in those paradigms complete syncretism of persons in the singular of all subjunctives occurred. One might expect the 2sg., at least, to have been recharacterized by the addition of an overt ending, and in OHG, at least, that is what happened. (OS exhibits the same innovation, but it might have spread from OHG.) But in the northern languages the complete syncretism of persons in this category was allowed to persist, and it eventually spread to those pres. subj. paradigms that had voiceless endings. That might have encouraged the process by which the three persons were

syncretized also in the plural of the subjunctive, and eventually of the indicative too, in the northern languages (see 5.2).

Another early morphological change, restricted to the southern part of the WGmc area, must have preceded the unrounding of bimoric **ō* in final syllables (3.1.4; Hollifield 1980: 151, Patrick Stiles, p.c. 9 August 2008). After the loss of word-final *-z in unstressed syllables and of word-final nasalization, but before the unrounding occurred, the endings of the weak past must have been 1sg. *-dō, 2sg. *-dē, 3sg. *-dē, 1pl. *-dum, etc. (or *-tō / *-þō / *-sō, etc., for the small minority of weak pasts with suffixal consonants other than *-d-; see vol. i 4.3.3 (ii.a, b), pp. 251–2; 4.3.3 (iii), pp. 260–1). In the dialects ancestral to High German the 3sg. ending was replaced by 1sg. *-dō, so that the 1sg. and 3sg. became identical, as they already were in the strong past indicative. In fact that must have been the motivation for the change: the development of a weak past indicative pattern 2sg. = 3sg. yielded a unique syncretism that cut across the strong past indicative syncretism 1sg. = 3sg. already in place. Thus the pivotal 3sg. (the form marked for neither person nor number) acquired a word-final *-ō. On that basis the 2sg. was remodelled to *-dōs (/ *-tōs, etc.; see above) in many OHG dialects, so that the inflection of the singular was 1sg. *-dō, 2sg. *-dōs, 3sg. *-dō; this, too, must have happened before the unrounding of **ō*. In part of the south —namely, in the dialect(s) ancestral to Alemannic—**ō* was levelled into the plural endings, replacing **u* (Braune and Reiffenstein 2004: 271); it is conceivable that that happened after the unrounding of **ō*, but the spread of **ō* would have been much more natural if it occurred before the unrounding, because all three persons of the singular (and not just the 2sg.) would have been sources of **ō*. The anomalous past ‘did’ apparently escaped this last change even in Alemannic because its 2sg. had in the meantime been remodelled to **dādī* on the model of the strong past. In sum, bimoric **ō* cannot yet have been unrounded in OHG at the time these levellings began, and probably not at the time that any of them went to completion, since in that case we should find **ā* levelled instead. Since the unrounding was clearly pan-WGmc and was followed by the (probably) pan-WGmc shortening of vowels before word-final *-r, this is another point in which PWGmc was already dialectally diversified well before it finally disintegrated.

It is possible that in the northern dialects 1sg. *-dō was instead replaced by *-dē, yielding a syncretism of all persons in the weak past indicative (as in the subjunctive, see above); since word-final **ō* was subsequently unrounded to **ā* throughout WGmc, and **ā* was later fronted in the northern languages, merging with **ē*, we can’t tell whether or not such a change occurred at this early date. Not surprisingly the 2sg. was eventually remodelled to *-dēs in the northern dialects. We cannot show that the creation of 2pl. *-dēs was as

early as that of *-dōs because, unlike the latter, it did not interact with any sound changes. However, the fact that *-dōs must have been created within the PWGmc period makes it reasonable to suppose that *-dēs was also an early remodelling.

The *-s of the innovative 2sg. forms in the weak past is striking, since no inherited past forms from which an ending might have been borrowed exhibited voiceless Verner's Law alternants (so far as we can tell).²⁰ The only plausible source for the new ending was the present indicative 2sg. *-ōs, *-ēs of weak class II and III presents, though the present subjunctive 2sg. *-ēs of affixed presents (which had voiceless endings) might have contributed to this development (see 3.1.4 and the discussion above, and cf. 3.3.2 below). But transfer of an ending from the present to the past indic. is not as improbable as it might seem. Pres. indic. *-si ~ *-zi ~ *-s and pres. subj. *-s were the only distinctive 2sg. endings that survived the loss of word-final *-z in unstressed syllables; if native learners were moved to recharacterize any past 2sg. endings, those are the materials they had to work with. Such an innovation would have been more likely to 'catch on' because it brought the pattern of inflection of the weak past indic. into conformity with the patterns of other paradigms. The new southern past indic. 1sg. *-dō, 2sg. *-dōs, 3sg. *-dō was exactly parallel to pres. subj. 1sg. *-ē, 2sg. *-ēs, 3sg. *-ē, and the overall pattern—1sg. and 3sg. identical, 2sg. different—had long been characteristic of the strong past indic. If the northern 1sg. had actually been remodelled as *-dē (see above), the same parallelism would have obtained in those dialects if *-s were added to the 2sg. If the northern 1sg. was still *-dō, the pattern of the resulting paradigm, with three different endings, would have been parallel to that of the pres. indic. In short, this was an innovation that was obviously destined to succeed.

Preterite-present verbs have weak past stems throughout Germanic, and it seems clear that they had weak past participles in PGmc; in addition to the handful of examples attested in Gothic (*munds*, *binaúhts*, *mahts*; Braune and Heidermanns 2004: 169–70), there are several original weak participles widely used as adjectives throughout the family (e.g. **kunþaz* 'recognized, known' > Goth. *kunþs*, ON *kuðr* ~ *kunnr*, OE *cūþ*, OS *kūđ*, OHG *kund*; **gawissaz* 'known' > OE *gewiss*, OHG *giwiss* 'certain', cf. Goth. *unwiss* 'unclear'). In WGmc, however, preterite-presents have acquired past participles in *-an, like

²⁰ One might expect the strong past subj. 2sg. to have ended in *-īs, since it was made to the default past stem, which was originally unaccented; but the fossilized forms that acquired indicative function (see above) all exhibit reflexes of *-iz. Apparently the voiced endings had been generalized in the past subj. in PWGmc. The synchronically subj. forms in OS *-is*, OHG *-īs* are much more likely to be innovations.

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strong verbs, and it is reasonable ascribe this development to PWGmc. Examples are uncommon, and none seem to be attested in OF or OS. Only one is well attested both in OE and OHG:

OE *ġewiten* ‘known’, OHG *giwi33an* < PWGmc **gawitan*, inf. **witan* ‘to know’ < PGmc **witana*.

The other OE examples (*oncunnen* ‘accused’, *ġeunnen* ‘granted’, *ġemunen* ‘thought, considered’) and the other OHG examples (*vercunnan* ‘despaired of’, *ungitorranes* ‘not ventured’, possibly *erbunnen* ‘begrudged’, all known only from glosses) could have been created within the separate prehistory of the languages, though **kunnan* ‘known’ and **unnan* ‘granted’ might be reconstructed for PWGmc. It seems at least possible that these participles were created by reinterpretation of non-participial adjectives, beginning from the prominent example **aiganaz* ~ **aiginaz* ‘own’ (see 2.1.2), which survives as OE *āgen* ~ *ǣġen*, OHG *eigan* ~ *eigin*; on the other hand, the fact that that example is strictly adjectival in both languages tells against such a scenario.

A few regularizations of individual strong verb paradigms occurred in PWGmc; for instance, PGmc zero-grade **trudana* ‘to tread’ and **knudana* ‘to knead’ are reflected in PWGmc **tredan* and **knedan* (with the default present-stem vocalism), and the present-stem suffix *-n- of PGmc **fregnana* ‘to ask’ was extended through the entire paradigm (Seebold 1970: 108–9, 303–4, 505, Nielsen 1985: 121, 170–1).

On the development of class III weak verbs see section 3.3.2 below.

3.2.2 *Changes in nominal inflection*

The replacement of *-iw- by *-aw- in the endings of u-stems has been discussed under 3.1.4 above; only a few changes remain to be discussed here.

WGmc present participles are inflected as ija-stems. In PGmc they were consonant stems in *-nd-; it seems clear that masculine and neuter stems in *-nd-ija- were backformed to the feminines in (*-nd-ī ~) *-nd-ijō- in PWGmc. Cf. e.g.:

OE *berende*, OHG *berenti* < PWGmc **berandi*, *-ija- ← PGmc **berand-* (cf. Goth. *bairands*); OF *berande*, OS *berandi*, the (mostly North.) OE variant *-ande* and the OHG variant *-anti* have levelled i-umlaut out of the participial suffix on the model of the inf. in *-an*.

Of course this backformation could be a partly parallel innovation, since it seems very natural. But it is striking that in ON and (for the most part) Gothic the present participles have become n-stems instead; remodelling to ija-stems is exactly coterminous with WGmc, and it is reasonable to ascribe it to PWGmc on those grounds.

Though the PGmc infinitive was formally a neuter a-stem noun, its only form was an acc. sg. in *-ą. Throughout WGmc an additional stem in *-ja- has been created; from it are formed only a gen., inst., and dat. sg. (mostly the last). Since it is fully productive, every verb provides an example; note the following:

OE (Merc.) *tō sellenne*, (WS) *tō sellanne*, OHG *zi sellenne* ‘to give’; OS *te faranne*, OHG *zi faranne* ‘to go’; endings all ←< PWGmc *-anjē (*[-an^hn^hē]).

In OE and OF only dat. sg. examples occur; OS and OHG also attest the gen. sg., and OHG a (rare) inst. sg. The rare OS gen. sg. examples are interesting because they provide explicit attestation of the *j, e.g. in *sweriannias* ‘of swearing’ (Gallée 1993: 248, cf. OHG *sweriennes*). The shape of the inflected infinitive stem was repeatedly adjusted in all the daughters by levelling and other changes: except in the early Mercian OE of *Ps(A)*, the vowel of the uninflected infinitive ending tends to be levelled into the inflected infinitive, eliminating i-umlaut; throughout Ingvaemonic we find innovative class II weak forms in *-ianne*; in OHG we find weak class II *-ōnne* and class III *-ēnne*, with an apparent light Sievers’ Law alternant *-nj- after a long vowel; and so on.

That an inflected infinitive should have been created is not particularly surprising, but why the stem should end in *-ja- is a puzzle, especially since a-stem and ja-stem nouns never became identical in the nom. and acc. sg. (so that there can have been no obvious occasion for learner errors beginning from endingless forms). Vague suggestions that the inflected infinitive was influenced by very different verbal formations in *-ja- (Loewe 1933: 134) or is somehow parallel to Sanskrit deverbal adjectives in *-an-īya-* (Meid 1967: 123) do not lead to workable historical hypotheses; Grønvik 1998: 112–14 sketches a development which is possible but entirely speculative, and most of the handbooks make no suggestion at all. I can do no better.

PGmc inherited a small number of collectives made to neuter deverbal nouns in *-men- and *-en- (Jasanoff 2002: 35); to judge from the only one attested in Gothic, they became neuter singulars in PGmc. In PWGmc they were shifted into the masculine n-stem class, apparently because their nom. sg. forms ended in *-ō (Jasanoff 2002: 35). The attested examples are:

PGmc *namō (neut.) ‘name’ (Goth. *namo*; cf. also ON *nafn* (neut. a-stem), back-formed to the pl. caseforms (vol. i 4.3.4 (i), p. 275)) > PWGmc *namō (masc.) > OE, OF *nama* ~ *noma*, OS, OHG *namo*;

PGmc *sēmō (neut.) ‘seed’ (collective to the basic noun preserved in Lat. *sēmen* (neut.)) > PWGmc *sāmō (masc.) > OHG *sāmo*;

PGmc *ank^wō (neut.) ‘butter’ (collective to the basic noun preserved in Lat. *unguen* (neut.) ‘salve, ointment’) > PWGmc *ankwō (masc.) > OHG *ancho*.

Among the most idiosyncratic WGmc innovations was the construction of masc. nom.-acc. pl. forms of ‘two’ with endings characterized by *n*. The best discussion of this problem is Bammesberger 2010 (with comprehensive bibliography). The development is odd enough that it probably could not have occurred more than once, but the attested forms are not perfectly cognate, so that a PWGmc form is difficult to reconstruct.²¹ We seem to have the following:

- OE *twēgen*, Angl. *twcēgen* < *twō-jVn- (?; so Ross and Berns 1992: 568–9 with references); the length of the vowel is guaranteed by some fifteen examples in verse, which can only mean that it was long in at least one Anglian dialect;
- early ME (*Orrmulum*) *tweʒenn* < *twaj(j)Vn- (Seebold 1968), apparently supported by the distribution of spelling variants in a number of early OE texts (Seebold 1968: 421–4) which seem to show that the vowel was short in some other dialects;
- OF, OS *twēne* < *twainē;
- OHG *zwēne* perhaps also < *twainē, but in that case the development of the stressed diphthong was not regular (cf. Braune and Reiffenstein 2004: 45, §43 Anm. 5).

It is unclear whether the identity of nom. pl. and acc. pl. in this numeral is the result of post-PWGmc syncretism (on which see 7.2.1 below). Seebold 1968: 433–4 proposes a solution for the entire group of forms that involves several otherwise unsupported sound changes; his attempt to explain away the metrical length of the OE forms (Seebold 1968: 427–8) is unconvincing. Bammesberger 2010: 325–7 points out that the *n*-forms are almost certainly derivatives of ‘two’ that have been attracted into the paradigm of the basic numeral; he suggests a fossilized gen. or dat. sg. of a pre-OE *n*-stem *twegan- ‘pair’, originally meaning ‘of a pair’ or ‘in a pair’—in effect, ‘pairwise’—as the origin of the OE form (with lengthening of the first vowel in verse on the analogy of the oblique forms, Bammesberger 2010: 333–4 n. 25). OHG *zwēne* might then reflect a parallel form *zwehen with the productive adjective ending added. While this solution does not solve all the problems definitively, it does account for the OE and OHG forms without phonological sleight of hand.

The third-person pronoun survives only in the more southerly daughters of WGmc; in the northern dialects it was largely replaced by *hi- ~ *he- ‘this’ (vol. i 4.3.6 (ii), p. 289). However, the endings of both show a few innovations

²¹ The strategy of Ross and Berns 1992, namely reconstructing alternative protoforms and projecting them all back into the protolanguage, is utterly unrealistic and should be rejected out of hand. If we can reconstruct a more or less unitary protolanguage at all, we cannot reasonably ascribe to it multiple isofunctional inflectional forms in category after category.

that must be PWGmc; moreover, OF has a set of clitic pronouns whose shapes match those of the southern languages to a surprising extent.²² From those pieces of evidence the following statements can be made. PGmc fem. nom. sg. *sī acquired the default feminine ending *-u, becoming *si(j)u (variably, since sī also survives in some OHG dialects, Braune and Reiffenstein 2004: 244, §283 Anm. 1 (f)); the masc. nom. pl. also acquired an a-stem ending, probably becoming *ijē in the first instance, and so also (probably) the masc. acc. pl., which would then have been *ijā or the like. But the initial *s- of the fem. nom. sg. also spread to the fem. acc. sg., which became *sijā, and to the nom. and acc. pl. forms of all genders (cf. Nielsen 1985: 165).

In addition, the stem vowel *i ~ *e of the third-person pronoun began to spread into the default demonstrative ‘that’. In the attested southern languages that process is very far advanced, but in OE it has affected only the nom. sg. masc. and fem., and that must be the limit of what had happened in PWGmc. The forms must have been masc. nom. sg. *siz (replacing inherited *sa) and fem. nom. sg. *si(j)u (replacing inherited *sū; cf. already Rösler 1962: 68). Their regular sound-change reflexes survive in OE; the other languages have levelled in *þ- from the other forms of the pronoun but still exhibit the same endings (or unremarkable developments of them).

As Patrick Stiles points out (p.c.), it is striking that both ‘she’ and ‘that’ (fem. nom.) should have converged on the same form. If we suppose that morphological change somehow improves the functioning of the language, there is no way to account for it. But if morphological changes are simply native-learner errors that ‘got loose’ in the speech community, we should not expect them to be functional improvements; any error that is not positively *dysfunctional* should have a reasonable chance of being copied and spreading for social reasons. Clearly this pair of innovations is not dysfunctional: replacing ‘she’ by ‘that one (fem.)’ causes no confusion in most circumstances, perhaps not in any.

Finally, it appears that an uninflected relative particle *þē (> *þe, probably under weak stress) may have been created in PWGmc; that seems more likely than parallel development of OE *þe*, OF, OS *thē*, OHG *de* (Braune and Reiffenstein 2004: 249, Nielsen 1985: 167). That was an important development in the morphosyntax of the language, but it seems unlikely that how it happened can be reconstructed in any detail.

²² I am grateful to Patrick Stiles for calling this to my attention.

3.3 Parallel developments in West Germanic

The daughters of PWGmc continued to develop in contact for centuries and shared (in various combinations) a substantial number of post-PWGmc innovations which either diffused from one dialect to another or were independent but parallel. A few of those innovations, however, may have been unusually early and certainly had a marked impact on the grammar of the languages; they will be discussed in this section.

3.3.1 *Post-PWGmc sound changes*

A salient sound change that appears in all the attested WGmc languages and in ON is the merger of *z with *r as r, often called ‘rhotacism’; but it is easy to show that the Norse change must have occurred independently of the WGmc change. Early Runic still distinguishes the two sounds graphically; they apparently did not begin to merge until some time after the 7th century, at a time when ON was clearly a separate language (and WGmc itself had diversified into markedly different speechforms). Moreover, at least one specifically Norse sound change, the monophthongization of *ai to á before r, preceded the merger of *z with *r (which counterfered the monophthongization; cf. Noreen 1923: 50–1). Note the following examples:

- PGmc *airuz ‘messenger’ (Goth. *airus*) > ON *árr* (OE *ār*, OS pl. *ēri*);
- PGmc *sairą ‘(a) wound, pain’ (Goth. *sair* ‘pain’) > ON *sár* ‘wound’ (OE *sār*, OF *sēr* ‘wound’, OS, OHG *sēr* ‘pain’);
- PGmc *airi ‘early’ (Goth. *air*) > ON *ár* (OE *ǣr*, (North.) *ār*, OF, OS, OHG *ēr*);
- PGmc *aiz ‘bronze’ (Goth. *aiz*) > ON *eir* (OE *ār*, OS, OHG *ēr*);
- PGmc *maizan- ‘more’ (Goth. *maiza*) > ON *meiri* (OE, OF *māra*, OS, OHG *mēro*);
- PGmc *gaizaz ‘spear’ (< post-PIE *g^haysós, cf. OIr. *gáe*) > ON *geirr* (OE *gār*, OS, OHG *gēr*).

Contrast the identical development of the two sequences in the WGmc languages cited. On the WGmc side, the loss of word-final *z in unstressed syllables (see 3.1.1), which did not occur in Norse, must likewise have preceded the merger of *z with *r. Since these facts demonstrate that rhotacism is an easily repeatable change,²³ we would not be able to ascribe it to PWGmc with confidence even if it had occurred uniformly throughout the WGmc subgroup.

²³ A phonetically identical change also occurred in Latin in the 4th century BC, though one might argue that it was not precisely comparable because the structure of the language was different ([s] and [z] were allophones of /s/ in early Latin).

But in fact rhotacism was not uniform in WGmc. PGmc *z did merge with *r between vocalics (including *j) and in the intervocalic cluster *rz in all the daughters, and examples of the former are numerous:

- PGmc *ausōn- ~ *auzōn- ‘ear’ (Goth. *auso*, ON *eyra*) >→ PWGmc *auzā > OE *ēare*, OF *āre*, OS, OHG *ōra*;
- PGmc *hauzijaną ‘to hear’ (ON *heyra*; Goth. *hausjan* has an analogical voiceless Verner’s Law alternant (from ‘ear?’)) > PWGmc *hauzijan > OE *hieran*, OF *hēra*, OS *hōrian*, OHG *hōren*;
- PGmc *laizijaną ‘to teach’ (Goth. *laisjan* has levelled the voiceless Verner’s Law alternant in from *lais* ‘I know’) > PWGmc *laizijan > OE *læran*, OF *lêra*, OS *lērian*, OHG *lêren*;
- PGmc *hasan- ~ *hazan- ‘hare’ (ON *heri*) > PWGmc *hasan- ~ *hazan- > OE *hara*, OHG *haso*;
- PGmc *hazjaną ‘to praise’ (Goth. *hazjan*) > PWGmc *hazjan > OE *herian*;
- PGmc *wazjaną ‘to clothe’ (ON *verja*; Goth. *wasjan* has an analogical voiceless Verner’s Law alternant, probably from the derived noun *wasti*) > PWGmc *wazjan > OE, OS *werian*, OHG *werien*;
- PGmc *snuzō ‘daughter-in-law’ (ON *snor* ~ *snør*; cf. Skt *snuṣā*) > PWGmc *snuzu > OE *snoru*, OHG *snur*;
- PGmc *kuzun ‘they tested’ (ON *kuru* ~ *køru*; Goth. *us-kusun* ‘they rejected’ has levelled in favor of the voiceless Verner’s Law alternant) > PWGmc *kuzun ‘they chose’ > OE *curon*, OF *keron*, OS, OHG *kurun*;
- PGmc *fruzanaz ‘frozen’ (ON *frörinn*; cf. Lat. *pruīna* ‘hoarfrost’) > PWGmc *frozan > OE *froren*, OHG *gifrozan*;
- PGmc *wēzun ‘they were’ (ON *váru*; Goth. *wesun* has levelled in favor of the voiceless Verner’s Law alternant) > PWGmc *wāzun > OE *wāeron*, OF *wēron*, OS, OHG *wārun*;
- PGmc *maizō ‘bigger, more’ (Goth. *maiza*, ON *meiri*) > PWGmc *maizō > OE, OF *māra*, OS, OHG *mēro*;
- PGmc *batizō ‘better’ (Goth. *batiza*, ON *betri*) > PWGmc *batizō > OE, OF *betera*, OS *betero*, OHG *bezziro*;
- PGmc *frōdōzō ‘wiser’ (Goth. *frodoza*, ON *fróðari*) > PWGmc *frōdōzō > OE *frōdra*, OHG *fruotōro*;
- PGmc *þaizō gen. pl. ‘of those’ (ON *þeira*; Goth. *þize*, fem. *þizo* have been remodelled, but cf. Skt. *tēṣām*, Cowgill 2006b: 524) > PWGmc *þaizō > OE *þāra* (OF *thera*, OS *thero*, OHG *dero* have also been remodelled);
- PGmc *marzijaną ‘to disturb, to hinder’ (Goth. *marzjan* ‘to offend’) > PWGmc *marzijan > OE *mierran*, OS *merrian*, OHG *merren*;
- PGmc *irzijaz ‘mistaken, wrong’ (Goth. **airzeis*) > PWGmc *irri > OHG *irri*; → northern WGmc *irri ‘angry’ > OE *ierre*, OF *ire*, OS *irri*;
- PGmc *þursu- ~ *þurzu- ‘dry, dried up’ (Goth. *þaúrsus*, ON *þurr*) >→ PWGmc *þurzi > OE *þyrre*, OHG *durri*;

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PGmc *(ga)durzun ‘they dared’ (Goth. *gadaúrsun* has levelled in favor of the voiceless Verner’s Law alternant) > PWGmc *(ga)durzun > OE *durron*, OHG *giturrun*.

In these environments there was complete merger with preexisting *r. Inherited intervocalic *r was of course common. There were at least a few cases of inherited *rr; note especially PGmc *ferr- ‘far’ in Goth. *faírra*, ON *ferri* ~ *fjarri*, OE *feorr*, OF *fir*, OS *ferr*, OHG *ferro*.

The development of *z immediately preceding a coronal consonant, however, was not uniform, either dialectally or lexically. Several examples are relatively straightforward:

PGmc *huzdą ‘treasure’ (Goth. *huzd*, ON *hodd* (poetic)) > PWGmc *hozd > OE, OS *hord*, OHG *hort*;

PGmc *mizdō ‘reward’ (Goth. *mizdo*, remodelled as an n-stem) > PWGmc *mizdu > OE *meord* ~ *mēd*, OF *mēde* ~ *mīde*, OS *mēda*, OHG *miata*;

PGmc *hezd- ‘flax-hards’ (cf. Gk κέσκεον /késkeon/; PIE root *kes- ‘to comb’) > PWGmc *hezd- > OE *heordan*;

PGmc *liznōną ‘to learn’ (fientive, derivationally related to *laizjanaą ‘to teach’, see above) > PWGmc *liznōn > OE *liornian*, OF *lirnia*, OS *linon*, OHG *lirnēn*;

PWGmc *twizn ‘doubled thread’ > OE (neut.) *twīn*, OHG (masc.) *zwirn*.

Though the usual outcome is clearly *r*, we occasionally find loss of *z with compensatory lengthening of the preceding vowel, and it is striking that that vowel is always *i, which is sometimes lowered when lengthened (cf. Crist 2001: 102–3). Examples in which *a preceded the consonant cluster exhibit further complications:

PGmc *razdō ‘voice’ (Goth. *razda* ‘speech’, ON *rōdd*) > PWGmc *razdu > OE *reord*, OHG *rarta*; cf. North. OE *reord* ‘speech’, *riordade* ‘he was talking’;

PNWGmc *razdu, *garazdą (?) ‘food’ (ON *greddir* ‘nourisher’ (poetic)) > OE *reord*, *gereord*, North. *riord*, *geriord*;

PGmc *gazdaz ‘goad’ (Goth. *gazds*, ON *gaddr*) > PWGmc *gazd with derivative (i-stem) *gazdi ‘rod’ > OE *gierd* ‘rod’, OF *jerde* ‘yard’, OS *gerdia* ‘rod’, OHG *gart* ‘goad’, *gertia* ‘rod’;

PNWGmc *hazdaz ‘(woman’s head-)hair’ (ON *haddr* (poetic)) > OE *-heord* in fem. nom. sg. weak *bundenheorde* ‘with braided hair’ (*Beo* 3151);

PGmc *razną ‘house’ (Goth. *razn*, ON *rann*) > PWGmc *razn > OE *ærn*;

PNWGmc *hraznu ‘wave’ (ON *hrōnn*) > OE *hærn* ‘wave’, poetic ‘sea’.

In most of these words *a has clearly been raised, in Northumbrian apparently all the way to *i. Campbell 1962: 48 suggests that there was a prehistoric OE raising of *azd to *ezd, and that after *z > r, *e was broken to *eo (see 6.2.2) and raised by i-umlaut (see 6.6.2). That accounts for the Northumbrian forms

and WS *gierd*; the forms with *eo* would have to be Mercian, which is plausible since they occur almost exclusively in verse. But there is no independent evidence that any of these words other than *gierd* ever exhibited a high front vocalic after the root syllable. Possibly the sequence **æzd* (see 5.1.2) was raised to **izd* in all environments in the separate prehistory of OE. The prehistory of OE *ærn* ‘house’ is even harder to reconstruct. If **razn* > **rarn* and the initial **r* was later lost by dissimilation, we would expect the outcome to be ‘*earn*’, with a ‘broken’ vowel (see 5.1.2 and 6.2.2). If **razn* > **rann* and then metathesis of *r* and the vowel occurred (see 6.10.2), we would expect ‘*arn* ~ *orn*’ (see 5.1.2 and 6.3.2). If **razn* > **rān*, metathesis should not have occurred; the outcome would presumably have been ‘*rōn*’ (see 5.1.2). Apparently **a* was fronted to **æ* in this word by the well-known northern WGmc sound change (see 5.1.2) while it was still immediately followed by **z* (Luick 1914–40: 171–2); the **z* was then eliminated by one sound change or another, so that it could not induce raising. The prehistory of *hærn* must have been similar. For further discussion see Stanley 1952: 108.

There is further indirect evidence that **z* persisted in the northern dialects for some time after PWGmc had begun to disintegrate. The most striking piece of evidence is Modern North Frisian *lāsk* ‘lark’ < PWGmc **laiwazikā* (Kluge and Seebold 1995: 515 with references; see further 6.7.3 below), in which syncope of **i* led to the devoicing of **z*. But there are also two irregular comparatives whose shapes are perhaps best explained by syncope or haplology, no doubt in allegro speech, before rhotacism occurred:

- PGmc **wirsizō* ‘worse’ (Goth. *wairsiza*, ON *virri*) > PWGmc **wirsizō* (OF *wirra*, OHG *wirsiro*) > **wirsō* > OS *wirsa*, OE *wiersa* (with the unlauded vowel of superlative *wierrest* levelled in);
northern WGmc **laisizā* ‘less’ > OF *lessa* (→ *lessera*), OE *læssa* (with the unlauded vowel of superlative *lærest* levelled in).

It is true that syncope of such a form as pre-OE **wiersirā* would probably yield **wiersra* > (**wierssa* >) *wiersa*, just as syncope of **ūsærV-* ‘our’ yielded **ūs-* > *ūss-* (see 6.10.2), but that would not account for the similar OS and OF forms. It is also true that preforms of ‘worse’ with **rz* must be posited to explain the ON and OF forms, as well as superlative OE *wierrest*, OS *wirristo* (~ *wirsisto*), and the superlative OF *lērest*, OE *lærest* likewise reflects intervocalic **z*; the relationship between those preforms and the preforms with **s* is a matter of conjecture. But it is difficult to explain the absence of comparative *-r-* in two forms attested in three different languages if it had not been lost at an early date, and its proximity to a preceding *-s-* strongly suggests that it was still **-z-* at the time.

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The development of word-final *z in monosyllables differed in the northern and southern WGmc dialects: in the north it was lost with compensatory lengthening (and, in OE, lowering of *i),²⁴ but in the south it survived and became *r*. Note the following examples:

- PGmc *maiz (adv.) ‘more’ (Goth. *mais*, ON *meir*) > PWGmc *maiz > OE *mā*, OF *mā* ~ *mē*, OS, OHG *mēr*;
- PGmc *wīz ~ *wiz ‘we’ (Goth. *weis*, ON *vér*) > PWGmc *wiz > OE *wē*, OF, OS *wī*, OHG *wir*;
- PNWGmc *jiz ‘you (nom. pl.)’ (ON *ér*) > PWGmc *jiz > OE *gē*, OF *jī*, OS *gī*, OHG *ir*;
- PGmc *miz (dat.) ‘(to) me’ (Goth. *mis*, ON *mér*) > PWGmc *miz > OE *mē*, OF, OS *mī*, OHG *mīr*;
- PGmc *þiz (dat.) ‘(to) you (sg.)’ (Goth. *þis*, ON *þér*) > PWGmc *þiz > OE *þē*, OF, OS *thī*, OHG *dir*;
- PGmc *hiz ‘this (nom. sg. masc.)’ > PWGmc *hiz > OE *hē*, OF *hī*, OS *hī* ~ *hē*, all ‘he’;
- PGmc *iz ‘he’ (Goth. *is*) > PWGmc *iz → *ez > OHG *er*;
- PGmc *h^waz ‘who?’ (Goth. *lwas*) > PWGmc *h^waz > OE, OF *hwā*; OS *hwē*, OHG *wer* reflect a preform *h^wiz → *h^wez of uncertain antiquity but show the same pattern of development of word-final *z in monosyllables;
- PNWGmc *kūz ‘cow’ (?; ON *kýr*) > PWGmc *kūz (?) > OE *cū*.

The suggestion that these words lost *-z because they were unstressed (cf. e.g. Luick 1914–40: 819) does not account for OE *mā* and *cū*, nor does it offer a convincing explanation for the retention of *-z in OHG (on which see further immediately below). Nom. sg. forms such as OE *dēor* ‘animal’ (PWGmc *deuz), *ār* ‘bronze’ (PWGmc *aiz), and *gār* ‘spear’ (PWGmc *gaiz) can of course owe their -r to levelling from forms with overt endings.

A handful of OHG monosyllables could conceivably exhibit loss of final *-z, namely *kuo* ‘cow’, *sū* ‘sow’, *drī* (masc. nom.-acc.) ‘three’, and *zwā* (fem. nom.-acc.) ‘two’. However, alternative explanations are available for the endinglessness of each. ‘Cow’ and ‘sow’ are feminine nouns, and it is possible that they have undergone syncretism of nom. and acc. sg. under the form of the accusative, like OHG *ō*-stems; that could even account for the **ō* of *kuo*

²⁴ This is the simplest formulation for OE, in which *-iz always appears as -ē, though levelling of the alternation in the pronoun *hi- ~ *he- cannot be absolutely excluded as a source of nom. sg. masc. *hē*; conversely, for most OHG dialects the simplest explanation for *er* ‘he’ is levelling in the paradigm of *i- ~ *e-. For the other WGmc dialects, including the Franconian dialect of the OHG Isidor, the situation is more complicated; see especially the discussion of Klein 1979: 430–44 (though I think Klein is too quick to exclude both levelling within paradigms and parallel development in diverging lineages as potential sources for the alternation of *i* and *e* before *z).

(ultimately < PIE acc. sg. *g^wóm, vol. i 3.4.4 (i), p. 198 with references). Since *drī* is clearly a plural i-stem, we must reckon with the possibility that it has adopted the unstressed ending of i-stem nouns; alternatively, it could reflect PGmc acc. pl. *þrinz, if the word-final sequence *-inz developed into *-ī or the like early enough to escape rhotacism even in monosyllables. Finally, *zwā* could actually be an endingless form, ultimately reflecting PIE *dwó (Cowgill 1985: 16–18). The certain examples of monosyllables ending in *-z did not lose that consonant in OHG.

The most economical scenario that will give this pattern of outcomes puts rhotacism at the end of the sequence of changes: first *z was lost in a variety of environments in a variety of dialects, then all *surviving* *z > *r across the whole WGmc area (cf. Crist 2001: 106–8). Since only the last change was uniformly shared by all the dialects, and since it is clear that rhotacism is a ‘natural’ sound change that could easily spread, it seems advisable to assign the entire process to the post-PWGmc period.

The loss of most word-final short high vowels in third and later syllables left n-stems endingless in the oblique cases of the singular and in the masc. and fem. nom. pl. (3.1.4). We would therefore expect īn-stems in the daughter languages to exhibit reflexes of a nom. sg. in *-ī, acc., gen., and dat. sg. in *-īn, and nom. pl. also in *-īn. What we find instead, for the most part, is that the forms which we expect to show reflexes of *-īn actually show reflexes of *-ī, so that all caseforms of the singular are identical. In OHG they still end in -ī; OS exhibits -i or further developments of the same, as expected;²⁵ OE has replaced nom. sg. *-i > *-e with -u, and the latter has largely been generalized to the other cases; OF -e could reflect either *-i or *-u. The starting point for these developments was clearly a sound change by which word-final *-n was lost after unstressed *ī (cf. e.g. Bloomfield 1930: 100, Dahl 1938: 56, Campbell 1962: 189, 236, all with references). It would be reasonable to regard this as a late PWGmc sound change (since no PWGmc sound changes need to be ordered after it) were it not for the fact that a few OHG documents, including the OHG Isidor and the Monsee fragments, exhibit -īn in all these forms, including the nom. sg. (Braune and Reiffenstein 2004: 211–12). Since reintroduction from the rare gen. pl. and dat. pl. forms is highly unlikely, the longer OHG forms can be accounted for only by the hypothesis that the loss of -n after ī did not go to completion in some southern dialects and that the variation -ī ~ -īn was extended to the nom. sg., after which some dialects

²⁵ The example *énstrīdii* ‘stubbornness’ in the Prudentius glosses, rather than indicating length of the final vowel (Gallée 1993: 206, Anm. 1), can easily be an error.

generalized the variants in *-īn*. Thus the loss of **-n* after unstressed **ī* must be a post-PWGmc change that spread through a diversifying dialect continuum.

3.3.2 *Post-PWGmc morphological changes*

Several important morphological changes affecting the verb system occurred in varying patterns across the WGmc dialects; one also affected Norse, either independently or (less likely) by diffusion across the dialect boundary between the two.

The most striking of these changes was the elimination of reduplication in the past stems of class VII strong verbs. There will always be some disagreement about how that happened, because the changes involved were not regular sound changes and because we have no firm intuitions to guide us in judging the plausibility of drastic morphological remodellings.²⁶ The most likely scenario for the majority outcome is still the oldest: in some groups of verbs the initial consonant of the root was dropped and the vowel of the reduplicating syllable contracted with the vocalic nucleus of the root; the resulting pattern then spread to other verbs, somewhat differently in the different daughters (cf. Schulze 1924, Flasdieck 1936; the older literature is referenced in Fulk 1987: 159).²⁷ (Note that the Verner's Law alternation can already have been eliminated from the root-initial consonants of all verbs except those beginning with **s-*; see vol. i 4.3.3 (i.g), p. 249.) A minority pattern, especially clear in Norse but also present in WGmc, was loss of the reduplicating syllable, leaving the root syllable intact. Still other outcomes, in which the reduplication was partially or wholly preserved, will also be briefly discussed.

The clearest cases are the verbs that had a-diphthongs in the root. The two PGmc verbs with initial **au-*, whose past tenses survive in Norse but not in WGmc, show what outcome we should expect from the contraction of **e* and **au* (Fulk 1987: 165–6, Grønvik 1998: 94):

PGmc **aukaną* 'to increase', past 3sg. **eauk* (Goth. *ana-aukan, ana-aiauk*) > **aukan, *eök* > ON *auka, jók*;

PGmc **ausaną* 'to draw (water)', past 3sg. **eaus* (cf. Lat. *haurire*; Gk *ἐναύειν* /*enáue:n*/ 'to kindle (fire)') > **ausan, *eös* > ON *ausa, jós*.

As these statements of changes suggest, the most straightforward account posits contraction of the vowels after the change of unstressed **au* to **ō* (see 3.1.5 above). Note especially that the ON contraction product cannot have

²⁶ For recent alternative solutions, differing from the one presented here because of differing judgments of the evidence, see Fulk 1987 and Jasanoff 2008.

²⁷ This effectively overlaps somewhat with the 'e-insertion' hypothesis favored by Fulk 1987, though the mechanism proposed is somewhat different.

passed through a stage *eu, since that would result in *jú* rather than *jó* before a velar consonant (Fulk 1987: 166 with references). Loss of the root-initial consonant in the past of ‘hew, chop’ leads to the same result:

PGmc *hawwaną ‘to chop’, past 3sg. *hehaww (cf. Lith. *káuti* ‘to kill’) >→
 *hagg^wan, *heōw > ON *hoggva*, *hjó*.

The development in WGmc was much the same, except that the contraction product was (or eventually became) *eu:

PGmc *hawwaną ‘to chop’, past 3sg. *hehaww >→ *hauwan, *heuw > OE *hēawan*,
hēow, OHG *houwan*, *hio*; OS *giheu* ‘he struck (with a sword)’;
 PNWGmc *bautanaą ‘to beat’, past 3sg. *bebaut (ON *bauta*, no past attested) >→
 *bautan, *beut > OE *bēatan*, *bēot*.

The other examples of this development appear in verbs with root-initial consonant clusters; since reduplication of clusters was more complex in PGmc (see vol. i 4.3.3 (i.g), pp. 248–9), it is likely that these verbs owe their ablaut pattern to abstraction of a rule from the examples whose roots had single-consonant onsets (or no onset) and generalization to all roots with internal *au.²⁸ Attested are:

OE *hlēop*, OHG *liof* ‘jumped’ < *hleup, OS *ahliopun* ‘they jumped up’ < *uzhleupun;
 cf. ON *hljóp*;
 OS *stiot*, OHG *stioz* ‘knocked’ < *steut;
 OHG *scriot* ‘cut’.

There are no OF examples; the only attested past stem of any relevant verb is OF *hlēp* ‘jumped’ (!; see below).

The accidental fact that unstressed *ai had already merged with *ē in NWGmc (see 2.1.1) had important consequences when reduplication was eliminated (Grønvik 1998: 94). Consider the probable development of one of the best attested verbs with *ai in the root:

PGmc *haitanaą ‘to call’, past 3sg. *hehait (Goth. *haitan*, *haihait*) > PNWGmc
 *haitanaą, *hehēt >→ *haitan, (*heēt >) *hēt > ON *heita*, *hét*, OE *hātan*, *hēt*, OF
hēta, *hēt*, OS *hētan*, *hiet*, OHG *heizan*, *hiaz*.

²⁸ Partly because the process I posit is somewhat different from that of Fulk 1987, I do not agree with Jasanoff 2008: 250 that the basis for such a morphological change is too small. It seems plausible that the new (pseudo-)ablauting past stem formation of a few verbs was generalized first to other verbs with the same underlying vocalic nucleus in the root, given that all the subclasses of strong class VII are small; further generalization will have occurred only later. Note also that both verbs with word-initial *au- were inherited from PIE; from the fact that *ausanaą survives only in ON it does not follow that it must have been lost early everywhere else.

Other attested examples include:

- OE *ā-*, *tō-scēd* ‘separated’ < *skēd, OS *skēth*, OHG *skiad* < *skēþ (the dialects had generalized different Verner’s Law alternants at the end of this root);
OE *lēc* ‘jumped, played’ < *lēk; cf. ON *lék*;
OHG *miaꝛ* ‘cut off’, *ziasun* ‘they plucked’.

However, whereas *eō or *eu can be explained only as a contraction product, the new *ē of these past tenses could also have arisen by simple loss of the reduplicating syllable, provided that the following sequence of changes occurred:

- 1) *ai > *ē when unstressed, therefore in the roots of these reduplicated past tenses;
- 2) stress was shifted from the reduplicating syllable to the root;
- 3) the (now unstressed) reduplicating syllable was dropped.

So far as I can see, this alternative cannot be excluded—all the more so as there are other clear cases of the loss of reduplicating syllables among class VII strong verbs (on which see further below).

We might suggest that, since PGmc *ē was lowered and backed to *ā only in stressed syllables in NWGmc (see 2.1.1 above), a similar scenario can account for the NWGmc past stems with *-ē- to verbs with *-ā- in the root (Grønvik 1998: 93–4). However, a morphological complication renders that less likely: most of the verbs of this subclass whose PGmc past stems can be reconstructed at all exhibited *-ō- in the root in the past indic. sg. (vol. i 4.3.3 (i.g), pp. 249–50). Of course it is not impossible that *lētanaþ ‘to let go, to allow’, past 3sg. *lelōt was remodelled to *lētanaþ, *lelēt and then developed regularly into *lātanaþ, *lelēt, the latter eventually giving rise to *lēt (by either of the processes outlined above). But note that the remodelling must have occurred in pre-PNWGmc—before stressed *ē > *ā, since after that change there would have been no source for *ē in the past indic. sg. stem—and that for this verb, at least, the past indic. sg. stem inherited from PGmc probably survives in Old Swedish *lōt*, though otherwise ON has *lēt*. Thus this scenario involves positing dialect divisions in PNWGmc that survived, at least partly, in attested ON. It might be simpler to maintain that NWGmc past stems with *ē to roots with *ā result from the extension of a morphological rule from verb to verb, as follows.

All the remaining WGmc past tenses with *ē or *eu in the root can be explained as results of the generalization of those vowels from the cases just discussed; in effect, native learners abstracted new ablaut rules from these verbs and applied them to other class VII strong verbs. Note that this does NOT require strict ‘proportional analogy’; the spread of ModE past-tense /Λ/ from

its original locus in *wrung*, etc., through *dug* (pres. *dig*), then *struck* (pres. *strike* ~ †*strick*), and finally to (American) *snuck* (pres. *sneak*) and nonstandard American *rutch* (pres. *reach*; Philip Baldi, p.c.)—to say nothing of *hung* (pres. *hang*)—shows clearly that the native learners whose errors become morphological innovations are not constrained by the formulas of 19th-century philology. Interestingly, the new strong class VII past stems were not uniform across the dialects. Leaving aside individual lexical anomalies, we can summarize the outcomes as follows.²⁹

- 1) *ē was generalized throughout WGmc (and in ON)
 - (a) in the past stems of verbs whose roots contained *ā and ended in a consonant (other than *w), and
 - (b) in the small class consisting of *fanhaną ‘seize’ and *hanhaną ‘hang’;
- 2) *eu was generalized throughout WGmc in the past stems of verbs whose roots contained *ō (but the only relevant ON past, *blét* ‘sacrificed’, has *ē instead);
- 3) in the past stems of verbs whose roots ended in *alC and in *ā(w),³⁰ as well as among the remaining verbs with roots in *anC, OE has *eu but all the other languages—including OF and ON—have *ē.

These discrepancies are one indication that the developments in question were post-PWGmc.

But there were at least three other directions in which reduplicated past tenses developed in WGmc (and Norse). Occasionally the reduplicating syllable was simply dropped, no doubt after the accent had been shifted to the root. That is the only possible explanation for the OE past *gang* ‘(s)he went’, attested a handful of times in *Beowulf*, and for Old Swedish *lót* ‘(s)he allowed’ (cf. Goth. *laīlot*). The same process probably underlies the alternative ON past *heit* ‘(s)he called’ (Noreen 1923: 135), though in that case *ai must first have been restored in the (originally unstressed) root syllable.³¹

²⁹ The hypothesis of Brugmann and Wood that these past stems somehow reflect PIE *s*-aorist stems with root-internal *ēy is wildly implausible for several reasons, including the complete absence of any suffix *-s-; the ‘reverse ablaut’ hypothesis of van Coetsem is equally implausible. For further discussion and refutation of these solutions see e.g. Fulk 1987: 159–60, Jasanoff 2008: 248–9. None of the examples of NWGmc *ē reflects PIE *ēy or pre-PGmc *ey; see Ringe 1984 for further discussion (though Ringe’s suggested etymology of ‘here’ is untenable, see 2.3.1).

³⁰ The *w of these verbs in OE is an innovation; see Þórhallsdóttir 1993: 114–37.

³¹ Another possible such case is ON *sveip* ‘wrapped’ (pres. *sveipa*); Noreen 1923: 135 suggests that the regular loss of vowels in pretonic syllables can account for these forms. But *-ei-* in strong pasts has also spread to verbs with *á* in the root in ON, giving e.g. *leit* ‘allowed’ beside *lét* and *lót*, and other oddities also occasionally occur.

More surprising was the reanalysis of an opaque sequence in reduplicated past tenses as a suffix or infix—though the fact that such a change occurred in ON and OHG (and not in any language in between, so far as we can tell) seems to demonstrate that it was a ‘natural’ and repeatable change. The development is easier to follow in ON. Inherited forms in that language include *sera* ‘I sowed’ < *sezō (with *-ō analogically restored in place of *-u by levelling from the forms with overt endings; cf. Goth. 3sg. *saíso* with the same levelling and voiceless Verner’s Law alternant generalized, vol. i 4.3.3 (i.g), p. 249) and *rera* ‘I rowed’ < *rerō. Reinterpretation of those forms has led to innovations of two different kinds. On the one hand, *-a* has been reinterpreted as a 1sg. ending (as in the weak past), with the result that 2sg. *serir*, *rerir*, 3sg. *seri*, *veri* have been created with the appropriate parallel endings. On the other hand, *-er-* has been reinterpreted as a suffix added to the stem after deletion of the root-final vowel, and has therefore spread to most of the (few) other strong verbs with vowel-final roots; thus we find *grer-* to *gróa* ‘to sprout’, *sner-* to *snúa* ‘to twist’, etc. (Noreen 1923: 340–1). Something similar to the latter development must have happened in OHG; the result in that language was an infix *-er-* that appears after the initial consonant or cluster in a few past tense forms, e.g. *pleruʒʒun* ‘they sacrificed’ (pres. inf. *bluoʒan*), *anasteroʒ* ‘(s)he knocked against’ (*anastōʒan*), *kiscrerot* ‘(s)he cut’ (*scrōtan*), *biruun* ‘they dwelt’ (*būan*, usually a weak verb; see Braune and Reiffenstein 2004: 291–2, Jasanoff 2008: 244–7).

Finally, the reduplication can be preserved and the vowel of the root syllable apparently syncopated. Forms of this type survive only in the Anglian dialects of OE; the certain examples are all made to verbs with *ā* < *ai or *ē* < *ā in the root (cf. Campbell 1962: 320):

hātan ‘to call’, past 3sg. *heht* ←< PWGmc *haitanaʒ, *hehēt;
lācan ‘to dart, to play’, past 3sg. *leolc* ←< PWGmc *laikanaʒ, *lelēk;
lētān ‘to let go, to allow’, past 3sg. *leort* ←< PWGmc *lātanaʒ, *lelōt ~ *lelt-;
rēdan ‘to advise’, past 3sg. *reord* ←< PWGmc *rādanaʒ, *rerōd ~ *rerd-;
ondrēdan ‘to fear’, past 3sg. *ondreord*, was originally a compound of the preceding
 (cf. Seebold 1970: 162).

This development is not really an instance of syncope. As noted in the corrigenda to vol. i (ad vol. i, pp. 190–1), PWGmc had inherited from PGmc zero-grade default past stems *lelt- ‘let go’ and *rerd- ‘advised’ (Bammesberger 1980: 7–8, Jasanoff 2008: 244); the zero-grade stems were levelled through the past tenses of those two verbs, and the other examples were constructed on the model of those verbs by an innovative rule.

An equally sweeping set of changes affected class III weak verbs throughout WGmc. As noted in the corrigenda to vol. i, only a small group of statives can be shown to have preserved the original present stem vowel complex *-ai- ~ *-ja- in PGmc; the remaining statives might have done so, but it seems at least as likely that they had adopted the factitive present stem vowel complex *-ai- ~ *-ā- (Ilya Yakubovich, p.c.). In any case a relic class of statives is clearly reconstructable for PWGmc, and its membership largely overlaps with that of a similar relic class in ON. In the northern WGmc dialects three verbs belong to the relic class, and their inflection is relatively conservative. In spite of innovations in individual forms, ‘have’, ‘say’, and ‘live’ still recognizably exhibit an alternation between *-ja- and *-ē- (< *-ai-) in their present stems, as well as past stems with no vowel between the root and the suffix:

	Old Saxon ³²	Old English
pres. inf.	<i>hebbian, seggian, libbian</i>	<i>habban, secġan, libban</i>
pres. 3sg.	<i>habed, sagid / -ad, [lebot]</i>	<i>hæfeþ, sægeþ, lifeð</i> (all Anglian)
pres. 3pl.	<i>hebbiād, seggiad, libbiat</i>	<i>habbaþ, secġaþ, libbaþ</i>
past 3sg.	<i>habda, sagde, (3pl.) libdun</i>	<i>hæfde, sægde, lifde</i>
past ptc.	<i>behabd, gisagda, gilibd</i>	<i>hæfd, sægd, lifd</i>

In addition, ‘think’ is normally inflected as a class I weak verb in the present (OS *huggian*, *-hugiđ*, *huggiat* = OE *hycġan*, *hyġþ*, *hycġaþ*; OE 3sg. also class II *hogap*) but exhibits the weak past with no linking vowel characteristic of the relic third class (OS *hogda* = OE *hogde*). Startlingly, relic forms of exactly the same four verbs reflecting similar paradigms (as well as analogical extensions of j-present inflection to the pres. indic. 2sg. and 3sg. and to the past stem) occur in OHG—and they are not concentrated in the Frankish dialects adjacent to the ‘Ingvaemonic’ area (cf. Braune and Reiffenstein 2004: 302). The past stems *hapta*, *hebita*, and *saghida* occur in the Southern Rhenish Franconian of the ‘Isidor group’ (Braune and Reiffenstein 2004: 10); *segita* and *libita* occur in southern OHG, and pres. indic. forms such as 3sg. *hebit*, *segit*, *libit* also occasionally occur. Though OHG *huggen* ‘think’ is a class I weak verb, an alternative past *hogta* occurs with some frequency in Otfrid and occasionally in glosses (op. cit. p. 294, §362 Anm. 4; cf. Raven 1963: 305–7). This pattern of attestation virtually guarantees that ‘have’, ‘say’, and ‘live’

³² Forms with innovative class II endings are especially common for ‘live’ in both languages; in OS only such a form is attested for the pres. 3sg. The OF forms of the relic class (for which see van Helten 1890: 222) are actually compatible with those of the other ‘Ingvaemonic’ languages, though the fact that fronted *a is spelled *e* in OF makes the present paradigms indistinguishable from those of class I weak verbs. OF *hugia* ‘to think’ has become a class II weak verb, but the fact that the vowel of its root was not lowered to *o* shows that it originally belonged to some other class.

inflected in PWGmc much as they do in attested OS and OE; *hugjan ‘to think’ probably already had a weak class I present, as it also does in ON and Gothic (though the occasional occurrence of class II forms in OE argues caution), but in any case its past stem was class III *hogd-. The ON situation is similar: though *hyggja* ‘to think’ is a regular class I weak verb and *lifja* ‘to live’ has been shifted into the majority class III pattern, *segja* ~ *seggja* ‘to say’ and *þegja* (rarely *þeggja*) ‘to be silent’ belong to a relic class with stem vowel *-ai- ~ *-ja-, and *hafa* ‘to have’ exhibits inflectional anomalies (pres. indic. 1sg. *hef*, 2, 3sg. *hefr*, later *hefi*, *hefir*) consistent with the existence of a suffixal *-j- somewhere in the paradigm at an earlier date. (‘Be silent’ inflects according to the majority paradigm in WGmc; see further below.)

The remaining class III weak verbs developed very differently in WGmc. In OHG the stem-vowel alternant *-ē-* < *-ai- has been levelled not only through the whole present stem but also into the past stem; moreover, this new uniform inflection has largely spread even to the relic class discussed above, so that the usual paradigm of ‘have’, for instance, is inf. *habēn*, pres. 3sg. *habēt*, 3pl. *habēnt*, past 3sg. *habēta*, and so on—exactly like the paradigm of class II weak verbs, except that the invariant stem vowel is *-ē-* instead of class II *-ō-*. In the northern dialects, by contrast, many of the remaining class III weak verbs have been shifted into other classes, overwhelmingly into weak class II. Class II byforms also occur in OHG. Note the following inherited examples (including two factitives at the end of the list):

- PGmc *þagai- ~ *þagja- ‘be silent’ (ON *þegja*; Goth. *þahan* with voiceless Verner’s Law alternant) >→ OS class II *þagon* ~ *þagian* but OHG *dagēn*;
- PGmc *hangai- ~ *hangja- (*hangā-?) ‘hang (intr.)’ (Goth. *hāhan*, ON *hanga*) >→ OE *hangian*, OF *hangia*, OS *hangon* but OHG *hangēn*;
- PGmc *likai- ~ *likja- (*likā-?) ‘be pleasing’ (Goth. *leikan*, ON class II *líka*) >→ OE *lician*, OF *likia*, OS *likon* but OHG *lihhen*;
- PGmc *hatai- ~ *hatja- (*hatā-?) ‘hate’ (Goth. *hatan*, ON class II *hata*) >→ OE *hatian*, OS *haton* but OHG *hazzen* ~ *hazzen*;
- PGmc *kunnai- ~ *kunnja- (*kunnā-?) ‘recognize’ (Goth. *gakunnan* ‘recognize, learn’) >→ OE *cunnian* ‘investigate, experience’, OS *gikunnon* ‘recognize’ but OHG *chunnēn* ‘experience, come to know’;
- PGmc *trūai- ~ *trūja- (*trūā-?) ‘trust’ (Goth. *trauan*, ON *trúa*) >→ OE *trūwian*, OS *trūon* but OHG *trūēn* (very rarely *gitrūōn*);
- PGmc *rūnai- ~ *rūnja- (*rūnā-?) ‘whisper, conspire’ (cf. Goth. derived noun *birūnains* ‘plot’) >→ OE *rūnian* but OHG *rūnēn*;
- PGmc *witai- ~ *witja- (*witā-?) ‘observe’ (Goth. *witan*, ON *vita*) >→ OE *bewitian* but OHG *irwizzen*;

- PGmc *skamai- ~ *skamja- (*skamā-?) ‘be ashamed’ (Goth. *skaman sik*) >→ OE *scāmian* but OHG *skamēn* (very rarely *skamōn*);
- PGmc *fijai- ~ *fija- (*fijā-?) ‘hate’ (Goth. *fijan*, ON class II *fjá*) >→ OE (Merc.) *fīgan* but OHG *fiēn*;
- PGmc *fastai- ~ *fastija- (*fastā-?) ‘fast’ (Goth. *fastan*, ON class II *fasta*) >→ OF *festia* but OHG *fastēn*; but OE *fæstan* ‘fasten, establish’ and ‘fast’ is an originally class I weak verb (cf. ON *fasta*, OS *festia*, OHG *festen*, all ‘make firm’) that has acquired the stative meaning by lexical confusion;
- PGmc *rudai- ~ *rudja- (*rudā-?) ‘be red’ (inherited, cf. Lat. *rubēre*) >→ OHG *rotēn*; OE *rudian* (1x) probably owes its vowel to lexical analogy with *rudu* ‘redness’ (if it is not simply a late denominative of *rudu*);
- PGmc *armai- ~ *armā- ‘pity’ (factitive *‘consider poor’; Goth. *arman*) >→ OE *earmian* but OHG *ir-b-armēn*;
- PGmc *þewai- ~ *þewā- ‘enslave’ (factitive; Goth. *ana-*, *ga-þiwan*, ON *þjá*) >→ OE *þeowian* ‘enslave’ but OHG *dewēn* ‘humiliate’.

The pattern is robust but not exceptionless; particularly noteworthy are the class II byforms of OHG, which are commoner for some verbs than for others. In fact the interchange between classes II and III in OHG is not a one-way street; at least two inherited class II weak verbs appear in class III in OHG:

- PGmc *tilōnā ‘hit the mark’ (Goth. *gatilōn* ‘achieve’) > OE *tilian* ‘obtain, strive for, work, cultivate’, OS *tilian* ‘achieve’ but OHG *zilēn*, much less often *zilōn* ‘strive for, hasten’;
- PGmc *medumōnā ‘find the midpoint’ (Goth. *midumonds* ‘mediator’) > OE *medemian* ‘moderate, allot, assign’ but OHG (Notker) *metemēn* ‘give the correct measure, set in order’.

This helps make sense of the odd fact that, whereas most of the (few) surviving fientive verbs in *-nō- ~ *-na- appear in weak class II in the northern dialects (as also in ON), in OHG they regularly belong to class III:

- PGmc *liznō- ~ *lizna- ‘learn’ (derivationally related to **laizijanā* ‘teach’; vol. i 3.4.3 (i), p. 178; 4.2.1, p. 217; 4.3.3 (ii.g), p. 259) > OE *liornian*, OF *lirnia*, OS *linon* (see 3.3.1) but OHG *lirnēn*;
- PGmc *gasturknō- ~ *gasturkna- ‘dry up (intr.), thicken’ (Goth. *gastaúrknān*; ON *storkna* ‘become thick, coagulate’) >→ OHG ptc. *gistorchanēt* ‘congealed’;
- PGmc *ginō- ~ *gina- ‘yawn, gape’ (? beside **gīnanā*; see Seebold 1970: 219–20, and cf. vol. i 4.3.3 (i.a), p. 240) > OE *gīnian*, OS *ginon* but OHG *ginēn*.

One verb of this group involves a further phonological complication:

- PNWGmc *wiznō- ~ *wizna- ‘dry up, wither (intr.)’ (ON *visna* with analogical voiceless Verner’s Law alternant) >→ OE *weornian* ‘pine away, grow weak’ and *wisnian* ‘dry up, wither’ but OHG *wernēn* ‘worry, torment oneself’ and *wesenēn* ‘dry up, wither’.

Each of the WGmc languages exhibits a phonologically regular form with a somewhat developed meaning and a form with an analogical voiceless Verner's Law alternant and a transparent meaning (like the ON form). We can infer that the basic strong verb *wīsaną 'wither, dry up (trans.)' remained in the language and able to influence the derived fientive at least as long as the PNWGmc period—in spite of the fact that its only trace in the attested languages is the past ptc. ON *visinn*, OHG *wesanēr* 'withered' (the latter in a single gloss; see Seebold 1970: 548).

The fact that shifts from class III into class II and vice versa are solidly inferrable for OHG makes it more difficult to judge apparent class III weak verbs attested only in WGmc (or with class II cognates in ON, since transfers from class III to class II also occur in Norse—see the list of examples above). Relevant examples include:

- OE *batian*, OHG *baʒzēn* 'become better, improve';
- OE *borgian*, OF *borgia* 'borrow', OHG *borgēn* 'protect oneself';
- OE *clifian*, OS *klifon*, OHG *klebēn* 'adhere'; cf. ON class II *klifa* 'harp on (a subject)';
- OE *earnian* 'earn, gain', OHG *arnōn* ~ *arnēn* 'harvest, gain';
- OE *folgian*, OF *folgia*, OS *folgon*, OHG *folgēn* (very rarely *folgōn*) 'follow'; cf. also class I weak OE *fylgan*, ON *fylgja*;
- OE *hnigian* 'bow the head', OHG ptc. *ananegēnti* 'leaning on';
- OE *langian*, OS *langon*, OHG *langēn* (very rarely *gilangōn*) 'desire' (impersonal); cf. ON class II *langa* (also impersonal);
- OE *rotian*, OS *roton*, OHG *roʒzēn* 'rot';
- OE *swīgian*, OS *swigon*, OHG *swīgēn* 'be silent';
- OE *prōwian*, OHG *druoēn* 'endure';
- OE *werian*, OHG *werēn* 'remain';
- OE *wiersian*, OHG *irwirsēn* 'become worse'.

If the arguments adduced in vol. i 3.2.6 (i), pp. 132–3; 3.2.6 (ii), p. 138; 3.4.3 (i), p. 179 are correct, the class I byform of 'follow' argues an original class III present. Since most of the other examples are stative or fientive, it is likely that most were originally weak verbs of class III, but that cannot be guaranteed for any specific example.

However, OE preserves yet a third type of inflection in which the stem vowel complex seems to have been replaced by *-ē- ~ *-ēja- (Cowgill 1959: 13–14). Since that innovation was clearly parallel to the replacement of the class II present stem vowel by *-ō- ~ *-ōja- in northern WGmc, it will be discussed in section 5.2. But since the present stem vowel of class II was uniform *-ō- before its replacement, it seems very likely that the present stem vowel of class III (aside from the small relic class) was uniform *-ē-; in other

words, from a WGmc point of view OHG is conservative in exhibiting *-ē-* throughout the present stem of the majority of class III verbs (though not in its levelling of *-ē-* into the past stem, nor in its elimination of the relic class).

The firm conclusions that can be drawn from these data are the following.

- 1) The third weak class of verbs was still very substantial in PWGmc.
- 2) It was split into a relic subclass comprising the three verbs ‘have’, ‘say’, ‘live’, which retained the inherited inflection, and ‘think’, largely inflected as a class I weak verb in the present (as also in Gothic and ON) but with a characteristic class III past stem, and a larger subclass including all other members.
- 3) In the larger subclass **-ē-* was levelled through the present stem, as in OHG.
- 4) At or after that point, lexical interchange between classes II and III began to occur, especially in the northern dialects but also in pre-OHG; class II forms of the pres. indic. 2, 3sg. and iptv. 2sg. invaded even the relic class in the northern dialects.
- 5) Finally, the larger subclass (to the extent that it still existed) underwent the northern remodelling of present-stem **-V:-* to **-V:- ~ *-V:ja-* (see 5.2).

Other changes affecting the verb system in the WGmc dialects were more limited in scope. One such change produced yet another subclass of class I weak verbs with no **-i-* before the past tense suffix. All the verbs in question exhibited root syllables ending in **-k-*, and in a large majority the vowel of the root syllable was short **a*. Reasonably well attested examples in the daughters include the following:

- OE *wecċan*, *weahte*, *weaht* ‘wake up (tr.)’ = OS *wekkian*, *wahta ~ wekida*, *awekid*; cf. OHG *wecken*, *wahta ~ wacta*, *giweckit ~ giwaht-*;
 OE *þeċċan*, *þeahte*, *þeaht* ‘cover’ = OF **thetsa*, ptc. *thacht* (only the inf. of OS *biþekkian* is attested); cf. OHG *decken*, *dahta ~ dacta*, *gideckit ~ gidaht-*;
 OE *streċċan*, *streahte*, *streaht* ‘stretch’; cf. OHG *strecken*, *strahta ~ stracta*, *gistreckit ~ gistraht-*;
 OE *leċċan*, *leahte*, *leaht* ‘moisten’; cf. OHG *lecken*, *lahta ~ lacta*, *gileckit ~ gilaht-*;
 OE *reċċan*, *reahte*, *reaht* ‘narrate’ (but OS *rekkian*, *rekida* belongs to the majority type); cf. OHG *rechen*, *rahta ~ racta*, *gireckit ~ giraht-*;
 OE *dreċċan*, *drahte*, *draeht* ‘afflict’ and *cweċċan*, *cweahte*, *cweaht* ‘shake’, neither with any plausible cognates in other languages;
 OE *tæċan*, *tæhte*, *tæht* ‘teach’ (WS also *æ* throughout), with no plausible cognates;
 OE *ræċan*, *ræhte*, *ræht* ‘reach’ (WS also *æ* throughout) = OF *rĕtsa*, *rachte*, *racht* ‘pay’; cf. OHG *reihhen*, *reihta*, *gireihhit*;

OE *læccan*,³³ *lāhte*, *lāht* ‘seize’ (WS also with *ǣ* in the past and past ptc.), with no plausible cognates;

OE *reccan*, *rōhte*, *rōht* ‘care for’ (only the pres. of OS *rōkian* is attested); cf. OHG *ruohhen*, *ruohta*, *giruohhit*.

The OHG past and past ptc. forms with no *-i-* before the suffix superficially resemble the forms found in OE (and occasionally in the other northern dialects), but they are etymologically ambiguous, because these **-i-* were normally syncopated within the separate history of OHG not only after inherited heavy syllables, but also after the OHG reflexes of PWGmc **p*, **t*, and **k* (see Kiparsky 2009). Thus OHG *wahta*, for instance, might reflect (post-)PWGmc **wachtē* (as the corresponding OE and OS forms must), but it could also reflect **wakidē*. The fact that endingless forms of the OHG past ptc., in which regular syncope could not occur, regularly end in *-it* (not just *-t*) suggests strongly that OHG did not participate in the change under discussion, though we cannot quite prove that.

Other class I weak verbs with root syllables ending in **-k-* clearly did not undergo this change; we find, for instance, OE *īecte* ‘increased’, *nēalācte* ‘approached’, etc. (Brunner 1965: 320, Campbell 1962: 323–4; forms with *-ht-* are later developments), *þrycte* ‘pressed’ (though OF *thritsa* has a past ptc. *thracht*). Most striking of all, because its root syllable ended in **-ak-*, is the late WS verb *wlēcān* ‘to warm’ (factitive of *wlæc* ‘warm’), whose past ptc. is attested both as *wlæht*, *wleht* and as the regular *wlēced*.

Adopting the more plausible hypothesis that the creation of these new past stems was not a PWGmc change, we can outline the development of ‘wake (trans.)’ as follows:

PGmc **wakjaną*, **wakidē*, **wakidaz* > PWGmc **wakjan*, **wakidē*, **wakid* (cf. OHG *wecken*, *wahta*, *giweckit*, the last with a geminate stop introduced from the pres. stem) → **wakjan*, **wachtē*, **waht* > OE *weccan*, *weahte*, *weaht*, OS *wekkian*, *wahta*.

What we need to figure out is how the change symbolized by the shafted arrow happened. The loss of the **-i-* clearly was not the result of a regular sound change in the northern dialects, because even some verbs with heavy roots ending in **-k-* did not undergo it, and it cannot have spread from the southern dialects because in them it must postdate the High German consonant shift—too late to account for its appearance in OE. The pattern of facts outlined above suggests lexical analogy; we must therefore try to

³³ It is not clear why the root vowel of this present stem and the following one have been shortened (with compensatory lengthening of the following consonant?); for discussion of the evidence see Campbell 1962: 1211–12.

determine which was the first of these innovative past stems. Though the new past stems resemble the small inherited class represented by *branhtē ‘brought’, *bohtē ‘bought’, etc., there are no lexical or semantic links between them. Instead we need to begin from a small group of derivationally related verbs, as follows.

Though most of the verbs with innovative past stems are related to a few other attested words, the most extensive derivational family is that of PWGmc *wakjan ‘wake up’ (cf. Seebold 1970: 535–6); especially striking is the set of three verbs (causative) *wakjan, (fientive) *waknōn, (stative) *wakēn. Given that the past stems of stative ‘have’ and ‘say’ were respectively *habd- and *sagd- (see above), we might expect that the past stem of stative ‘be awake’ was the sound-change outcome of *wakt-. What that should have been is not certain, but *waht- is the most plausible alternative; in fact such a stem actually appears in stative function in North. OE subj. *gewæhte* ‘(you) should stay awake’ (*Li Mark* 13.34).³⁴ I suggest that that was the original function of *waht-, and that when the stative was undergoing its complex developments in the northern dialects its past stem acquired causative function by native learner error, evidently because there were already paradigms like *bugjan ‘to buy’ : *bohtē ‘bought’ in the language. As Jay Jasanoff (p.c.) observes, the transfer of this past stem from the class III verb to the class I verb would have been much easier if a stative past ptc. *waht already existed, since it could only have meant ‘awake’, practically synonymous with the inherited causative past ptc. *wakid, though we cannot be certain that past participles were being made to intransitive statives at such an early date.

Once the new inflection of *wakjan had ‘won out’, its pattern spread to verbs of similar shape in the same way that that of *waljan ‘choose’ had (see 3.2.1): a minor rule was abstracted and verbs of similar shape were brought under its scope one by one. This process seems to have gone furthest in OE, though accidental gaps of attestation could have obscured the situation.

The Verner’s Law alternation in the inflection of strong verbs was well preserved in PWGmc, and for the most part it continues to be preserved in the daughters. However, within the past stems of verbs of class VI it has been levelled in favor of the voiced alternant. In the case of the velar and coronal alternations the levelling is visible in all the daughters:

³⁴ A possibly similar case is the PWGmc noun *leuht ‘light’ (OE *leoht*, OF *liiht*, OS, OHG *liiht*), which might be a reflex of PGmc *leuhadaǵ (Goth. *liuhaþ*; so Boutkan and Siebinga 2005: 238), though it is not clear why the medial vowel should have been syncopeated so early.

- PGmc 3sg. *slōh, 3pl. *slōgun ‘hit, killed’ >→ OE *slōg*, *slōgon*, OF *slōch*,³⁵ *slōgon*, OS *slōg*, *slōgun*, OHG *sluog*, *sluogun*;
 PGmc *þwōh, *þwōgun ‘washed’ >→ OE *þwōg*, *þwōgon*, OS *thwōg*, OHG *dwuog*, *dwuogun*;
 PGmc *hlōh, *hlōgun ‘laughed’ >→ OE *hlōg*, *hlōgon*, OS *hlōgun*, OHG *hlōc* (1x);
 PGmc *wōh^w, *wōgun ‘mentioned’ (?; cf. Seebold 1970: 531) >→ OHG *giwuog*, *giwuogun*;
 PNWGmc *lōh, *lōgun ‘blamed’ >→ OE *lōg*, *lōgon*, OS *lōg*, OHG *luog*, *luogun*;
 PNWGmc *flōh, *flōgun ‘skinned’ >→ OE *flōg*, *flōgon*;
 PGmc *stōþ, *stōdun ‘stood’ >→ OE *stōd*, *stōdon*, OF *stōd*, *stōden*, OS *stōd*, *stōdun*, OHG *stuont*, *stuontun* (the last with *-n-* levelled in from the pres.);
 PGmc *hlōþ, *hlōdun ‘loaded’ >→ OE *hlōd*, *hlōdon* (but OHG *luod*, *luodun* has levelled in *-d-* < **-þ-* from the pres., cf. Seebold 1970: 258);
 PGmc *skōþ, *skōdun ‘hurt’ >→ OE *scōd*, *scōdon*.

In the case of the labial alternation the levelling is visible only in OHG, because in the northern dialects it has been eliminated by phonemic merger of **f* and fricative **b*:

- PGmc 3sg. *hōf, 3pl. *hōbun ‘lifted’ >→ OHG *huob*, *huobun*;
 PGmc *sōf, *sōbun ‘noticed’ >→ OHG *insuob*, *insuobun*.

Since this levelling is attested in all the daughters, it might be asked why we do not reconstruct it for PWGmc. The problem is the OHG present *heffen* ‘to lift’, 3sg. *hevit*, etc., which regularly exhibits reflexes of **f*. Since this verb was a *j*-present with a zero-grade root (precisely cognate with Lat. *capere* ‘to take’), we expect it to have had the voiced Verner’s Law alternant in the present, and OE *hebban*, OS *hebbian* confirm that; the principal parts in PGmc must have been **habjanaþ*, **hōf*, **hōbun*, **habanaz*. It follows that OHG *heffen*, like Goth. *hafjan*, must owe its **f* to levelling; the only possible source was past indic. sg. **hōf*; and it follows that **hōf* cannot yet have been replaced by **hōb* in PWGmc. Levelling of the voiced Verner’s Law alternants throughout the past stem must therefore have been a post-PWGmc parallel change, or have spread through the WGmc dialect continuum. Rare instances of OHG *sluoh* ‘killed’ are probably archaisms that point in the same direction (Braune and Reiffenstein 2004: 286, §346 Anm. 2); and since OF *slōch* is etymologically ambiguous (see n. 35), we should not completely discount the possibility that it too reflects PWGmc **slōh* directly.

³⁵ OF word-final **g* not preceded by a nasal is regularly devoiced to *ch*; cf. e.g. *enōch* ‘enough’ < PWGmc **ganōg*, *burch* ‘town’ < PWGmc **burg*, etc. (van Helten 1890: 112). Since **h* also appears as *ch* (e.g. in *hāch* ‘high’ < PWGmc **hauh*; van Helten 1890: 118), these forms are etymologically ambiguous; see below for further discussion.

These considerations necessarily complicate our assessment of the past stems of PWGmc *fanhan ‘seize’ and *hanhan ‘hang’. They exhibit stem-final *g not only throughout WGmc but also in ON, and in Norse the *g was apparently present so early that it underwent word-final devoicing, a change that predates the loss of short low vowels in final syllables (vol. i 3.2.5 (i), p. 118). The agreement is remarkably consistent:

ON 3sg. *fekk*, 3pl. *fengu* ‘seized’, OE *fēng*, *fēngon*, OF *feng*, *fingen*, OS *fēng*, *fēngun*,
OHG *fiang*, *fiangun*;
ON *hekk*, *hengu* ‘hung’, OE *hēng*, *hēngon*, OF *heng*, OHG *hiang*, *hiangun*.

An incautiously mechanical application of the comparative method might lead us to project levelled *g back into PNWGmc. But since levelling in strong verbs of class VI clearly occurred in the separate histories of the daughters, it can have been a parallel change in this case too; and when we recall that the shapes of these past tenses have also been remodelled in other ways, and that the remodelling clearly did not occur in PNWGmc or even in PWGmc (see the beginning of this section), it seems advisable to suspend judgment about just when these particular levellings occurred.

A minor innovation affected the inflection of preterite-present verbs throughout the WGmc speech area, but well after PWGmc had begun to diversify. The pres. indic. 2sg. ending of *waist ‘you know’ and *mōst ‘you may’, synchronically analyzable as *-st, spread to preterite-presents with roots in *n: we find OE *canst* = OS, OHG *kanst* ‘you know how’ and OE *gemanst* ‘you remember’ ≈ OS *farmanst* ‘you despise’. (PWGmc *munan has been lost in OHG, and the 2sg. of *unnan ‘to grant’ does not seem to be attested anywhere, though it almost certainly followed in the wake of *kunnan, since all corresponding forms of those two verbs rhymed.) Note that this change must have *followed* the northern WGmc change of vowel-plus-nasal sequences to long nasalized vowels when fricatives followed immediately (see 5.1.1), since these sequences *ans were not affected. Parallel development is certainly possible, but the oddly restricted scope of the change suggests that it was a single historical development; in particular, the fact that *skalt ‘you owe’ was not affected needs to be accounted for. While it is possible that the initial *sk- of that verb inhibited the spread of *-st or even triggered dissimilation (*skalt → *skalst → *skalt; Rosenfeld 1954: 378), a more obvious factor is semantics: *kanst ‘you know how’ and *(ga)manst ‘you remember’ are particularly closely related in meaning to *waist ‘you know’.

Finally, the development of a new proximal deictic should be noted. It seems clear that in all the NWGmc languages ‘this’ is etymologically the inherited deictic ‘that’ plus one or more clitic particles, with extensive

subsequent remodelling. Since the forms of the daughter languages do not agree, it seems equally clear that that was at least partly a parallel development in already diversifying dialects. However, a few features of the new deictic that are widespread in the WGmc daughters might originally have been pan-WGmc. Some of the northern forms are transparently fully inflected forms of ‘that’, with initial *þ- generalized to all the forms, plus a clitic *-s:

	Old English		Old Frisian		Old Saxon	
	‘that’	‘this’	‘that’	‘this’	‘that’	‘this’
masc. nom. sg.	<i>sē</i>	<i>þē-s</i>	<i>thī</i>	<i>thī-s</i>		
fem. nom. sg.	<i>sīo</i>	<i>þīo-s</i>	<i>thiu</i>	<i>thiu-s</i>	<i>thiu</i>	<i>thiu-s</i>
m./n. inst. sg.	<i>þȳ</i>	<i>þȳ-s</i>			<i>thiu</i>	<i>thiu-s</i>
nom.-acc. pl.	<i>þā</i>	<i>þā-s</i>		(neut.)	<i>thiu</i>	<i>thiu-s</i>

Note that the masc. nom. sg. forms can only have arisen after the loss of word-final *-z in monosyllables (see 3.3.1). The existence of a few OHG forms with both internal inflection and normal endings, such as fem. acc. sg. *dheasa* in the OHG Isidor (Braune and Reiffenstein 2004: 251), confirms that ‘this’ was originally ‘that’ with a deictic particle added to fully inflected forms. Some OHG forms, especially masc. nom. sg. *dese* (in which the -e apparently cannot be a case ending added later), seem to require a deictic particle with a nonhigh vowel, possibly *sē (Klingenschmitt 1987: 185).

Though the neut. nom.-acc. sg. forms do not agree across the daughters, all exhibit an unexpected *i in the root: cf. OE *þis*, OF, OS *thit*, OHG *diz* (i.e. /dit^s/, with a final affricate, Braune and Reiffenstein 2004: 250), Upper OHG *thizi* (~ *dezzi*). The OE form appears to reflect *þits; the other forms might reflect *þitt(i) (so Klingenschmitt 1987: 187), but it seems possible that they too reflect *þits, with different reductions of an unusual word-final cluster (there are no counterexamples because other examples of inherited word-final *-ts seem not to exist). A stem *þi- cannot be old; to suggest that such a stem, parallel to *þa-, existed in PGmc (so apparently Klingenschmitt 1987: 183) seems incompatible with the distribution of forms in the family. It seems possible that in this case too the demonstrative owes its stem vowel *-i- to the influence of the 3sg. pronoun (see 3.2.2 above); but then why do we never find *þit meaning ‘that’, in competition with *þat? Perhaps the most plausible solution is that *þits was originally an allegro form of *þat-si.

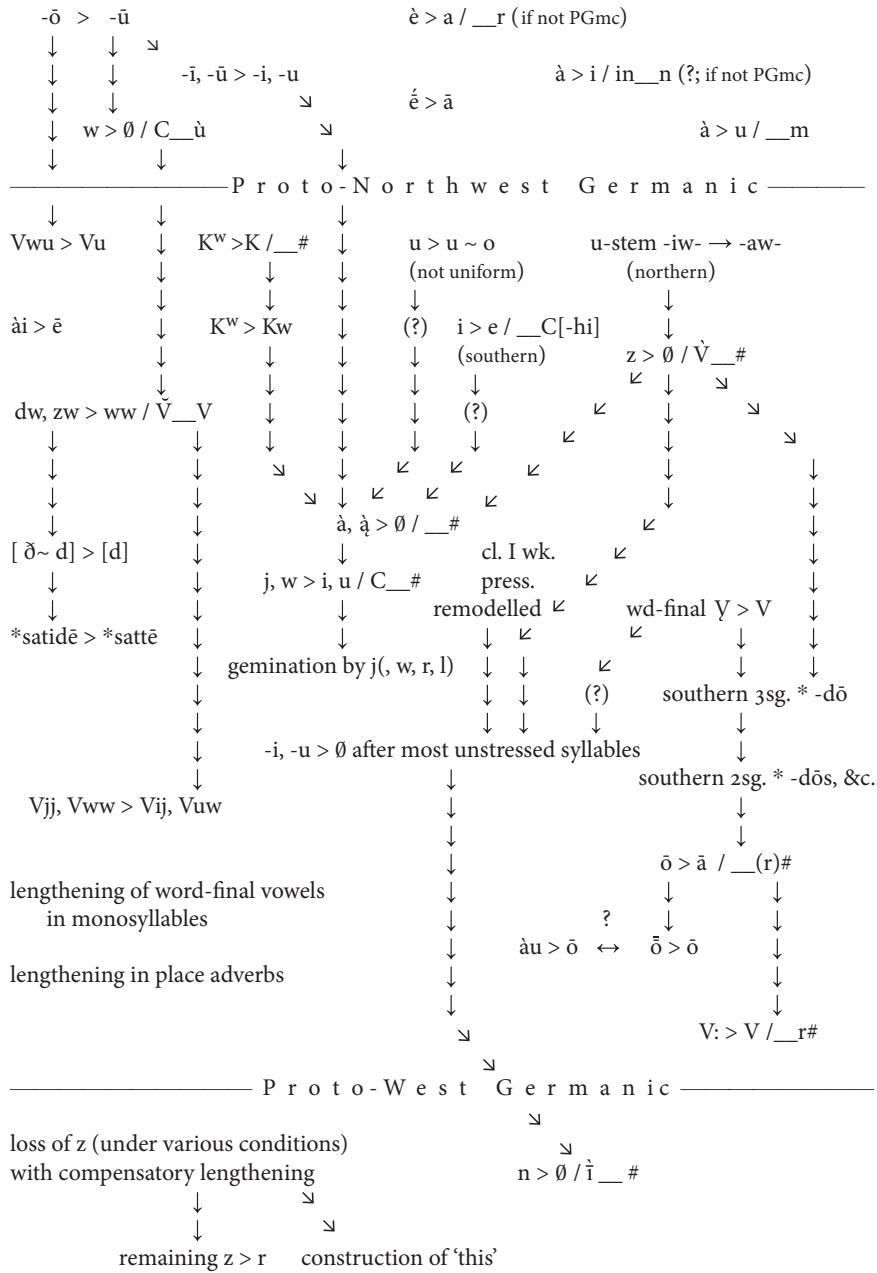
In all the daughters a majority of forms have acquired normal pronominal endings added to a generalized stem, eliminating the original internal inflection. OE *þiss-*, OF *thiss-* is evidently the neut. nom.-acc. sg.; the precise origin

of OS *thes-*, OHG *des-* is less obvious. The broad outlines of development are clear enough: ‘this’ was fully inflected ‘that’ plus a clitic; normal endings were eventually added to some of the forms (yielding doubly inflected forms like the OHG relics), and then the internal inflection was eliminated by generalizing one form of the stem. Not all details in all the languages have been accounted for convincingly, however.

3.4 Relative chronology of sound changes

The relative chronology of the more securely established sound changes discussed in this and the preceding chapter can be diagrammed as follows. A few morphological changes are included; most cannot be ordered with respect to sound changes. The chronological relations are necessarily somewhat simplified in this table; the reader should consult the text for fuller discussion.

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4

A grammatical sketch of Proto-West Germanic

As the two preceding chapters have shown, PWGmc had undergone so many changes since the PGmc period that its grammar was significantly different in numerous details. Though another extensive and detailed exposition like that of PGmc in vol. i, ch. 4, is hardly necessary, it makes sense to present a sketch of PWGmc grammar at this point; it will provide the starting point for the discussion of the individual history of English. Discussion of the language's syntax, to the extent that it can be reconstructed, will be found in Chapter 8.

4.1 Proto-West Germanic phonology

PWGmc had eliminated the PGmc labiovelars and trimoric vowels; it had shifted stressed **ē* to **ā* (which merged with the rare PGmc **ā*) and monophthongized all unstressed diphthongs, thus changing the distributions of several heavy syllable nuclei. It had lost word-final *-z and word-final short low vowels except in monosyllables. It had split inherited **u* into **u* and **o*, but differently in different dialects, and the southern dialects had undergone a limited lowering of **i*. Since the latter were early stages in a series of reconstructable sound changes (see the diagram in 3.4), the phonology of PWGmc was not uniform from a very early point in its identifiable existence. The PWGmc system of surface-contrastive sounds was the following:

Consonants:

<i>labial</i>	<i>dental</i>	<i>alveolar</i>	<i>retroflex?</i>	<i>velar</i>
p	t			k
b	d			g
f	þ	s		h
			z	
m	n			
	l		r	

Vocalics:

nonsyllabic	short		long	
j	i	e	ī	ē?
		a		ā
w	u	o	ū	ō
diphthongs: eu (~ iu), ai, au				

The long vowel *ē must at first have been the unstressed allophone either of *ā or (more likely) of *ai. It eventually became contrastive in every daughter language by some combination of sound change, lexical borrowing, and grammatical reanalysis (principally the creation of new class VII strong past stems, see section 3.3.2). Whether any of those developments could have begun to occur in the PWGmc period is unclear.

Of the obstruents, */b/ and */g/ had fricative and stop allophones distributed much as they had been in PGmc, but */d/ was a stop in all positions. */f/ may already have become labiodental. The exact position of articulation of most of the coronals is unrecoverable, though */p/ must have been dental and */s/ alveolar. */z/ had probably become a retroflex fricative or some kind of rhotic by the time gemination of consonants by *j occurred. */n/ was still [ŋ] before velar stops but a coronal nasal in most other positions; in addition, */inh, anh, unh/ were still [i̯x, a̯x, u̯x]. */h/ might have been [h] in word-initial position; it was definitely [x] elsewhere. It is possible, but not demonstrable, that acc. pl. forms of nominals ended in long nasalized vowels; if not, then there were no underlying nasalized vowels.

The Verner's Law alternation persisted, apparently without significant change (though see 3.3.2); so did the system of ablaut in roots, with *ē now replaced by *ā and original *u split into *u and *o. Sievers' Law also persisted, though some of its outputs had been reanalyzed. Except for *rj and *zj, *Cj were phonetically [C^jC^j] (palatalized geminates).

4.2 Proto-West Germanic morphology

Since the northern dialects had replaced the sequence *-iw- with *-aw- in u-stem endings at a very early date (see 3.1.4 and 3.4), the morphology of PWGmc too was probably never completely uniform.

The vocative had been lost in PWGmc, as had the dual forms of verbs (but not of pronouns); non-periphrastic passive forms were reduced to a few lexical relics, and imperatives were confined to the second person.

4.2.1 *PWGmc verb inflection*

The strong verb system of PGmc retained its structure in PWGmc, with the changes noted in section 3.2.1. The PGmc strong verb paradigms ‘lend’, ‘become’, ‘come’, ‘ask for’, and ‘let’ given in vol. i 4.3.3 (v), pp. 265–6, had developed into the following in PWGmc:

pres. inf.	lihwan lihwan ¹ n ¹ ē	werþan werþan ¹ n ¹ ē	kweman kweman ¹ n ¹ ē	bid ¹ d ¹ an bid ¹ d ¹ an ¹ n ¹ ē	lātan lātan ¹ n ¹ ē
pres. ptc.	lihwandī	werþandī	kwemandī	bid ¹ d ¹ andī	lātandī
pres. indic.					
sg. 1	lihu	werþu	kwemu	bid ¹ d ¹ u	lātu
2	lihwizi	wirþizi	kwimizi	bidisi	lātizi
3	lihwidi	wirþidi	kwimidi	bidīþi	lātidi
pl. 1	lihum	werþum	kwemum	bid ¹ d ¹ um	lātum
2	lihwid	wirþid	kwimid	bidīþ	lātid
3	lihwand	werþand	kwemand	bid ¹ d ¹ anþ	lātand
pres. subj.					
sg. 1, 3	lihwē	werþē	kwemē	bid ¹ d ¹ ē	lātē
2	lihwē	werþē	kwemē	bid ¹ d ¹ ēs	lātē
pl. 1	lihwēm	werþēm	kwemēm	bid ¹ d ¹ ēm	lātēm
2	lihwēd	werþēd	kwemēd	bid ¹ d ¹ ēþ	lātēd
3	lihwēn	werþēn	kwemēn	bid ¹ d ¹ ēn	lātēn
pres. iptv.					
sg.	lih (?)	werþ	kwem	bidi (?)	lāt
pl.	lihwid	wirþid	kwimid	bidīþ	lātid
past indic.					
sg. 1	laih (?)	warþ	kwam	bad	lelōt
2	liwī	wurdī	kwāmī	bādī	leltī
3	laih (?)	warþ	kwam	bad	lelōt
pl. 1	ligum	wurdum	kwāmum	bādum	leltum
2	ligud	wurdud	kwāmud	bādud	leltud
3	ligun	wurdun	kwāmun	bādun	leltun
past subj.					
sg. 1, 2, 3	liwī	wurdī	kwāmī	bādī	leltī
pl. 1	liwīm	wurdim	kwāmim	bādīm	leltīm
2	liwīd	wurdid	kwāmīd	bādīd	leltīd
3	liwīn	wurdin	kwāmīn	bādīn	leltīn
past ptc.	liwan	wordan	ko/uman	bedan	lātan

(On the probable ablaut **lelōt-* : **lelt-* see the corrigendum to vol. i, pp. 190–1, and 3.3.2, with references. Note **o* < **u* in the past ptcc.; OS and OHG have levelled **w* into the past indic. of the first verb, but cf. OE ptc. *onlīgen* ‘lent’.)

The weak verb system had been simplified. It appears that the fientives had largely been merged with class II (though the fact that OE *wæcnan* became a strong verb shows that other things could happen to individual lexemes). The inflection of the few factitives that survived appears to have been identical with that of the statives. In the daughter languages we find three groups of class III weak verbs:

- 1) the basic verbs ‘have’, ‘live’, and ‘say’, which preserve the present stem vowel complex **-ē-* ~ **-ja-* in the northern languages and exhibit relics of the same paradigm in OHG;
- 2) **hug^jg^jan* ‘think’, which had a class I present (possibly with class III byforms indic. 2sg. **hogēs*, 3sg., 2pl. **hogēþ*, iptv. **hogē*, **-ēþ*) and a class III past **hogdē*, ptc. **hogd*;
- 3) a larger class of less basic verbs, still productive in OHG, in which the stem vowel **-ē-* was probably levelled through all forms of the present (see 3.3.2).

Since the present paradigm of group (3) was exactly parallel to that of weak class II (to the extent that it can be reconstructed at all), I exemplify class III below with a member of the first group.

Otherwise the only changes affecting the inflection of weak verbs are those discussed in section 3.2.1 above. The PGmc weak verb paradigms ‘look for’, ‘lay’, ‘judge’, ‘anoint’, and ‘say’ given in vol. i 4.3.3 (v), pp. 267–8, had developed into the following in PWGmc:

pres. inf.	sōkijan	lag ^j g ^j an	dōmijan	salbōn	sag ^j g ^j an
	sōkijan ⁿ ē	lag ^j g ^j an ⁿ ē	dōmijan ⁿ ē	salbōnijē (?)	sag ^j g ^j an ⁿ ē
pres. ptc.	sōkijandī	lag ^j g ^j andī	dōmijandī	salbōndī	sag ^j g ^j andī
pres. indic.					
sg. 1	sōkiju	lag ^j g ^j u	dōmiju	salbō	sag ^j g ^j u
2	sōkisi	lagisi	dōmisi	salbōs	sagēs
3	sōkiþi	lagiþi	dōmiþi	salbōþ	sagēþ
pl. 1	sōkijum	lag ^j g ^j um	dōmijum	salbōm	sag ^j g ^j um
2	sōkiþ	lagiþ	dōmiþ	salbōþ	sagēþ
3	sōkijanþ	lag ^j g ^j anþ	dōmijanþ	salbōnþ	sag ^j g ^j anþ
pres. subj.					
sg. 1, 3	sōkijē	lag ^j g ^j ē	dōmijē	salbō	sag ^j g ^j ē
2	sōkijēs	lag ^j g ^j ēs	dōmijēs	salbōs	sag ^j g ^j ēs

pl. 1	sōkijēm	lag ^j g ^j ēm	dōmijēm	salbōm	sag ^j g ^j ēm
2	sōkijēþ	lag ^j g ^j ēþ	dōmijēþ	salbōþ	sag ^j g ^j ēþ
3	sōkijēn	lag ^j g ^j ēn	dōmijēn	salbōn	sag ^j g ^j ēn
pres. iptv.					
sg.	sōki	lagi	dōmi	salbō	sagē
pl.	sōkiþ	lagiþ	dōmiþ	salbōþ	sagēþ
past indic.					
sg. 1	sōhtā	lagidā	dōmidā	salbōdā	sagdā
2	sōhtēs, -tōs	lagidēs, -dōs	dōmidēs, -dōs	salbōdēs, -dōs	sagdēs, -dōs
3	sōhtē, -tā	lagidē, -dā	dōmidē, -dā	salbōdē, -dā	sagdē, -dā
pl. 1	sōhtum	lagidum	dōmidum	salbōdum	sagdum
2	sōhtud	lagidud	dōmidud	salbōdud	sagdud
3	sōhtun	lagidun	dōmidun	salbōdun	sagdun
past subj.					
sg. 1, 2, 3	sōhtī	lagidī	dōmidī	salbōdī	sagdī
pl. 1	sōhtīm	lagidīm	dōmidīm	salbōdīm	sagdīm
2	sōhtid	lagidid	dōmidid	salbōdid	sagdid
3	sōhtin	lagidin	dōmidin	salbōdin	sagdin
past ptc.	sōht	lagid	dōmid	salbōd	sagd

(*sath^jan ‘set’ was like *lag^jan except that the *-i- was missing throughout the past, which was therefore *sattā, etc., ptc. *satt. The past indic. 2, 3sg. *-dōs, *-dā were current in the southern dialects, some of which had pl. *-dōm, etc.; otherwise the forms exhibiting sg. *-ē-, pl. *-u- occurred.)

The inflection of preterite-present and anomalous verbs had undergone little change, so far as we can tell, though the fact that some anomalous verbs are preserved best in WGmc makes an accurate judgment difficult. Note in particular that the 2sg. pres. in *(s)t of preterite-present verbs survived unchanged. The paradigms of *witan ‘know’, *skulan ‘owe’, *wil^jan ‘want’, *gān ‘go’, and *dōn ‘do’ must have been approximately the following:

pres. inf.	witan	skulan	wil ^j an	gān	dōn
	witan ^j n ^j ē	skulan ^j n ^j ē	wil ^j an ^j n ^j ē	gānijē (?)	dōnijē (?)
pres. ptc.	witandī	skulandī	wil ^j andī	gāndī	dōndī
pres. indic.					
sg. 1	wait	skal	wil ^j u	???	dōmi
2	waist	skalt	wilī	gaisi	dōsi
3	wait	skal	wilī (-ī ?)	gaiþi	dōþi

pl. 1	witum	skulum	wilʰum?	gām	dōm
2	witud	skulud	wilip? -ip?	gaiþ	dōþ
3	witun	skulun	wilʰanþ	gānþi	dōnþi
pres. subj.					
sg. 1, 3	witī	skulī	wilʰē	???	dō
2	witī	skulī	wilʰēs	???	dōs
pl. 1	witīm	skulīm	wilʰēm	???	dōm
2	witīd	skulīd	wilʰēþ	???	dōþ
3	witīn	skulīn	wilʰēn	???	dōn
pres. iptv.					
sg.	—	—	—	gai	dō
pl.	—	—	—	gaiþ	dōþ
past indic.					
sg. 1	wissā	skuldā	weldā	???	dedā
2	wissēs, -ōs	skuldēs, -ōs	weldēs, -ōs	???	dedēs, dādī
3	wissē, -ā	skuldē, -ā	weldē, -ā	???	dedē, -ā
pl. 1	wissum	skuldum	weldum	???	dādum (ded-?)
2	wissud	skuldud	weldud	???	dādud (")
3	wissun	skuldun	weldun	???	dādun (")
past subj.					
sg. 1, 2, 3	wissī	skuldī	weldī	???	dādī (")
pl. 1	wissīm	skuldīm	weldīm	???	dādīm (")
2	wissīd	skuldīd	weldīd	???	dādīd (")
3	wissīn	skuldīn	weldīn	???	dādīn (")
past ptc.	witan	—?	—	???	dān (?)

Though the inflection of the preterite-presents is clear and unproblematic, the other verbs in this table pose a variety of problems, some of which cannot be solved in the present state of our knowledge. The most important problems are the following.

It is clear that ‘want’ had acquired the endings of normal j-presents in most of its forms (beginning with the non-finite forms, which are reconstructable for PGmc). However, 2sg. *wili (< PGmc *wiliz) is clearly reconstructable for PWGmc (cf. OS, OHG *wili*; OE *wilt* has been remodelled on *scealt*). The 3sg. should have been *wili (< PGmc *wilī with final *-ī regularly shortened in PNWGmc; see section 2.1.1), but the long stem vowel might have been levelled back into it, perhaps before the j-forms had spread so widely; unfortunately the final vowel of OE *wile*, OS, OHG *wili* could reflect either a long or a short high vowel. (Northumbrian OE *wil(l)* does not create a presumption in favor

of a short vowel; though it is not inconceivable that it exhibits apocope after an unstressed syllable, which might argue a short vowel, it could also have been remodelled on *sceal*, and its occasional geminate can be purely graphic, since geminates seem to have been simplified in word-final position. See Campbell 1962: 347, Brunner 1965: 357 for the distribution of the form.) What the forms of the 1pl. and 2pl. were cannot be recovered; in the northern languages (including OS) they were lost by syncretism, while in OHG the pl. has been replaced by that of **walġan* ‘choose’. The past subj. stem was arguably **weldī-* rather than **wildī-*, to judge from OS (the only language that clearly preserves the stem **weld-*), either because it was shortened from **weldēdi-* (see vol. i 4.3.3 (ii), p. 251, and the corrigenda at the end of this volume) or because **e* in the root had been levelled in from the past indic. (if it was possible for **e* and **i* to contrast before an unstressed syllable containing a high front vocalic—which is questionable, as Ronald Kim reminds me).

For ‘go’ the inflection of most of the pres. indic., imptv., and non-finite forms follows from Guðrún Þórhallsdóttir’s recognition that the stem must have been pre-PGmc **gaje-* ~ **gajo-* > PGmc **gai-* ~ **gā-* (Þórhallsdóttir 1993: 35–7 with references). The rest of the paradigm is very difficult to reconstruct. The pre-PGmc pres. indic. 1sg. must have been **gajō*, which should have lost its **j* by regular sound change and probably would have contracted to **gō̄*, yielding PNWGmc **gō̄*; but it seems very unlikely that such a bizarre form would have survived for long, and of course there is no trace of any similar form in the attested languages. OE has *gā*, which follows the OE rule for vowel-final present stems (‘lengthen the stem vowel’, which in OE is already long *ā* < **ai*, levelled through the paradigm); OHG has *gām* ~ *gēm*, which can easily owe its apparently athematic ending to *tuom* ‘I do’; there is no other evidence. The pres. subj. stem should have been pre-PGmc **gajai-*, which should have contracted to PGmc **gāi-*, which could be the source of OHG *gē-*; but the latter could equally well have been modelled on *tuō-*. (The OHG dialects which have indic. *gā-* do not exhibit a subjunctive for this verb; see Braune and Reiffenstein 2004: 312.) For the suppletive past stem our only evidence is Goth. *iddja* and OE *ēode*, from which a phonological form cannot be reconstructed with any confidence.

The WGmc present of ‘do’ is comparatively easy to reconstruct. The contracted forms of the pres. inf., ptc., subj., etc. are clearly inherited; the reintroduction of syllabic endings in various patterns in all the languages is an easily explained innovation. The alternation in the ‘root’ (originally reduplicating) syllable of the past stem, well attested in the southern languages, must also be inherited, though it is possible that **ded-* (and **dud-*?) were in competition with it; the appearance of reflexes of *ded-* in plural and

subjunctive forms in OS, OF, North. OE, the OE *Codex Aureus* inscription, and the OHG Schretzheim bronze can reflect levelling, but it is also possible that *ded- in the default stem is old. On *dud- see 7.1.6 below; on the past ptc. see the corrigenda to vol. i.

The prehistory of the PGmc paradigm of ‘do’ is difficult to recover. For the finite past, which reflects the only PIE imperfect to survive in Germanic, see vol. i 3.2.7 (i), p. 148; 3.3.1 (ii), pp. 157–60, Ringe 2006a: 179–93 with references. The intractable problems are (1) the present stem and (2) the fact that these two stems have somehow become members of a single paradigm.

Since the Gmc finite past stem reflects the PIE imperfect—an indicative tenseform of the PIE present stem—it would make sense to derive the Gmc present stem from some other PIE aspect stem. The obvious candidate is the aorist subjunctive; that is what Hill 2004: 281–6 attempts to do. I find the result unconvincing for two reasons. One is that, even if the contraction of *éh₁o in 3pl. *d^héh₁onti, 1pl. *d^héh₁omos, etc. yielded a long o-vowel (in my terms, trimoric *ō)—which is doubtful—it would have to have been levelled into those forms of the paradigm which originally contained the sequence *éh₁e, including 3sg. *d^héh₁eti. The other is that the athematic PWGmc 1sg. *dōmi would have to owe its ending to transfer from some other paradigm. The only available form that survived into PGmc was *immi ‘I am’, which seems too opaque to have provided a model. If the transfer occurred significantly earlier, fientive stems in *-nō-, which should originally have had a 1sg. in *-nō-mi (vol. i 3.4.3 (i), pp. 177–8), could have provided a much better model; but at such an early date the contrast between their inherited (bimoric) *ō and the vowel sequence or contracted (trimoric) vowel of ‘do’ should have made the resemblance between the two less obvious and a transfer of endings less likely.

I conclude reluctantly that the best solution to this problem is the most direct one: we need to accept that we have an inherited o-grade root-present in WGmc ‘do’, and in PIE terms that can only be a ‘hi-conjugation’ present (cf. Jasanoff 1979) with the o-grade of the (active) singular generalized. There are two reasons for entertaining this hypothesis. The first is that at least two other such presents survive (as normal thematic presents) in Germanic, namely *malanaŋ ‘to grind’ ←< PIE *mólh₂- ~ *mélh₂- (Hitt. 3sg. *mallai*; Jasanoff 1979: 83–4, 2003: 68–72, cf. vol. i 3.4.3 (ii), p. 188) and *hanhanaŋ ‘to hang’ ←< PIE *kónk- (Hitt. 3sg. *gānki*; Jasanoff 1979: 85, 2003: 72–4). The second is that a hi-conjugation present to this verb is actually attested in Hittite, though unfortunately it is not a root-present: Hitt. *dāi* ‘(s)he puts’, 3pl. *tiyanzi* reflects an extended root or stem *d^hóh₁-i- ~ *d^hh₁-i- (Jasanoff 1979: 88–9). If an unaffixed hi-conjugation present survived unthematized in the PIE dialect

ancestral to Germanic, it could only have become either a perfect or a ‘mi-conjugation’ present. For an attempt to work out such a scenario see now Ringe 2012.

The paradigm of ‘be’ raises difficulties of its own:

			perfective		
	pres. indic.	pres. subj.	pres. indic.	past indic.	past subj.
sg. 1	immi	sijē	bi(j)u	was	wāzī
2	izi	sijēs	bisi	wāzī	wāzī
3	isti	sijē	bīpi	was	wāzī
pl. 1	izum	sīm	???	wāzum	wāzīm
2	izud	sīþ	???	wāzud	wāzīd
3	sindi	sīn	bijanþ?	wāzun	wāzīn

The finite past stem is obviously that of the strong verb *wesan, which (to judge from the situation in the daughter languages) might also have provided a pres. inf. *wesan, *wesanⁿē, ptc. *wesandī, and impvt. *wes, pl. *wisid.

The finite forms of the present require more discussion; I begin with the basic (non-perfective) pres. indic. The 1pl. and 2pl. forms survive only in OHG, where they have acquired an initial *b-* (*birum*, *birut*) by conflation of the non-perfective and perfective paradigms; however, the corresponding ON forms *erum*, *eruð* match the OHG forms closely enough to permit the reconstruction given here. (In fact it is likely that *izum, *izud existed already in PGmc; see the discussion in the addenda to vol. i.) The 1sg. and 2sg. forms also do not survive unchanged anywhere in WGmc. OHG *bim* appears to be inherited *immi (cf. Goth. *im*) with perfective *b-* added; Merc. OE *eam*, North. *am* have adopted the vowel of the 2sg. (on which see below), while the vowel of WS OE *eom* is an unsolved problem. The inherited 2sg. has been not remodelled but replaced in every daughter language. OS *bis(t)* and OHG *bist* are clearly the perfective forms. In OE we find forms of a defective preterite-present *ar- (see vol. i 3.3.1 (i), p. 154): Merc. *earþ*, North. *arþ* preserve a very archaic 2sg. ending, while West Saxon *eart* has levelled the default ending into this verb (vol. i 3.4.3 (ii), p. 192). In the Anglian dialects a pl. *earun*, *arun* formed to the same verb competes with *sind(un)*. Since all these innovations are restricted to particular parts of the WGmc speech area, I reconstruct a paradigm in which none has occurred—the same paradigm reconstructable for PGmc.

The pres. subj. is easily reconstructed and is largely a straightforward reflex of its PGmc ancestor. Since it is clear that the 1sg. has been syncretized with the 3sg. in other subjunctive paradigms, I reconstruct the same syncretism here (even though OE 1sg. *sīe*, the only 1sg. form that has not obviously been

remodelled, has an etymologically ambiguous ending). The disyllabicity of the sg. forms is guaranteed by the scansion of OE 3sg. *sīe* in *BDS* 2.

The perfective pres. indic. (on the meaning of which see vol. i 4.3.3 (iv), p. 263) survives as a separate category only in OE; its reconstruction for PWGmc is therefore more than usually inferential. For the 2sg. we also have the southern forms, and **bisi* is easy to reconstruct; that implies a 3sg. **biþi*, reflected directly in OE *bip*. For the 1sg. **biju* (disyllabic) or possibly **biu* (monosyllabic) is reconstructable from late West Saxon OE *bēo*, Angl. *bīom*, and OS *bium*, the latter two forms with *-m* introduced from the non-perfective pres. indic. and the OS form functioning as the regular pres. indic. 1sg. For the 3pl. we have only OE *bēoþ*, *bīoþ*, etc., often scanned as two syllables in verse; it seems reasonable to suggest a preform **bijanþ* (with a thematic ending, like the 1sg.). Since the 1pl., 2pl. had been lost by syncretism in OE, it seems unwise to venture a reconstruction of their PWGmc shapes.

4.2.2 PWGmc noun inflection

Most of the changes in noun inflection were the effects of regular sound changes. However, the loss of word-final **-z* in polysyllables and the loss of word-final short low vowels (see section 3.1.2) significantly altered the typology of the language by creating large new classes of nouns with endingless nom. sg. forms, and the extensive sound changes that affected final syllables collectively made the inflection of nouns much more opaque.

The paradigms of ‘day’, ‘army’, ‘herdsman’, ‘yoke’ (all a-stems), ‘gift’ (an *ō*-stem), ‘fetter’ (an *ī* ~ *ijō*-stem), ‘guest’, ‘deed’ (both i-stems), ‘son’, and ‘livestock’ (both u-stems), in vol. i 4.3.4 (ii), pp. 279–80, had developed into the following in PWGmc.

	‘day’ (m.)	‘army’ (m.)	‘herdsman’ (m.)	‘yoke’ (n.)	‘gift’ (f.)
singular					
nom.	dag	hari	hirdi	jok	gebu
acc.	dag	hari	hirdi	jok	gebā
gen.	dagas	harjas	hirdijas	jokas	gebā
dat.	dagē	harjē	hirdijē	jokē	gebē
inst.	dagu	harju	hirdiju	joku	gebu
plural					
nom.	dagō ?	harjō ?	hirdijō ?	joku	gebō
acc.	dagā ?	harjā ?	hirdijā ?	joku	gebā
gen.	dagō	harjō	hirdijō	jokō	gebō
dat.-inst.	dagum	harjum	hirdijum	jokum	gebōm

	‘fetter’ (f.)	‘guest’ (m.)	‘deed’ (f.)	‘son’ (m.)	‘livestock’ (n.)
singular					
nom.	bandi	gasti	dādi	sunu	fehu
acc.	bandijā	gasti	dādi	sunu	fehu
gen.	bandijā	gastī	dādī	sunō	fehō
dat.	bandijē	gastī	dādī	suniwī, -ō	fehiwī, -ō
inst.	bandiju	gastī	dādī	sunu	fehu
plural					
nom.	bandijō	gastī	dādī	suniwī, -ō	
acc.	bandijā	gastī ?	dādī ?	sunū ?	
gen.	bandijō	gastijō	dādijō	suniwō(, -awō ?)	
dat.-inst.	bandijōm	gastim	dādīm	sunum	

(For the sake of concreteness I assume that *o had been levelled through the paradigm of ‘yoke’, *u through the paradigm of ‘son’, and *e through the paradigm of ‘livestock’; the real situation might have been different, or different in some dialects. The u-stem alternatives with *-ō and *-aw- occurred in the northern dialects; see 3.1.4.)

In these and subsequent paradigms I assume that the dat. pl. and inst. pl. had undergone syncretism, since in the attested languages syncretism of those two cases is complete in the plural and far advanced even in the singular. The plural syncretism could have occurred partly by sound change, since *-i was lost after many unstressed syllables in PWGmc (see 3.1.4), but syncretism is likely to have occurred in any case.

On the uncertainty surrounding the non-neuter acc. pl. endings see section 3.1.2.

If the i-stem dat. sg. and inst. sg. ended in *-ī in PGmc (see vol. i 4.3.4 (i), pp. 272–3), the PWGmc forms should have ended in *-i because of the regular shortening of word-final high vowels in PNWGmc (see section 2.1.1 above). However, OHG fem. dat., inst. sg. -i, which is not lost after heavy stems, suggests that the ending was remodelled as *-ī in PWGmc, presumably by adoption of the gen. sg. ending.

The greatest uncertainty of all involves the masc. a-stem nom. pl. ending. OHG provides no evidence, since in that language the nom. pl. and acc. pl. of this class of nouns underwent syncretism under the form of the latter (pace Braune and Reiffenstein 2004: 185). OS and OE exhibit nom.-acc. pl. endings whose immediate parent is reconstructable as *-ōs. It is often suggested that the *-s of this ending is a voiceless Verner’s Law alternant (e.g. Campbell 1962: 223, Brunner 1965: 193, 196); since no other word-final

voiceless alternants of *-s occur in Gmc noun inflection,¹ the PGmc ending is sometimes reconstructed as *-ōsiz ~ *-ōziz (Bammesberger 1990: 39, 43–4), a cognate of Vedic Skt. -āsas with the PIE consonant-stem ending *-es added to an already fully characterized o-stem nom. pl. *-oes. The voiced Verner’s Law alternant then accounts for OF -ar (Bammesberger 1990: 39, 43–4; cf. e.g. Loewe 1933: 9, van Helten 1890: 127 with references). That hypothesis accounts for the northern WGmc forms and is consistent with Goth. -os (as Bammesberger notes), and it could be correct. But there is no positive support for such a form elsewhere in Gmc., and it is not clear to me that *-ōziz would yield ON -ar. Note also that the doubly characterized nom. pl. is an odd enough preform that we might expect it to have arisen only once, in the last common ancestor of Germanic and Indo-Iranian (as Bammesberger duly notes); but at that early date *-oes might not have undergone contraction, and if contraction had not yet occurred, it is difficult to see what the motivation for the recharacterization of the ending could have been.²

Under the circumstances I think it is still worth trying to explain the final consonants of OE -as, OS -os, and OF -ar endings as innovations; see 5.2 for a possible source of *-s (and note that the lateness of attestation of OF provides substantially more time and opportunity for such an innovation, though I have not yet been able to find a plausible source; see the discussion of Boutkan 1995: 188–90 on the problems besetting all current suggestions). I suggest that the original ending survives in the OF variant -a < PWGmc *-ō < PGmc *-ōz (van Helten 1890: 127–8); I accordingly reconstruct *-ō for PWGmc, though with considerable uncertainty. (If this ending survived unaltered elsewhere it would have become OE ‘-a’, OS and OHG ‘-o’; Braune and Reiffenstein 2004: 185 is mistaken about the regular sound-change reflex of this vowel in OHG. It is interesting that the northern endings all appear to preserve the inherited vowel of the nom. pl. in spite of remodelling—if remodelling is what happened.)

¹ Gen. sg. *-as, and the more innovative gen. sg. *-es of OHG, spread from the paradigms of monosyllabic pronominal stems; see vol. i 3.4.4 (ii), pp. 201–2.

² If the PIE nom. pl. ending were in fact *-h₁es this problem would be obviated, since we would then expect the thematic ending to be *-o-h₁s; that would account for the fact that this particular ending does not seem to be scanned as a disyllable in the R̥gveda—though of course an uncontracted ending could underlie attested -āsas—and the apparently trimoric vowel of the Germanic forms would be a mirage, due to the fact that it was not actually in a word-final syllable. However, we would then have difficulty accounting for the numerous Vedic nom. pl. forms like *svāsāras* ‘sisters’, *pādas* ‘feet’, etc., which exhibit lengthening of *o in open syllables by ‘Brugmann’s Law’, a lengthening which is blocked by laryngeals (cf. *cakāra* ‘I made’ < *ke-kór-h₂e, RV 1.165.8, and see the discussion of Kuryłowicz 1927: 206–15; *ánas* ‘cart’ = Lat. *onus* ‘burden’ < *ónh₁os, Craig Melchert, p.c.).

The paradigms of ‘human’, ‘eye’, ‘tongue’, ‘height’ (all n-stems), ‘brother’ (an r-stem), ‘foot’, ‘tooth’, ‘night’, and ‘mouse’ (all root-nouns), in vol. i 4.3.4 (ii), p. 280, had developed into approximately the following in PWGmc. I also include the z-stem ‘lamb’:

	‘human’ (m.)	‘eye’ (n.)	‘tongue’ (f.)	‘height’ (f.)	‘brother’ (m.)
singular					
nom.	gumō	augā	tungā	hauhī	brōþer
acc.	guman	augā	tungōn	hauhīn	brōþar
gen.	gumini	augini	tungōn	hauhīn	brōþur(az ?)
dat.-inst.	gumini	augini	tungōn	hauhīn	brōþri
plural					
nom.	guman	augōn	tungōn		brōþar (?)
acc.	guman(ū ?)	augōn	tungōn(ū ?)		brōþar(ū ?)
gen.	gumanō	auganō	tungōnō		brōþrō
dat.-inst.	gumum	augum	tungōm		brōþrum
	‘foot’ (m.)	‘tooth’ (m.)	‘night’ (f.)	‘mouse’ (f.)	‘lamb’ (n.)
singular					
nom.	fōt	tanþ	naht	mūs	lamb
acc.	fōtu	tanþu	nahtu	mūsu	lamb
gen.	fōti	tanþi	nahti	mūsi	lambizi
dat.-inst.	fōti	tanþi	nahti	mūsi	lambizi
plural					
nom.	fōti	tanþi	nahti	mūsi	lambizu
acc.	fōti (-ū?)	tanþi (-ū?)	nahti (-ū?)	mūsi (-ū?)	lambizu
gen.	fōtō	tanþō	nahtō	mūsō	lambizō
dat.-inst.	fōtum	tanþum	nahtum	mūsum	lambizum

(Since no distinctive instrumental forms are attested in any daughter, I hypothesize that syncretism of dative and instrumental had occurred in the singular as well as in the plural of consonant stems in PWGmc; that could easily be an illusion, but if it is, we do not know what the inst. sg. forms were. On the shift of ‘name’ from neuter to masculine gender see section 3.2.2 above.)

The most complex question regarding the declension of PWGmc consonant stems is the ablaut of the n-stem suffixes. It is clear that inherited *-ō (< PGmc *-ō) remained the masc. nom. sg. ending and that the other genders had acquired a nom. sg. ending *-ā (< post-PNWGmc *-ō, conceivably < PGmc *-ō). Beyond those basic facts the northern daughters tell us nothing, because OE and OF have generalized *-an(-) to all other forms and OS either agrees with OHG or presents us with wide variation in the spelling of the suffixal

vowel. From OHG it is at least clear that the fem. suffix was *-ōn- (with dat.-inst. pl. *-ōm, apparently < *-ō(m)maz and *-ō(m)miz). From the nearly consistent spelling of the neut. pl. nom.-acc. as *-un* in OHG we can probably infer that the PWGmc suffix-and-ending complex was still inherited *-ōn-, though it appears that the suffix was replaced with a short-vowelled form within the history of OHG (cf. Braune and Reiffenstein 2004: 207–8, §221 Anm. 4). In the oblique cases of the plural OHG has generalized the fem. suffix, but it seems unlikely that that had already happened in PWGmc; I accordingly reconstruct *-an- for the masc. and neut. paradigms (with dat.-inst. pl. *-um, apparently < *-a(m)maz and *-a(m)miz). In the non-fem. gen. sg. and dat. sg. the preservation of *-in* in some older OHG documents argues strongly that that ablaut grade was still present in the PWGmc paradigm; note that the (partly) later OHG variant *-en* can reflect the lowering of *i* in unstressed syllables after low and lower mid vowels reintroduced into root syllables by levelling (vol. i 3.2.5 (iii), p. 126). The OHG masc. acc. sg. and nom.-acc. pl. *-un* ~ *-on* is more puzzling. It seems impossible that it reflects PGmc '*-un-' (presumably < PIE syllabic *-ŋ-), for which there is no other evidence. But in that case it can only be the reflex of pre-PWGmc acc. sg. *-anu (and conceivably also of acc. pl. *-anū—or *-anū, see 3.1.1 above—though it seems at least as likely that the PWGmc acc. pl. had become *-ani > *-an by syncretism with the nom. pl., and that *-un was levelled into the plural within the separate history of OHG). An endingless acc. sg. *-an would have yielded '-an', to judge from the ending of the infinitives of strong verbs. If OHG *-un* really does reflect acc. sg. *-anu, the sound change that produced it must have operated before the loss of word-final short high vowels in most trisyllables and longer words in PWGmc (see 3.1.4 above). I will discuss this problem in more detail in 5.2 below.

The inflection of the r-stem terms of relationship is difficult to reconstruct; I will return to it in the discussion of the OE forms (section 7.2.2).

Whatever the nom. sg. ending of root nouns might have been in PGmc, it is reasonable to suppose that there was no ending in PWGmc, as none of the daughters exhibits any. It seems very likely that the nom. pl. and acc. pl. had undergone syncretism under the shape of the former, as all the daughters exhibit such a pattern. That the dat.-inst. pl. of the feminines ended in *-um, not in i-stem *-im (as in Gothic), is argued by OHG *nahtum* 'nights' and *buohhum* 'books'.

Though most z-stems had apparently been shifted into other classes, so that only a few remained in PWGmc (*lamb 'lamb', *kalb 'calf', *hrinþ 'head of cattle', *aij 'egg', and perhaps a few others), the inflection of the relic class is easy to reconstruct from OHG, taking into account a handful of early forms that still exhibit *-ir-* in the singular (Braune and Reiffenstein 2004: 188–9).

The inherited neuter r/n-stems ‘water’ and ‘fire’ had apparently undergone a great deal of remodelling in PWGmc. The nom.-acc. sg. of the former was PWGmc *watar < *watār < PGmc *watōr (see 3.1.4, 3.1.5); the nom.-acc. sg. of the latter was apparently disyllabic *fuīr, with an unusual sequence that can only have arisen by levelling of nom.-acc. *-r into the oblique stem *fuīn- (dissimilated from *funin-?; see vol. i 4.3.4 (i), pp. 276–7 and Braune and Reiffenstein 2004: 53, §49 Anm. 3). In the daughters both are inflected as neuter a-stems, and that could have been the case already in PWGmc; whether OHG dat. or inst. *fyur* (Braune and Reiffenstein 2004: 185) reflects an inherited dat. sg. *fuīri is doubtful, since endingless dat. sg. forms of other a-stems are also found (Braune and Reiffenstein 2004: 183).

Possible origins of the endingless dat. sg. forms of a-stems that are attested in the daughter languages will be taken up in 7.2.2.

4.2.3 PWGmc adjective inflection

It appears that strong adjectives had all become a- or (i)ja-stems in PWGmc. The reconstructable strong and weak adjective paradigms can be exemplified by a complete paradigm of ‘good’:

<i>strong</i>		<i>masc.</i>		<i>neut.</i>	<i>fem.</i>
sg.	nom.	gōd		gōd	gōdu
	acc.	gōdanā		gōd	gōdā
	gen.		gōdas		gōdezā
	dat.		gōdu(m)mē ?		gōdezē
	inst.		gōdu		gōdezu
pl.	nom.	gōdē		gōdu	gōdō
	acc.	gōdā ?		gōdu	gōdā
	gen.		gōdezō		gōdezō
	dat.-inst.		gōdēm		gōdēm
<i>weak</i>		<i>masc.</i>		<i>neut.</i>	<i>fem.</i>
sg.	nom.	gōd		gōdā	gōdā
	acc.	gōdan		gōdā	gōdōn
	gen.		gōdini		gōdōn
	dat.-inst.		gōdini		gōdōn
pl.	nom.	gōdan		gōdōn	gōdōn
	acc.	gōdan (-ū?)		gōdōn	gōdōn (-ū?)
	gen.		gōdanō		gōdōnō
	dat.-inst.		gōdum		gōdōm

The weak endings are identical with those of n-stem nouns and call for no further comment. On the medial *-ez- of the fem. and pl. oblique forms see section 2.2 above.

I reconstruct the strong non-fem. inst. sg. ending (identical with that of a-stem nouns) on the basis of OHG and OS, since the OE ending is clearly innovative (see 7.2.2). Reconstruction of the other oblique endings of the singular is somewhat inferential, since the daughters do not agree in detail; I have given the endings that would be expected by regular sound change from PGmc, in the belief that the actually attested endings of the daughters can be explained from that starting point by means of regular sound changes and reasonable morphological changes. It is possible that the southern dialects of PWGmc had a non-fem. gen. sg. in *-es rather than *-as (see vol. i 3.4.4 (ii), pp. 201–2) and a masc. acc. sg. in *-an (though it is not clear how the final vowel of inherited *-anā was lost).

In all the daughters the non-neut. nom. pl. and acc. pl. have been syncretized, mostly under the form of the former. But whereas OHG has generalized nom. pl. -o for both cases in the fem., OS regularly exhibits the old acc. pl. -a, and OE exhibits both acc. pl. -e and nom. pl. -a. The most straightforward inference is that the nom. pl. and acc. pl. had not yet undergone syncretism in PWGmc, and that the syncretisms of the daughters were parallel developments. I have cautiously adopted that solution (even for the masculines).

I have argued in vol. i, p. 282, that the ‘long’ form of the neut. nom.-acc. sg. is a parallel innovation of the daughters; it does not seem to be reconstructable even for PWGmc.

Comparatives exhibited a suffix *-iz- or *-ōz- (the distribution was lexically determined) and were inflected only according to the weak paradigm; superlatives had a corresponding suffix *-ist- or *-ōst-. The suppletive comparative paradigms reconstructable for PGmc persisted in PWGmc.

4.2.4 *PWGmc numeral inflection*

As in PGmc, *ain ‘one’ was a morphologically unremarkable adjective. The gen. and dat.-inst. of ‘two’ were clearly *twaijō and *twaimi respectively. The neut. nom.-acc. was *twai, the ancestor of OE, OF *twā*, OS *twē*, OHG *zwei*, ultimately reflecting a PIE dual (Cowgill 1985: 19); the OE alternant *tū*, with a plural ending, must be an innovation (Cowgill 1985: 19). The non-neuter nom.-acc. forms are more problematic. On the vexed problem of the masculine form, which clearly had an ending *-n(-) but is difficult to reconstruct, see section 3.2.2 above. Of the attested feminine forms, Cowgill 1985: 16–18 argues that OHG *zwā* can only reflect the ancient endingless form *twa which also survives in Goth. neut. *twa*; and though OS, OF, OE *twā* could all reflect inflected nom.

**twōz* or acc. **twōz* (Cowgill 1985: 16–18), the most economical solution is to suggest that they too reflect the endless form. How it became specialized for feminine gender does not seem to be recoverable.

For ‘both’ most of the daughters exhibit forms with suffixal *-*þ*- roughly resembling Goth. *bajops* and ON *báðir*, though they do not all seem to reflect exactly the same preform (OHG *bēde*, *beide*, OS *bēðia*, OF *bēthe*, *beithe*; the OS form is clearly an *ija*-stem, while the inflection of the others is ambiguous). OE has instead a stem beginning with *b*- whose forms rhyme exactly with those of ‘two’, and that seems to be the inherited stem (cf. Goth. *bai*, ON gen. *beggja*).

The inflection of ‘three’ was probably inherited from PGmc without change, aside from regular sound changes. Though ON and the attested WGmc languages all have distinctive fem. nom.-acc. forms, the fact that the OHG form is *drīo*, with the productive ending *-o* apparently appended to an inherited form *drī* (cf. Eichner 1987: 196–200), strongly suggests that all the fem. forms are late, probably independent, innovations. The OHG gen. is also *drīo*, apparently re-formed to the masc. nom.-acc. *drī*; OE *þrīora*, with the productive strong adj. ending, is likewise an innovation, while the OS form is not attested. The most likely reconstruction of the PWGmc paradigm is therefore:

	<i>masc.-fem.</i>	<i>neut.</i>
nom.	þrī	þri(j)u
acc.	þrī?	þri(j)u
gen.		þrijō
dat.-inst.		þrim

Apparently the only form of ‘four’ that survived was nom.-acc. **fewwar* (see sections 3.1.1, 3.1.5 on the shape); but the *i*-stem endings of ‘three’ were extended to ‘four’, then further to the numerals up through ‘19’. The best discussion of this development is Stiles 1985–6, *NOWELE* 6: 3–25. It appears that the inflected forms were used only when the numerals were not in attributive position before the head noun (where the uninflected forms survived), and further that the extension of inflection may have begun with the dat.-inst. form. Gothic exhibits a similar development, but only in the oblique cases. It seems at least possible that that was a parallel development; see Stiles 1985–6, *NOWELE* 6: 3–25, for a discussion of the problems involved.

The split inflection of the decads, with one formation up through ‘60’ and another for the higher decads, must have persisted in PWGmc, since it did so in some OHG dialects (Braune and Reiffenstein 2004: 236–7). In OF, as in ON, the formation of the lower decads was generalized to the higher as well; the

lateness of attestation of both languages is responsible for that. The other WGmc languages have the following forms for the higher decads:

	Old English	Old Saxon	Old High German
'70'	<i>hundseofontiġ</i>	<i>antsibunta, sibuntig</i>	<i>sibunzo, -zug</i>
'80'	<i>hundeahtatiġ</i>	<i>antahtoda</i>	<i>ahtozo, -zug</i>
'90'	<i>hundnigontiġ</i>	<i>nigonda</i>	—, <i>niunzug</i>
'100'	<i>hundtēontiġ,</i> <i>hundred, hund</i>	<i>hund</i>	<i>zehanzo, -zug,</i> <i>hunt</i>
'110'	(cf. ordinal <i>hundæleftiogoða</i>)		
'120'	<i>hundtwelftiġ</i>		

In all the languages the formation of the lower decads eventually takes over and the vestiges of the duodecimal system of reckoning are eventually lost.

No completely satisfactory explanation for all these forms has been proposed. The OE prefix *hund-* is evidently the same element as the final syllable of Goth. *sibuntehund*, etc., resegmented in the sequence of counting by decads (Szemerényi 1960: 32 with references); after that development the remaining suffix was reanalyzed as *-tiġ* (from the lower decads, Szemerényi 1960: 37). Both these developments can be simple native-learner errors; Szemerényi's suggestion that the shift of *-hund* was prompted by a desire for clarity (Szemerényi 1960: 38) is neither convincing nor necessary. Presumably OS *ant-* is a reduced form of the same element (Gallée 1993: 235, Szemerényi 1960: 37 with n. 39 and references). OS has not reanalyzed the remaining suffix; unfortunately its shape *-ta* is difficult to reconcile with OHG *-zo*. Szemerényi suggests that both reflect originally word-medial *ō, the reflexes of which became final when *-hund* was shifted to the beginning of the word (Szemerényi 1960: 37), but it is not clear that *ō would be written consistently as *a* in OS under any circumstances; it seems more likely that OS *-a* reflects the *ē of PGmc *sebuntehund-. Whether a better analysis can be devised is still an open question.³

4.2.5 PWGmc pronominal inflection

All the daughters have remodelled the paradigm of 'that' at least to some extent. OHG and OS have constructed an entire paradigm to the analogical stem *þi ~ *þe-, with the vowel of the third-person pronoun—evidently before the spread of *-i- through the paradigm of the latter, and probably prompted in the first instance by gen. sg. *þes (Klingenschmitt 1987: 183–4, though in

³ Rau 2009: 15 n. 8 simply refers to Szemerényi for a discussion of the West Germanic forms.

my opinion *þes is a post-PGmc innovation, see vol. i, pp. 201–2). OF and OE have extended the syncretism of genders in the plural to the nominative and accusative. Because the innovations of the daughters diverge so widely, we must conclude that the PWGmc paradigm was inherited from PGmc with regular sound changes and the innovations noted in 3.2.2:

	<i>masc.</i>	<i>neut.</i>	<i>fem.</i>
sg. nom.	siz	þat	si(j)u
acc.	þanā	þat	þā ? þō ?
gen.		þas	þaizā
dat.		þa(m)mē ?	þaizē
inst.		þan	þaizu
pl. nom.	þai	þū ?	þōz
acc.	þāz ?	þū ?	þāz ? þōz ?
gen.		þaizō	þaizō
dat.-inst.		þaimi	þaimi

(It is likely that in the southern dialects the non-fem. gen. sg. was already *þes, with the ending of the interrogative, within the ‘PWGmc’ period.)

The monosyllabic non-neuter accusative forms pose a problem: they are the only examples of PGmc final *-ō, *-anz, and *-ōz that occurred in stressed syllables, and we do not know what their regular sound-change outcomes should have been. The suggestions in the above tables are my own guesses. The reconstruction of the non-fem. dat. sg. is also uncertain because it has apparently been remodelled in every daughter.

Aside from the uncertainties just noted, the PWGmc paradigm survives fairly well in OE—much better, in fact, than in any other daughter. Especially noteworthy is the dat.-inst. pl. *þāem*, which can only reflect PWGmc *þaimi, with syncretism under the form of the instrumental. Exactly the same syncretism with the same result was clearly present in the plural first- and second-person pronouns in PGmc, and it could have been more widespread even at that early date (see vol. i 3.4.5 (iv), pp. 209–11); if it was not, it clearly became more widespread in the development of WGmc.

The third-person pronoun *i- ~ *e- survives only in OHG and OS; in the northern dialects it was replaced by *hi- ~ *he-,⁴ which had originally

⁴ I do not see why Klingenschmitt 1987: 173 rejects this obvious hypothesis; the semantic development that it posits is not difficult to credit, as he suggests. Though the continual ‘renewal’ of demonstrative pronouns by the addition of deictic particles—a process which Klingenschmitt invokes repeatedly in his article—certainly does occur, each case must be judged on the evidence, and in this case the hypothesis adopted here is the simplest and most straightforward that will account for the evidence.

meant ‘this’ and which was lost in the southern dialects except in fossilized phrases. It is difficult to say how early that development occurred; it too could date to the ‘PWGmc’ period. It appears that the two pronouns were inflected more or less identically. In the daughters the alternants in *-i- spread at the expense of those in *-e-, but since the latter survive in the OHG paradigm of ‘that’ (where they are analogical in origin), it seems prudent to reconstruct the original alternation for PWGmc. The *-s- of the fem. nom. sg. *sī had spread to the fem. acc. sg. and all the nom. and acc. pl. forms in PWGmc (see 3.2.2). In all the daughters syncretism of nom. pl. and acc. pl. has occurred, but it is not clear whether that had already happened in PWGmc. I here give the (approximately) reconstructable paradigm of the third-person pronoun:

	<i>masc.</i>	<i>neut.</i>	<i>fem.</i>
sg. nom.	iz	it	sī ~ si(j)u
acc.	inā	it	sijā
gen.		es	ezā
dat.		i(m)mē ?	ezē
inst.		ī ?	ezu
pl. nom.	sijai ?	si(j)u	sijō
acc.	sijā ?	si(j)u	sijā
gen.		ezō	ezō
dat.-inst.		imi	imi

The same uncertainty regarding the non-fem. dat. sg., for the same reason, recurs in this paradigm; the non-fem. inst. sg. also does not survive unaltered, though the form given in the table is what might be expected, to judge from the interrogative paradigm (see below). The other major uncertainty involves the masc. nom. and acc. pl. In all the daughters the relevant form (syncretized under the form of the nominative) has been provided with the normal adjective ending, on the model of the corresponding feminine and neuter. We cannot tell how much of that process was completed within the PWGmc period; I have cautiously posited adjective endings but no syncretism.

It seems reasonably clear that the interrogative was built partly to a stem *hwa- and partly to *hwi- ~ *hwe-; that is, the PIE stems had become conflated in PGmc (see vol. i 4.3.6 (ii), pp. 289–90). If PGmc had a distinctive feminine stem, it did not survive in WGmc, and there were no plural forms. The PWGmc paradigm was probably the following:

	<i>masc.-fem.</i>	<i>neut.</i>
nom.	hwaz (hwiz ?)	hwat
acc.	hwanā	hwat
gen.	hwes (hwas ?)	
dat.	hwa(m)mē ?	
inst.	hwī	

The problem with the dat. sg. recurs. Otherwise the only uncertainty is how many of the forms were made to the a-stem and how many to the stem with front vowels. OE and OF have generalized the former, except for the (OE) instrumental, while OS and OHG have generalized the latter, except for the neuter nominative-accusative; we can at least say that each dialect group must have had a ‘critical mass’ of forms with the relevant stem vowel to generalize from, though it is unclear what that would amount to in detail.

Finally, the personal pronouns seem to have survived from PNWGmc (see section 2.2) with little additional change. The accusative and dative forms of the non-singulars appear to have undergone syncretism under the shorter (accusative) form, to judge from the fact that i-umlaut is absent from the first-person forms:

	<i>1st person</i>	<i>2nd person</i>	<i>3rd reflexive</i>
sg. nom.	(ek ~) ik	þū	
acc.	mek ~ mik	þek ~ þik	(sek ~) sik
dat.	miz	þiz	(siz ?)
du. nom.	wit	jit	
obl.	unk	ink	
pl. nom.	wiz	jiz	
obl.	uns	iuw	

When stressed and unstressed forms were inherited, it was usually the unstressed forms that survived. Anglian OE does preserve (originally stressed) *mec* and *þec*; the reflexive pronoun does not survive in any of the northern languages, but presumably a stressed form of its accusative existed in PWGmc as well. Whether the OS variant *ec* ‘I’ should be considered a survival of the stressed form of that pronoun is unclear to me. The dative of the reflexive pronoun survives in no daughter—not even in OHG (Braune and Reiffenstein 2004: 241); it could have been replaced by the regular third-person pronoun already in PWGmc. Most of the daughters exhibit nonsingular accusative forms with an additional ending *-ik, but that is almost certainly a parallel development, considering that the new ending never triggers i-umlaut in any daughter. As in PGmc, the genitive was supplied by the possessive adjectives, which in PWGmc were sg. *mīn, *þīn, reflexive *sīn, du. *unkar, *inkwar, pl. *unsar, *iuwar.

4.3 The Proto-West Germanic lexicon

4.3.1 *Lexemes unique to West Germanic*

Like every subgroup of Indo-European attested at an early date, West Germanic exhibits numerous lexemes which are more or less isolated etymologically. A list of the more noteworthy examples might include the following.

- *āban- ‘evening’ > OE *ǣfen*, OF *ēvend*, OS *āband*, OHG *ābant*; the OE word has been extended with *-j- (thus gen. sg. *ǣfennes*, etc.) and is usually neuter, while the other words have been extended with *-d- and are masculine;
- *aiskōn ‘to ask’ > OE *āscian*, OF *āskia*, OS *ēskon*, OHG *eiscōn*; the (lost) noun from which this verb was derived must have been considerably older, since it was in turn derived from a fossilized sk-present inherited from PIE which did not survive as such in Gmc;
- *aiþum ‘son-in-law’ > OE *āþum*, OF *āthom*, OHG *eidum*;
- *ārundi ‘message, errand’ > OE *ǣrende*, OF *ērende*, OS *ārundi*, OHG *ārunti*; ON *eyrindi* is somehow connected, but the sound correspondences are not all regular;
- *auhaim ‘uncle, mother’s brother’ > OE *ēam* (still scanned as two syllables in *Beo*), OF *ēm*, OHG *ōheim*;
- *bakan ‘to bake’ > OE *bacan*, OHG *bahhan*;
- *bannan ‘to proclaim, to summon’ > OE *bannan*, OF *bonna*, OS, OHG *bannan*;
- *baum ‘tree’ > OE *bēam*, OF *bām*, OS *bōm*, OHG *boum*; ON *baðmr* and Goth. *bagms* are somehow connected, but the sound correspondences are not all regular;
- *breþan ‘to fall apart’ > OE *brēþan*, OHG pres. 3sg. *briudid* (1× in a gloss);
- *delban ‘to dig’ > OE *delfan*, OF *delva*; *bidelban ‘to bury’ > OE *bedelfan*, OF *bidelva*, OS *bidelþan*, OHG *bitelban*;
- *flaiski ‘meat’ > OE *flǣsc*, OF, OS *flēsk*, OHG *fleisk*;
- *flitan ‘to strive’ > OE *flitan* ‘to compete’, OS *anflitan* ‘to exert oneself’, OHG *sih flīzan* ‘to apply oneself to’;
- *fōgijan ‘to fit together’ (trans.) > OE *fēgan*, OS *fōgian*, OHG *fuogen*;
- *fūht ‘wet’ > OE, OS *fūht*, OHG *fūht(i)*;
- *gaist ‘spirit’ > OE *gāst*, OF *jēst*, OS *gēst*, OHG *geist*;
- *gaskehan ‘to happen’ > OE *gescēon* (shifted into weak class II), OF *skiā*, OHG *giskehan*;
- *harbist ‘harvest’ > OE *hærfest* (~ *herfest*),⁵ OF *herfst*, OHG *herbist*; connection with Latin *carpere* ‘to pluck’ and Gk *καρπός* /*karpós*/ ‘fruit’ is plausible, but the word is isolated within Germanic;
- *hrad^ld’an ‘to save’ > OE *hreddan*, OF *hredda*, OHG *retten*;

⁵ Bammesberger 1997 argues persuasively that this is an Anglian word that has been borrowed into WS OE (whence the apparent lack of breaking in the first syllable), and that the preform *harubist’ often posited actually cannot account for the OE form.

- *hrespan ‘to tear’ > OE *ġehrespan*, OHG *respan*;
- *hrinþ, *hrinþiz- ‘head of cattle’ > OE *hrīþer*, OF *hrīther*, OS *hrīð*, OHG *rind*;
- *klimban ‘to climb’ > OE **climban* (past *clam*, pl. *clumbon*), OHG *klimban*, both rare;
- *kneht ‘retainer’ > OE *cniht*, OF *kniucht*, OS, OHG *kneht*;
- *krimman ‘to stuff’ > OE *crimman*, OHG past ptc. *cachrumman* (1× in a gloss);
- *langitīn ‘spring(time)’ > OE *lencten*, OHG *lenzin-mānōd* ‘March’;
- *limpan ‘to turn out well (?)’ > OE *limpan* ‘to happen’, OHG *limpfan* ‘to be suitable’;
- *māan ‘to mow’ > OE *māwan*, OF *miā*, OHG *māen* (shifted into weak class I); the traditional connection with Gk *ἀμᾶν* /amâ:n/ is doubtful, because the Greek form reflects PIE root-final *h₂, whereas PWGmc *ā should reflect PGmc. *ē < PIE *eh₁;
- *makōn ‘to make’ > OE *macian*, OF *makia*, OS *makon*, OHG *mahhōn*;
- *obat ‘fruit’ > OE *ofet*, OHG *oba*;
- *plehan ‘to stand up for’ > OE *plēon*, OS *plegan* ‘to vouch for’, OHG *pflegan* ‘to stand up for, to take care of’; the continental forms have generalized the voiced Verner’s Law alternant;
- *raikijan ‘to reach’ > OE *ræcan*, OF *rēka*, OHG *reihhen*;
- *rindā ‘tree-bark’ > OE *rinde*, OS *rinda*, OHG *rinta*;
- *skāp ‘sheep’ > OE *sċeap*, OF *skēp*, OS *skāp*, OHG *scāf*;
- *skuldru ‘shoulder’ > OE *sċuldor*, OHG *scultra*;
- *smertan ‘to be painful’ > OE *smeortan*, OHG *smerzan*;
- *spannan ‘to harness’ > OE, OHG *spannan*; there are some related ON nominal forms;
- *sprekan ‘to speak’ > OE *sprecan*, OF *spreka*, OS *sprekan*, OHG *sprehhan*;
- *stal^lan ‘to put, to place’ > OE *stellan*, OHG *stellen*;
- *stap^pan ‘step, tread’ > OE *stæppan*, OF *stapa*, *steppa*, OS past *stōp* (or is this a northern WGmc dialect word?);
- *sterban ‘to die’ > OE *steorfan*, OF *sterva*, OS *sterþan*, OHG *sterban*;
- *swerkan ‘to get dark’ > OE *sweorcan*, OS *swerkan* ‘to become sad’; an OHG derivative is attested once in a gloss;
- *swindan ‘to diminish’ > OE *swindan*, OHG *swintan*; *fraswindan ‘to disappear’ > OS *forswindan*, OHG *firswintan*;
- *swōgan ‘to overwhelm’ > OE *swōgan* ‘to collapse on, overwhelm’, OS *swōgan* ‘to burst forth’ (northern WGmc dialect word?);
- *walkan ‘to roll (of the sea); to full (cloth)’ > OE *wealcan*, OHG past ptc. *giwalchen* (1× in a gloss);
- *waskan ‘to wash’ > OE *wascan*, OS past *wōsk*, OHG *waskan* (ON *vaska*, a weak verb, is suspected of having been borrowed from a WGmc language, cf. de Vries 1962: 648, Seebold 1970: 539);
- *werud ‘troop, war-band’ > OE *weorod*, OS *werud* (northern WGmc dialect word?);
- *wolkn ‘cloud’ > OE *wolcen*, OF *wolken*, OS, OHG *wolkan*;
- *wrihan ‘to cover’ > OE *wriōn*; *andiwrihan ‘to uncover’ > OE *onwriōn*, OHG *intrīhan*.

Given the fragmentary attestation of Gothic and the fact that adequate attestation of Norse does not begin until the 12th century, many of these words could be inheritances from PGmc that happen not to be attested in East or North Germanic. More or less doubtful etymologies have been proposed for most of them. But if we want our reconstructions to approximate prehistory as closely as possible—as opposed to finding an ‘origin’ for every word, no matter how dubious—it seems best to accept the facts at face value, respect the observed regularity of sound change, and reconstruct these words only for PWGmc rather than for PGmc, let alone PIE.

4.3.2 Meanings unique to West Germanic

At least three words inherited from PGmc have undergone dramatic shifts of meaning in WGmc:

PGmc *grōtijaną ‘to cause to weep’ (ON *græta*; causative of *grētaną ‘to weep’, > Gothic *gretan*, ON *gráta*) > PWGmc *grōtijan ‘to address, to greet’ (!) > OE *grētan*, OF *grēta* ‘to accuse’, OS *grōtian* ‘to hail, to address’, OHG *gruozen*;

PGmc *stinkʷaną ‘to knock’ (cf. Goth. *stigqan* ‘to knock together’, ON *stökkva* ‘to leap, to plummet, to burst’) > PWGmc *stinkwan ‘to smell’ > OE *stincan* (once ‘to rise’ (of dust, *Rid* 29.12), otherwise ‘to smell’⁶), OHG *stinkan*, Modern West Frisian *stjonke* ‘to stink’;

PGmc *þinhaz, *þinhiz- ‘time, right time’ (Goth. *þeihs*) and *þinga (?; the Verner’s Law alternation suggests that this is an inherited word); the latter > PNWGmc *þinga ‘assembly, court session’ (ON *þing*) > PWGmc *þing ‘court session, lawsuit, thing’ > OE *þing*, OF, OS *thing*, OHG *ding*; in this case the attested WGmc languages preserve the whole range of PWGmc meanings, and it can be seen that the semantic development was ‘(appointed) time’ → ‘court session’ → ‘lawsuit’ → ‘affair, matter’ → ‘(concrete) thing’; cf. Lat. *causa* ‘court case, affair’ > French *chose* ‘thing’, or PNWGmc *saku ‘conflict, lawsuit’ (OE *sacu*) > OHG *sahha* ‘grounds for a suit, matter’ > ModHG *Sache* ‘business, case, matter, (non-concrete) thing’ (Kluge and Seebold 1995 s.v.).

A fourth example might date to PNWGmc, but partly parallel development in ON and WGmc is also possible. Recall that *rīk- ‘king’ was borrowed from Celtic before Grimm’s Law had occurred (vol. i 4.6, p. 296). In no attested Gmc language is it still the word for ‘king’; in Gothic, the only language in which it survives, it has a generalized meaning ‘ruler’. ‘King’ in Gothic is *þiudans* < PGmc *þeudanaz ‘leader of the nation (*þeudō)’. The same word survives in ON *þjóðann*, OE *þeoden*, OS *thiodan*, but in all three languages it occurs

⁶ The meaning of *stinc* in Beo 2288 is unclear.

almost exclusively in poetry. The usual WGmc word for ‘king’ is OE *cyning*, OF *kening*, OS, OHG *kuning* < PWGmc **kuning*, originally ‘leader of the clan (**kuni*)’; ON *konungr* is clearly the same word, though its phonological shape is divergent. The OE word *cynedōm*, which we translate as ‘kingdom’, must originally have meant ‘jurisdiction over the clan’; it preserves in *cyne-* the fossilized nom.-acc. sg. **kuni*, otherwise levelled out in favor of **kunⁱnⁱ* > *cynn* (see 3.1.2). That the WGmc word is the reflex of a P(NW)Gmc **kuningaz* is guaranteed by the early Finnish loanword *kuningas*, but it has risen in society, so to speak, as the older words for ‘king’ passed out of use. This is more or less the same trajectory of development that occurred in post-Mycenaean Greek, in which the application of *ῥάναξ* /*wánaks*/ ‘king’ (Myc. *wa-na-ka*) was restricted to gods and legendary heroes, its place being taken by *βασιλεύς* /*basiléus*/, originally denoting a subordinate leader (Myc. *qa-si-re-u*).

4.3.3 West Germanic innovations in derivational morphology

The productive verb-forming suffixes of WGmc were nearly all inherited; nominal derivation was a bit more innovative. This section will deal briefly with those two groups of forms. For further information see especially Meid 1967.

4.3.3 (i) *West Germanic verb-forming suffixes* Though verbs derived with the class I weak suffix **-ati-* ~ **-atja-* clearly existed in PGmc (see vol. i 4.4.2, pp. 291–2), most of the attested examples are WGmc, and a few can be reconstructed for PWGmc. Some examples are denominative:

PGmc **hailaz* ‘healthy, sound’ (Goth. *hails*, ON *heill*) > PWGmc **hail* (OE *hāl*, OF, OS *hēl*, OHG *heil*) in the greeting *(*wes þū*) *hail* ‘(be) healthy’ (OE *hāl wes þū*, etc.; OHG *heil*) → **hailatⁱan* ‘to greet’ > OE *hālettan*, OHG *heilezzen*;

PGmc **galikaz* ‘similar’ (Goth. *galeiks*, ON *líkr*) > PWGmc **galik* (OE *gēlic*, OF *lik*, OS *gilik*, OHG *gilih*) → **likatⁱan* ‘to pretend, to flatter’ > OE *licettan*, OHG *lihhezzen*;

PNWGmc **laiþaz* ‘hateful’ (ON *leiðr*) > PWGmc **laiþ* (OE *lāþ*, OF *lēth*, OS *lēð*, OHG *leid*) → **laiþatⁱan* ‘to loathe’ > OE *lāþettan*, OHG *leidezzen* ‘to curse’.

Others are deverbative:

PNWGmc **fallana* ‘to fall’ (ON *falla*) > PWGmc **fallan* (OE *feallan*, OF *falla*, OS, OHG *fallan*) → **fallatⁱan* ‘to collapse’ > Northumbrian OE ptc. *falletande* ‘gashing’,⁷ OHG *fallezzen*.

⁷ The glossators have apparently mistaken Lat. *concidēns* ‘gashing’ for *concidēns* ‘falling down, collapsing’, as suggested in Clark Hall and Merritt 1960 s.v. *falletan*.

Some are more difficult to judge:

PWGMc *flogat^tan ‘to flutter, to hover’ > OE *flogettan*, OHG *flogezzen*: derived directly from PWGMc *fleugan ‘to fly’ (OE *flēogan*, OF *fliāga*, OHG *fliogan*) < PNWGMc *fleugana (ON *fljúga*) with zero-grade root? or from a derived noun *flugą ‘flight’ (attested only in ON *flog*)?;

PWGMc *droppat^tan ‘to drip, to distil’ > OE *droppetan*, OHG *tropfezzen*: derived directly from PWGMc *dreupan ‘to drip, to trickle’ (OE *drēopan*, OF *driāpa*, OS *driopan*, OHG *triofan*) < PNWGMc *dreupana (ON *drjúpa*) with zero-grade root and expressive gemination? or from PWGMc *droppō ‘drop’ (OE *droppa*, OHG *tropfo*)?;

PWGMc *bli/ekkat^tan (see 2.3.1 (ii)) ‘to flash, to glitter’ > OE *bliccettan*, OHG *blecchezzen*: derived directly from PWGMc *blikan ‘to shine’ (OE *blican*, OF *blika*, OS *blikan*, OHG *irblīhhan*) with zero-grade root and expressive gemination? or from some such noun as OHG *blik* ‘lightning’?

The inherited suffix *-isō- continued to be productive in Norse (cf. Meid 1967: 255) and in WGmc. Most of the examples reconstructable for PWGMc are denominative:

PGmc *rikiją ‘kingdom’ (Goth. *reiki*, ON *ríki*) > PWGMc *rikī (OE *rice*, OF *rike*, OS *riki*, OHG *rihhi*) → *rikisōn ‘to rule’ >→ OE *ricsian*, OHG *rihhisōn*;

PNWGMc *grimmaz ‘grim, angry’ (ON *grimmr*) > PWGMc *grimm (OE, OF, OS, OHG *grim*) → *grimmisōn ‘to rage’ >→ OE *grimsian*, OHG *grimmisōn*;

PNWGMc *diurijaz ‘valuable’ (ON *dýrr*) > PWGMc *diurī (OE *diere*, OF *diüre*, OS *diuri*, OHG *tiuri*) → *diurisōn ‘to consider valuable; to praise, to extol’ >→ OE *diersian*, OHG *tiurisōn*;

PWGMc *gīd ‘greed, avarice’ (OHG *gīt*) → *gīdisōn ‘to be greedy for, to covet’ >→ OE *gītsian*, MHG *gītesen*.

One is certainly deverbative, and another might be:

PNWGMc *hwīnana (ON *hvína*, OE *hwīnan*) → PWGMc *hwīnisōn ‘to whine’ >→ OE *hwīnsian*, OHG *wīnisōn*;

PWGMc *hreuwan ‘to cause pain / regret’ (OE *hrēowan*, OS *hreuwan*, OHG *riuwan*) → *hriuwisōn > ‘to regret’ >→ OE *hrēowsian*, OHG *riuwisōn*; or is this derived from a deverbative noun, e.g. PWGMc *hreuwō ‘regret’ > OE *hrēow*, OHG *riuwa*?⁸

⁸ Hallander 1966: 352 derives this OE verb from a rare adjective *hrīewe ‘sorrowful’ (actually attested as *hrēow(e)*), but the pattern of attestations does not support that hypothesis.

Another is difficult to judge:

PWGmc *hailsōn ‘to prognosticate, to augur’ >→ OE *hālsian* ~ *hælsian* ‘to augur, to invoke, to implore, to curse’, OHG *heilisōn* ‘to augur’.⁹

The inherited suffix *-inō- must have been productive in PWGmc, but it was not used to form verbs of typical action from nouns denoting human beings (vol. i 4.2.2, pp. 291–2). The WGmc examples seem to be transitive, e.g.:

PGmc *fastaz ‘fixed, fast’ (ON *fastr*) > PWGmc *fast (OE *fæst*, OF *fest*, OS, OHG *fast*) → PWGmc *fastinōn ‘to fasten securely, to make fast’ >→ OE *fæstnian*, OF *festnia*, OS *fastnon*, OHG *festinōn*;

PGmc *habja- ~ *habai- ‘to hold, to have’ (Goth. *haban*, ON *hafa*) > PWGmc *habja- ~ *habē- (OE *habban*, OF *hebbā*, OS *hebbian*, OHG *habēn*) → *habinōn ‘to handle’ >→ OE *hafenian* ‘to lift up’ (poet.), OF *haveria* ‘to handle, to put in order’, OHG *hebinōn*;

PWGmc *wīti ‘punishment’ (OE, OF *wīte*, OS *wīti*, OHG *wīzi*) → *wītinōn ‘to punish’ >→ OE *witnian*, OHG *wīzinōn*.

A handful of verbs with other suffixes can be reconstructed for PWGmc or PNWGmc, e.g.:

PGmc, PNWGmc *handuz ‘hand’ (Goth. *handus*, ON *hond*, etc.) → PNWGmc *handulōn (ON *hondla*) > PWGmc *handulōn >→ OE *handlian*, OHG *hantolōn*.

4.3.3 (ii) *West Germanic noun-forming suffixes* In vol. i 4.4.2 (i), p. 293, it was observed that abstract nouns in *-assu- were originally formed from verbs in *-ati- ~ *-atja- but became associated with the derivational bases of those verbs; thus *ebnatjaną ‘to level’ → *ebnassus ‘levelling’ → ‘levelness’ (: *ebnaz ‘level’). In Gothic they were formed to verbs in *-inon*, e.g. *hors* ‘adulterer’ → *horinon* ‘commit adultery’ → *horinassus* ‘adultery’; the result was a suffix complex *-inassu-* which could be associated with the derivational bases of the verbs. Something similar must have happened in the prehistory of WGmc. A related suffix *-nVssi is reconstructable for PWGmc; though the vowel of its first syllable varies from dialect to dialect, its stem vowel is likely to have been *-ī in the nom. sg., given that it is inflected as a fem. jō-stem in OE (Campbell 1962: 239), as an in-stem (less often as a jō-stem) in OS (Gallée 1993: 205, 207), and as a ja-stem in OHG (Braune and Reiffenstein 2004: 192; ja-stems with heavy root syllables ended in *-ī in the nom. sg. in PWGmc, section 3.1.2). It does not seem possible to reconstruct the pre-PWGmc development

⁹ The meaning of ON *heilsa* ‘to greet’ suggests that it might be an independent formation (pace Hallander 1966: 178); I also think that Hallander’s reconstruction of a PGmc z-stem noun as the derivational basis for this and several other verbs is too speculative.

of this suffix in detail, though its etymological descent from PGmc *-assu- by a process similar to what happened in Gothic is clear enough. Examples derived from verbs, adjectives, and nouns are quotable from various WGmc languages (Meid 1967: 160–1), but those derived from adjectives have become the majority. It is so productive in all the WGmc languages that most examples can be creations of the individual languages; one that is plausibly reconstructable for PWGmc is the following:

PGmc *galikaz ‘similar’ (Goth. *galeiks*, ON *líkr*) > PWGmc *galik (OE *ġelīc*, OF *lik*, OS *gīlik*, OHG *gīlih*) → PWGmc *galikanassi ‘similarity, image’ > OE *ġelicnes*, OS, OHG *gīliknessi* (accented like a compound—note the syncope in OHG).

The descendant of this suffix, ModE *-ness*, is still the most productive way of forming nouns from adjectives after more than a millennium and a half of further development.

A number of nouns that were widely used as the second members of compounds eventually developed into noun- or adjective-forming suffixes. For the most part that development occurred in the individual histories of the languages (Meid 1967: 218–29), but in at least one case it could have begun in the PWGmc period, as follows.

From PGmc *skapjanaǵ ‘to shape, to fashion’ was derived a noun *skapiz meaning ‘shape, form, condition’ (Seebold 1970: 407). Since its meaning was already very general, compounds made with it could easily be reanalyzed as suffixed nouns and their second member extracted as a noun-forming suffix. A surprisingly large number of examples are shared by several WGmc languages and could have been inherited from PWGmc, or even in some cases from PNWGmc:¹⁰

PNWGmc *winiskapiz ‘friendship’ > ON *viniskapr*, OE *winescipe*, OHG *winiscapf*;
 PNWGmc *fijand(V)skapiz ‘enmity, hostility’ > ON *fjándskapr*, OE *fīondscīpe*, OS *fiundskepi*, OHG *fiantscapf*;

PNWGmc *budaskapiz ‘message, ordinance, command’ > ON *boðskapr*, PWGmc *bodaskapi > OE *bodscīpe*, OS *bodskepi*, OHG *botascaf*;

PWGmc *friund(V)skapi ‘friendship’ > OE *friondscīpe*, OS *friundskepi*, OHG *friuntscaf*;

PWGmc *gasinþaskapi ‘following, fellowship’ > OE *ġesīþscīpe*, OS *gisiðskepi*, OHG *gisindscaf*;

PWGmc *gamainiskapi ‘community’ > OE *ġemānscīpe*, OHG *gimeinscaf*.

To judge from the syncope of vowels between heavy root syllables and this suffix in OHG, derivatives of this type were still accented like compounds.

¹⁰ See Meid 1967: 221 on the gradual replacement of *-scapf* by *-scaft* in High German.

4.3.4 Loanwords in Proto-West Germanic

The vast majority of early loanwords in the dialects of WGmc were borrowed from Latin. It was observed in vol. i 4.6, p. 296, that very few Latin loans are unarguably attributable to PGmc, but that the daughter languages (except Norse) exhibit a large number. Determining when and how each lexical borrowing took place is not easy, because both Gothic and most dialects of WGmc were in contact with Latin for centuries. Moreover, given that PWGmc was probably a cluster of mutually intelligible dialects already at the time when it became distinguishable from Norse, we need to consider carefully what ‘borrowing into PWGmc’ (as opposed to borrowing into one or two dialects of a slowly diversifying PWGmc) could mean in real-world terms. I propose that lexemes borrowed into all or most of the identifiable WGmc dialects at a time when they were still mutually intelligible were ‘borrowed into PWGmc’.

How we can determine which attested loanwords are plausible candidates for borrowing into PWGmc is a separate but equally important question. Fortunately the northernmost and southernmost dialects of WGmc—that is, Old English and Old High German—are the best attested; a loanword which appears in both those languages and could have been borrowed early is a likely candidate for PWGmc borrowing. In practice, I propose that loanwords COULD BE PWGmc borrowings if (1) they appear both in OE and OHG AND (2) their meanings in those languages are (or could once have been) identical AND (3) the shared meaning is not historically anachronistic for the probable date of PWGmc (not later than about AD 400, probably considerably earlier) AND (4) a PWGmc shape can be reconstructed from the attested words by undoing all and only the relevant regular sound changes and morphological changes known to have occurred in those languages. By way of illustration, here are a few examples that CANNOT be loanwords of PWGmc date. OE *pic*, OHG *peh* ‘pitch’ (both neut. a-stems) are obviously borrowed from Lat. *pix*, stem *pic-* (fem.); the meanings and the shift in gender and stem class match, the root-final consonant matches, and the vowel could match (see 2.3.1 (ii)). But the initial consonants do not match: if the OHG word had developed from PWGmc, it should have had an initial *pf-*. Therefore this is not a loan of PWGmc date; it must have been borrowed later into two or more already diversified WGmc dialects (though further borrowing within the WGmc dialect continuum might conceivably have occurred). The same applies to OE *copor*, OHG *kupfar* ‘copper’ (both neut. a-stems), borrowed from Lat. *cuprum*; in this case it is the first vowel and the medial consonant that do not match. A slightly different case is OE *āspendan* ‘to spend, to consume’ and

OHG *spētōn* ‘to distribute, to contribute’, both borrowed from Lat. *expendere* ‘to weigh out’. The only possible PWGmc source for the sequence *-eNC-* in either language is **-aNCi(j)-*, with i-umlaut of **a* to *e* (see 6.6.2 below); but the root syllable of the WGmc words was obviously intended to match Lat. *-spend-*, with *e*, as closely as possible. It follows that the words were borrowed after i-umlaut had occurred in both languages, and since that was a post-PWGmc sound change, the borrowings must have been separate. The differences in meaning and in stem class confirm that. Finally, there is the case of OE *seġnian*, OHG *seġanōn* ‘to bless, to mark with the sign of the cross’. Here everything matches: we could reconstruct a PWGmc **seġnōn*, borrowed from Lat. *signāre*, specifically from a dialect of Latin in which *i* and *ē* had already merged as higher mid **/e/* (a known Romance sound change). But most speakers of any dialect of PWGmc must still have been polytheists, since there was no concerted effort to evangelize any WGmc tribe before the 5th century (see especially Fletcher 1997); though they seem to have learned a few technical terms of Christian religion (see below), we can reasonably doubt that any Christian ritual practice was widely known. Thus this word too was probably a later borrowing—unless its meaning at the time of borrowing was somewhat different, which is of course possible (as Alfred Bammesberger reminds me). Scores of other examples can be weeded out by the lines of reasoning employed here.

But when all the loanwords which (probably) could not have been borrowed within the PWGmc period have been discarded, there remains a substantial list of lexemes that are potential PWGmc loanwords. The remainder of this section will list and briefly discuss some of them; it is not exhaustive, though I think I have found most of the interesting examples.

Only one word appears to have been borrowed into PWGmc directly from Greek (Feulner 2000:185–8):

Gk κῦριακόν¹¹ ‘the Lord’s (house)’ → PWGmc **kirikā* (fem. n-stem) > OE *ċiriċe*,
OF *zerke*, OS *kirika*, OHG *kirihha*.

Since this word never became current in Latin, it must have been borrowed directly from Greek; more than that cannot be said with any certainty. Three other PWGmc loanwords are of Greek origin but were almost certainly borrowed from Latin:

¹¹ The PWGmc rendering of the first vowel suggests that vowel length had been lost in the dialect of Greek from which the word was borrowed, but the phonological rendering is so approximate overall that it would be unwise to use it as a basis for further arguments.

- Lat. *angelus* ‘angel’ → PWGmc **angil* (masc. a-stem) > OE *enġel*, OF *engel*, OS, OHG *engil* (cf. Goth. *aggilus*);
 Lat. *diabolus* ‘devil’ → PWGmc **diubul* (masc. a-stem) > OE *dīofol*, OF *diōvel*, OS *diūbal*, OHG *tiubil* ~ *tiufal* (cf. Goth. *diabaiulus*);
 Lat. *Graeci* ‘Greeks’ → PWGmc **Krēkō* (masc. a-stem pl.) >→ OE *Crēcas*, OHG *Kriehha* (cf. Goth. *Krekos*).

It is possible that these three words were borrowed through Gothic or some other East Germanic language. The *-f* in OHG ‘devil’ does not fit, but it can plausibly be ascribed to folk etymology connecting the word with *tiof* ‘deep’. ‘Greeks’ must have been borrowed at a period when initial **g-* was [ɣ], since that best explains the rendering of Latin /*g*/ with **k*; note that the loan must postdate the PNWGmc lowering of PGmc **ē* to **ā* (which is not surprising).

All the loanwords discussed so far are nouns, and that is typical of probable Latin loans in PWGmc. The following seem worth mentioning. (The Latin forms and meanings given are often post-Classical, as might be expected.)

- Lat. *asellus* ‘donkey’ (dimin.) → PWGmc **asil* (masc. a-stem) > OE *esol*, OS, OHG *esil* (cf. Goth. *asilus*, which might be the immediate source of the loan);
 Lat. *campus* ‘field, battlefield’ → PWGmc **kamp* ‘battle’ (masc. a-stem) > OE *camp*, OHG *kampf*;
 Lat. *campiō* ‘combat soldier’ → PWGmc **kampijō* (masc. n-stem) > OE *cempa*, OS *kempio*, OHG *kempfo*;
 Lat. *cāseus* ‘cheese’ → PWGmc **kāsi* (masc. ja-stem) > Angl. and Kent. OE *ċese*, WS **ċiese* > *ċyse*, OS *kēsi*, OHG *kāsi*;
 Lat. *clēricus* ‘cleric’ → PWGmc **klirik* (masc. a-stem) > OE *clīroc*, OHG *klīrih*;
 Lat. *coquīna* ‘kitchen’ → PWGmc **kukinā* (fem. n-stem) > OE *cyċene*, OHG *kuhhina*;
 Lat. *discus* ‘disc, plate’ → PWGmc **disk* ‘dish’ (masc. a-stem) > OE *disc*, OS *disc*, OHG *tisc*, the latter two ‘dish, table’ (the latter meaning can have developed within the separate history of the languages);
 Lat. *gemma* ‘bud, gem’ → PWGmc **gimmu* ‘gem’ (fem. *ō*-stem) > OE *ġimm* (masc. a-stem), OHG *gimma*;
 Lat. *lābellum* ‘washbasin’ → PWGmc **labal* (masc. a-stem) > OE *læfel*, OHG *labal*;
 Lat. *mentha* ‘mint’ → PWGmc **mintā* (fem. n-stem) > OE *minte*, OS *mintā*, OHG *minza*;
 Lat. *mīlia passuum* ‘thousands of paces, miles’ → PWGmc **mīliju* ‘mile’ (fem. *jō*-stem) > OE *mīl*, OHG *mīla*; the shift from neut. pl. to fem. sg. could have occurred already in the dialect of Latin from which the word was borrowed;
 Lat. *modius* ‘bushel’ → PWGmc **mudi*, **mud¹d¹* (masc. ja-stem) >→ OE *mydd*, OHG *mutti*;
 Lat. *monēta* ‘coin’ → PWGmc **munit* (a-stem) > OE *mynet* (neut. a-stem), OHG *muniz* (masc. a-stem), *munizza* (fem. *ō*-stem, possibly adjusted subsequently to approximate the Latin form more closely);

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- Lat. *prūna* ‘plums’ → PWGmc **plūmā* ‘plum’ (fem. n-stem) > OE *plūme*, OHG *pflūma*; shift of gender and number as in ‘mile’ above; the deformation of the root syllable suggests borrowing in or near southern Gaul (see the *OED* online s.v. *plum* n. and adj.²; borrowing from Greek, Kluge and Seebold 1995 s.v. *Pflaume*, is unlikely, see Feulner 2000: 408–10);
- Lat. *puteus* ‘well’ → PWGmc **puti*, **putⁱt^j*- (masc. ja-stem) > OE *pytt* ‘well, pit’, OF *pett*, OHG *pfuzzi*;
- Lat. *tribūtum* ‘tribute’ → PWGmc **tribut* (masc. a-stem) > OE *trifot*, OHG *tribu3*;
- Lat. *via strāta* ‘paved road’ → PWGmc **strātu* ‘Roman road’ (fem. *ō*-stem) > OE *stræt*, OF *strēte*, OS *strāta*, OHG *strāza*;
- Lat. *vīnum* ‘wine’ → PWGmc **wīn* (neut. a-stem) > OE, OF, OS, OHG *wīn* (neut. in OE, masc. in OF and OHG, variable in OS).

Two nouns might have been borrowed during the period of PNWGmc dialectal unity. One is a late Latin word which often denoted a military banner:

- Lat. *dracō* ‘dragon’ → PNWGmc **drakō* (n-stem; ON *dreki*) > PWGmc **drakō* > OE *draca*, OHG *trahho*.

The *e* of the ON form can only have developed in the nom. sg. by palatal umlaut, triggered by the following sequence of a velar plus a front vowel (Noreen 1923: 67–8). The other example is a title (or possibly, from an early Germanic point of view, a name):

- Lat. *Caesar* → PNWGmc (?) **kaisaraz* (ON *Kjárr*)¹² > PWGmc **kaisar* ‘emperor’ > OS *kēsar*, OHG *keisar*; OE *cāser* has been remodelled with the common suffix *-ere* (see below; cf. also Goth. *kaisar*, borrowed independently).

This word too exemplifies an unusual ON sound change. However, it is not clear whether PNWGmc existed late enough for these loans to be possible; borrowing into ON from an early dialect of PWGmc seems at least as likely. Of course such a scenario is most plausible if WGmc and NGmc had not diverged beyond the point of at least partial mutual intelligibility.

The items listed above show that Latin loans were adapted to PWGmc phonology in various ways; as is typical for loanwords, the adaptations are not

¹² This name occurs at least twice in the Elder Edda. *Völundarkviða* 15.3–4 reads *kunn var Qlrún, Kjárs dóttir* ‘(well-)known was Qlrún, Kjár’s daughter’; the second halfline is one syllable too short as transmitted and scans only if *Kjárs* is read as **Keiars* (disyllabic, with a heavy first syllable). In the accompanying prose Qlrún is said to be *af Vallandi* ‘from Walh-land’, i.e. a country where a non-Germanic language was spoken. *Atlakviða* 7.9–10 reads *hjalm ok skjöld hvítastan kominn ór holl Kjárs* ‘helm and whitest shield come from the emperor’s court’; again disyllabic **Keiars* must be read, since the alliterating stress of the halfline is on *holl*, which must therefore be followed by two syllables, and in this case a translation ‘emperor’ is strongly suggested by the context. I am grateful to Patrick Stiles for alerting me to several attestations of this word and for helpful discussion of its meaning.

fully consistent with one another. The gender of Latin nouns was usually preserved, and most nouns were assigned to inflectional classes that more or less corresponded to those of Latin: second-declension nouns to the a-stems, third-declension nouns with stems in *-n-* to the n-stems. There was some hesitation over first-declension nouns (all feminine): some were assigned to the *ō*-stems, others to the n-stems. Departures from this system usually involve a shift into the masculine a-stems. That is interesting, because it might indicate that the masculine gender was the default gender in PWGmc; there are clear indications that that was true in OE.

At least two Latin adjectives might have been borrowed into PWGmc:

Lat. *sēcūrus* ‘without worry, tranquil, secure’ → PWGmc *sikur > OE *sicor* ‘secure, certain’, OF *sikur*, OS *sikor* ‘secure, protected from’, OHG *sihhur*;

Lat. *sōbrius* ‘sober’ → PWGmc *sūbrī ‘sober, chaste, clean’ > OE *sýfre*, OS *sūbri* ‘clean’, OHG *sūbiri* ‘clean’.

There are few verbs that could have been borrowed as early as PWGmc, but those few are unusually interesting. One is the only Germanic strong verb likely to have been borrowed from a non-Germanic language:

Lat. *scribere* ‘to write’ → PWGmc. *skriban (strong class I: past 3sg. *skraib, 3pl. *skribun, past ptc. *skriban) > OE *scrīfan* ‘to prescribe’, OF *skriva*, OS *skriban*, OHG *skriban*.

The shift in meaning in OE can plausibly be ascribed to the fact that *writan ‘to scratch, to engrave’ became the usual verb meaning ‘write’ (a process apparently begun but not completed in the other WGmc languages; see Seebold 1970: 566–7). Though assignment of a loanword to the strong verbs is certainly noteworthy, it does not necessarily follow that strong verbs were a fully productive class at the time, given that sporadic instances of change from weak to strong inflection are attested throughout the recorded history of English.

The other borrowed verbs are weak, as expected:

Lat. *dictāre* ‘to dictate’ → PWGmc *dihtijan ‘to compose, to arrange, to order’ (weak class I) > OE *dihtan*, OF *dichta* ‘to compose’, OHG *tihten* ‘to order’ and (with shift into weak class II) *tihtōn* ‘to compose, to dedicate, to prescribe’;

Lat. *saltāre* ‘to dance’ → PWGmc *saltōn (weak class II) >→ OE *sealtian*, OHG *salzōn*;

Lat. *imputāre* ‘to graft’ → PWGmc *impōn (weak class II) >→ OE *impian*, OHG *impfōn*; OHG *impitōn* is either a reborrowing or an adjustment to the Latin form.

The remodelling of the last verb is surprising, but there is no doubt that it was borrowed from Latin; *p* is a rare consonant in native words in all Germanic languages, and the probability that a verb of this meaning might happen to begin with a sequence *imp-* by chance is therefore low.

Finally, mention should be made of a PWGmc noun-forming suffix *-āri, which clearly reflects Lat. *-ārius* (independently borrowed into Gothic as *-āreis*). Like foreign affixes in other languages (ModE *-able*, ModHG *-ieren*, etc.), the Latin suffix was not borrowed by itself; words containing it were borrowed, the words from which they were derived in Latin were also borrowed, and eventually native learners extracted *-āri from those pairs and began to use it productively (Meid 1967: 81–2). For instance, just as Lat. *monēta* ‘coin’ was borrowed as *munit (see above), *monētārius* ‘minter, moneychanger’ was borrowed as *munitāri (OE *myneterē*, OS *muniteri*, OHG *muniȝāri*; Meid 1967: 81–2); the suffix *-āri could then be extracted. In early WGmc languages it is usually added to noun stems and normally indicates a profession, closely mirroring its function in Latin; a typical early example is *bōkāri ‘scribe’ (OE *bōcere*, OHG *buohhāri*; cf. also Goth. *bokareis*). The extraordinary productivity of this suffix is largely a parallel development of the individual languages.

5

The northern West Germanic dialects

We have seen that PWGmc, though clearly a single language for some generations during which important changes occurred, was probably never completely uniform. In that context we have already examined some changes characteristic of the northern dialects, sometimes referred to as ‘Ingvaenic’:

- *u rather than *o in some phonological environments (2.3.1 (i));
- spread of the ending *-um from the dat. pl. of nouns to the dat. pl. and masc./neut. dat. sg. of adjectives (2.3.2);
- an increase in the number of strong class II presents with *ū (2.3.2);
- *-aw- rather than *-iw- in u-stem noun endings (3.1.4);
- loss of word-final *-z in monosyllables with compensatory lengthening (3.3.1);
- new weak class I pasts and past participles with *-ht- (3.3.2).

This chapter will describe several other innovations of the northern dialects, some of which had a major impact on the grammar. It will be seen that whereas the dialects ancestral to Old English and Old Frisian participated fully in most of these changes, those ancestral to Old Saxon exhibit a more ambiguous development. This pattern of innovations has been examined in detail by many earlier scholars. For a summary with extensive bibliography see Nielsen 1985: 103–54, 2001; for further details and discussion of the phonological changes see Luick 1914–40: 103, 110–11, 122–30, 276–7, Campbell 1962: 47, 50–4, 140–1, Hogg 1992: 61–3, 77–8, 80–4 [2011: 60–2, 75–6, 78–82].

5.1 Northern West Germanic sound changes

5.1.1 *Two changes fully shared by Old Saxon*

The most obvious phonological innovation of the northern dialects is the loss of nasals immediately preceding fricatives, with lengthening and nasalization of the preceding vowel. This innovation was fully shared by OS. There are thirty-odd examples:

- PGmc *fimf ‘five’ (Goth. *fimf*, ON *fimm*, OHG *fimf* ~ *finf*) > *f₁f > OE, OF, OS *fif*;
 PGmc *hamfaz ‘one-handed, with a mutilated hand’ (Goth. *hamfs*, OHG *hamf*) > *hāf > OS *hāf*;
 PWGmc *samft / *samfti ‘soft, gentle’ (OHG *samft* ~ *semfti* ‘easy’) > *sāft / *sāfti > OE *sōft* ~ *sēfte*, OS adv. *sāftor* ‘more easily’; it appears that either the derived adverb in *-ō or the comparative and superlative in *-izan-, *-ist have influenced the basic adjective, so that its original stem class is no longer clear;
 PGmc *anþeraz ‘other’ (Goth. *anþar*, ON *annarr*, OHG *andar*) > *āþar > OE *ōþer*, OF *ōther*, OS *ōðar* (occasionally *āðar*, rarely *andar*);
 PGmc *tanþ- ‘tooth’ (ON *tōnn*, OHG *zan(d)*; cf. Goth. *tunþus* with analogical zero grade) > *tāþ > OE *tōþ*, OF *tōth* (but OS dat. pl. *tandon* is non-Ingvaemonic);
 PGmc *sanþ- ‘true’ (ON *sannr* ~ *saðr*) > *sāþ > OE *sōþ*, OF *sōth* ‘to which one is entitled’, OS *sōð*;
 PGmc *nanþijana ‘to be bold’ (Goth. *ana-nanþjan* ‘to take courage’, ON *nenna* ‘to have a mind to, to intend to’, OHG *nenden* ‘to apply oneself, to have courage’) > *nāþijan > OE *nēþan* ‘to venture, to risk’, OF *bi-nētha* ‘to venture’, OS *nāðian* ‘to strive’;
 PGmc *swinþaz ‘strong’ (Goth. *swinþs*, ON *svinnr* ~ *sviðr* ‘quick’) > *sw₁þ > OE *swīþ*, OS *swīð(i)*; OF adv. *swīthe*;
 PGmc *sinþaz ‘going, journey’ (Goth. *sinþs*, ON *sinn*, both ‘time, Mal, fois’) > *s₁þ > OE *sīþ*, OS *sīð*;
 PGmc *finþana ‘to find’ (Goth. *finþan*, ON *finna*, OHG *findan*) > *f₁þan > OS *fiðan* (beside *findan* with voiced VL alternant levelled, cf. OE *findan*, OF *finda*);
 PGmc *munþaz ‘mouth’ (Goth. *munþs*, ON *munnr* ~ *muðr*, OHG *mund*) > *mūþ > OE *mūþ*, OF *mūth*, OS *mūð* (occasionally non-Ingvaemonic *mund*);
 PGmc *kunþē ‘(s)he recognized, (s)he knew how’, *kunþaz ‘known’ (Goth. *kunþa*, *kunþs*, ON *kunni*, *kunnr* ~ *kuðr*, OHG *konda*, *kund*) > *kūþē, *kūþ > OE *cūþe*, *cūþ*, OF *-kūth*, OS *kūð* (but the OS past has been remodelled as *konste*);
 PGmc *kunþijana ‘to make known’ (OHG *kunden*; cf. Goth. *ga-swikunþjan* ‘to reveal’) > *kūþijan > OE *cūþan*, OF *kētha*, OS *kūðian*;
 PGmc *unþē ‘(s)he granted’ (ON *unni* ‘(s)he loved’, OHG *onda*) > *ūþē > OE *ūþe* (OS *gi-onsta* remodelled);
 PGmc *gunþiz ‘battle’ (ON *gunnr* ~ *guðr*, OHG *gund-*) > *gūþi > OE *gūþ*, *-gūþ*; *gūð-* in the *Hildebrandslied* (OS?);
 PGmc *hunþ- ‘capture, thing captured’ (cf. Goth. acc. *hunþ* ‘captives’ (collective)) in PWGmc. *hunþu ‘plunder’ (OHG *heri-hunda*) > *hūþu > OE *hūþ*;
 PGmc pres. indic. 3pl. *-anþi (see 5.2 below) > *-āþ > OE *-aþ*, OF *-ath*, OS *-að*;
 PNWGmc *minþlā ‘bit (of a horse’s bridle)’ (ON *mél*, OHG *mindil*) > *m₁þl > OE *mīþl*;
 PNWGmc *stinþaz ‘stiff’ (ON *stinnr* ~ *stiðr*) > *st₁þ > OE *stīþ*, OF *stīth*;
 PNWGmc *unþiz ‘wave’ (ON *unnr* ~ *uðr*, OHG *unda*) > *ūþi > OE *ýþ*, OS *ūðea* (all the WGmc forms have been shifted into the *ō*-stems);

- PNWGmc *sunþan- ‘from the south’, *sunþraz and *sunþrōnijaz ‘southern’ (ON *sunnan*, *suðr*, *suðrænn*, OHG *sundan*, *sundar*, *sundrōni*) > *sūþan, *sūþr, *sūþrōnī > OE *sūþan*, *sūþerne*, OF *sūther*, OS *sūðan*, *sūðar*–;
- PWGmc *fanþijō ‘traveller on foot’ (OHG *fuoꝝ-fendo*), *fanþi ‘walking, gait’ > *fāþijō, *fāþi > OE *fēþa* ‘footsoldier’, *fēþe*, OS *fāði* ~ *fōði*;
- PWGmc *linþi ‘gentle’ (OHG *lind(i)*) > *līþi > OE *līþe*, OS *līði*;
- PWGmc *hrinþ, *hrinþiz- ‘head of cattle’ (OHG *rind*) > *hrīþ, *hrīþir- > OE *hrīþer*, OF *hrīther*, OS *hrīð*;
- PWGmc *jugunþi ‘youth’ (OHG *jugund*) > *jugūþ > OE *geogub* ~ *iugub*, OF *jogethe*, OS *jugud*;
- PGmc *anstiz ‘favor’ (Goth. *anstis*, ON *ást* ‘love’, OHG *anst*) > *āsti > OE *ēst* (but OS *anst* either is non-Ingvaenic or has been remodelled);
- PGmc *hansō ‘company, crowd’ (Goth., OHG *hansa*) > *hāsu > OE *hōs*;
- PGmc *gans ‘goose’ (ON *gás*, OHG *gans*) > *gās > OE *gōs*;
- PGmc *ansuz ‘(pagan) god’ (ON *áss*, *ós*–, OHG *ans*–) > *āsu > OE *ōs*;
- PGmc *uns ‘us’ (Goth. *uns*, ON *oss*, OHG *uns*) > *ūs > OE, OF, OS *ūs*;
- PGmc *funsaz ‘ready, eager’ (ON *fúss*, OHG *funs*) > *fūs > OE, OS *fūs*;
- PGmc *hunslą ‘sacrifice’ (Goth. *hunsł*) > *hūsl > OE *hūsl* ‘eucharist’;
- PWGmc *unsti ‘storm’ (OHG *unst* in glosses) > *ūsti > OE *ȳst*, OS *ūst*;
- PWGmc. *amslā ‘blackbird’ (OHG *amsla*) > *āslā > OE *ōsle*.

A few other examples that are less straightforward can also be cited. The occasional OS counterexamples are almost certainly due to OHG influence (in effect, dialect borrowing). The rule resulting from this sound change should have been subphonemic until the loss of nasalization in the separate prehistories of the daughters, but the fact that many lexemes exhibited nasalized long vowels with no alternation could have led some native learners to posit those vowels as underlying (see the discussion in 6.3.2).

It appears that PWGmc *e was raised to *i in the northern dialects before *m; in principle this was a merger, though the only example of inherited stressed *im that comes to mind is dat.-inst. pl. *þrim ‘three’. Examples of the change are naturally few:

- PWGmc *neman ‘to take’ (OHG *neman*; cf. ON *nema*) > OE *niman*, OF *nima* ~ *nema*, OS *niman* (occasionally *neman*);
- PWGmc *kweman ‘to come’ (OHG *queman*) > *kwiman > *kuman > OE *cuman*, OF *kuma* ~ *koma*, OS *kuman*.

Whether the shift *wi > *u suggested here could be a regular sound change is difficult to determine, as possible parallels and possible counterexamples are both rare. There might be an alternative source for the *u. While the pres. indic. of ‘come’ clearly reflects a PIE aorist subjunctive (see vol. i 3.3.1 (ii), p. 160 with references), the pres. subj. might reflect a PIE optative with a

zero-grade root (Bammesberger 1982: 414 with references); the OE form *cyme*, *-en*, which is regular in *Ps(A)*, suggests as much.¹ It does not seem impossible that a stem **kum-* originally restricted to the subjunctive was generalized to the entire present. It can be seen that these developments, too, were shared by OS. (For a different assessment see Nielsen 1985: 129–30.)

5.1.2 *Nasalization, fronting, and related changes*

Stressed low vowels were nasalized when immediately followed by a nasal in the northern WGmc dialects; unstressed **a* was apparently nasalized when immediately followed by a nasal in the syllable coda, but not when immediately followed by an intervocalic nasal. This must have amounted to more than the automatic nasalization typical of vowels in contact with nasal consonants; the subsequent development of these nasalized vowels shows that native learners had reanalyzed their nasalization as distinctive, either underlying or the output of a categorical phonological rule. They might have been prompted to do so by the existence of *non-alternating* nasalized vowels before fricatives (see the preceding section and immediately below), since native learners tend to project non-alternating sounds into underlying forms even when they are in complementary distribution with other, similar sounds (see Ringe and Eska 2013: 91–2). These subtle developments can be recognized only because they fed further changes, as follows.

Nasalized low vowels were eventually rounded when stressed; the rounding was a parallel development of the diverging northern dialects, but I discuss it here because it is the only evidence that the vowels had been nasalized. Rounding affected not only the nasalized low vowels discussed below, but also those in the list at the beginning of 5.1.1 and the examples of **/anh/ = *[\̃aːx]* inherited from PGmc (vol. i 3.2.7 (ii), pp. 149–50). Examples of **[\̃aːx]* are fairly few:

PGmc **hanhana* (**[h̃aːxaña]*) ‘to hang’ (Goth. *hāhan* ‘to suspend (judgment)’, OS *hāhan* ‘to crucify’, OHG *hāhan*) > OE **hōhan* > *hōn*, OF *hwā*;

PGmc **fanhana* (**[f̃aːxaña]*) ‘to catch, to seize’ (Goth., OS, OHG *fāhan*, ON *fá*) > OE **fōhan* > *fōn*, OF *fā*;

PGmc **branh̃tē* (**[br̃aːxteː]*) ‘(s)he brought’ (Goth., OS, OHG *brāhta*) > OE, OF *brōhte*;

PGmc **þanh̃tē* (**[θ̃aːxteː]*) ‘(s)he thought’ > (Goth. *þāhta*, OS *thāhte*, OHG *dāhta*) > OE *þōhte*, OF *thōgte*;

PGmc **wanh̃az* (**[w̃aːxaz]*) ‘crooked’ (cf. Goth. *unwāhs* ‘blameless’) > OE *wōh*;

¹ I am grateful to Ronald Kim for calling this to my attention.

- PGmc *þanhōn- (*[θã:xo:n-]) ‘clay’ (Goth. *þāho*, OHG *dāha*) > OE *thōhæ* > *þō*; cf. OS *thāhīn* ‘made of clay’;
 PNWGmc *þranhaz (*[θrã:xaz]) ‘stinking’ (cf. ON *líkþrá* ‘leprosy’) > OE *þrōh*;
 PNWGmc *hanhaz (*[hã:xaz]) ‘heel’, dimin. (?) *hanhil- (ON *hæll* ‘heel’) > OE *hōh*, OE, OF *hēla*, all ‘heel’;
 PWGmc *anhstu (*[ã:xstu]) ‘persecution’ (OHG *āhta*) > OE *ōht*, OF *achta*;
 PWGmc *tanhu (*[tã:x(u)]) ‘tough’ (OHG *zāh*) > OE *tōh*.

For examples of nasalized *ā (= *[ã:]) that developed before other fricatives see the list in 5.1.1. Examples of inherited stressed *ā (< PGmc *ē) that were nasalized before nasal consonants are also fairly few:

- PGmc *k^wēmum ‘they came’ (Goth. *qemun*) > PNWGmc *k^wāmum (ON *kvámu*, OS, OHG *quāmun*) > *kwāmum > OE *c(w)ōmon*, OF *kōmon*;
 PGmc *nēmum ‘they took’ (Goth. *nemun*) > PNWGmc *nāmum (ON *námu*, OS, OHG *nāmun*) > *nāmum > OE, OF *nōmon*;
 PGmc *mēnō ‘moon’, *mēnōþ- ‘month’ (Goth. *mena*, *menōþs*) > PNWGmc *mānō, *mānōþ- (ON *máni* (poet.), *mánaðr*, OS *māno*, *mānuð*, OHG *māno*, *mānōd*) > *mānō, *mānōþ > OE *mōna*, *mōnaþ*, OF *mōna*, *mōnath*;
 PGmc *dēnaz ‘done’ (probably, see the corrigenda to vol. i) > PWGmc *dān (OHG *gitān*) > *dān > OE *dōn*;
 PGmc *wēniz ‘hope, expectation’ (Goth. *wens*) > PNWGmc *wāniz (ON *ván*, OS, OHG *wān*) > *wāni > North. OE *wāen*, WS *wēn*, OF *wēn* ‘opinion, suspicion’;
 PGmc *wēnijana ‘to expect, to hope’ (Goth. *wenjan*) > PNWGmc *wānijana (ON *væna*, OS *wānian*, OHG *wānen*) > *wānijān > North. OE *wāena*, WS *wēnan*, OF *wēna* ‘to think, to believe’;
 PGmc *k^wēniz ‘woman, wife’ (Goth. *qens* ‘wife’, ON *kvæn* ‘woman’ (poetic)) > PNWGmc *k^wāniz (OS *quān*) > *kwāni > Engl. OE *cwāen*, WS *cwēn*;
 PNWGmc *spānuz ‘wood-chip, shaving’ (ON *spánn*, OHG *spān*) > *spānu > OE, OF *spōn*;
 PNWGmc *glāmaz ‘faint light’ (ON *glámr* ‘moon’ (poet.)) > *glām > OE *glōm* ‘twilight’;
 PNWGmc *āmōn- ‘erysipelas’ (ON *ámu-sótt*) > *āmVn- > OE *ōman* (pl. tantum);
 PNWGmc *k^wāmiz ‘coming readily’ (cf. ON *hald-kvæmr* ‘convenient’, *hug-kvæmr* ‘ingenious’, OHG *bi-quāmi* ‘acceptable’) > *gakwāmi > North. OE *gēcwāeme*, WS *gēcwēme* ‘pleasant’;
 PWGmc *sān(ō) ‘immediately’ (OS *sān(o)*) > *sān(ō) > OE *sōna*, OF *sōn*;
 PWGmc *jāmar ‘lamentation; sad’ (OS, OHG *jāmar* ‘lamentation’, OHG *jāmar* ‘sad’) > *jāmar > OE *gēōmor* ‘sad’;
 PWGmc *rāmē- ‘strive, seek after’ (OHG *rāmēn*) > *rāmōn > OS *rōmon*; OE *rōmigan* ‘possess’ (?; *GenB* 360, probably a translation from OS);
 PWGmc *rām ‘dirt’ (OHG *rām*) > *rām > *rōm in OE *rōmiġ* ‘sooty’;
 PWGmc *brām- (name of a prickly plant; OHG *brāma* ‘thornbush’) > *brām > OE *brōm* ‘broom’ (the plant); dimin. *brāmil > OE *brēmel* ‘briar, bramble’.

On the other hand, nasalized examples of stressed short *a are very numerous; the following are typical:

- PGmc *gaman ‘(s)he remembers’ (Goth. *gaman*, ON *man*) > *gamaŋ > OE *gēman* ~ *gēmon*;
- PGmc *band ‘(s)he tied’ (Goth. *ga-band*, ON *batt*, OS *band*, OHG *bant*) > *baŋd > OE *band* ~ *bond*, OF *band*;
- PGmc *wann ‘(s)he strove, (s)he struggled’ (ON *vann*, OS *wann*, OHG *wan*) > *waŋn > OE *wann* ~ *wonn*, OF *wan*;
- PGmc *sang^w ‘(s)he sang’ (ON *song*, OS, OHG *sang*) > *saŋg > OE *sang* ~ *song*, OF *sang*;
- PGmc *drank ‘(s)he drank’ (Goth. **dragk*, ON *drakk*, OS *drank*, OHG *trank*) > *draŋk > OE *dranc* ~ *dronc*;
- PGmc *mann- ‘human being’ (Goth. *manna*, ON *mannr* ~ *mǫðr*, OS *mann*, OHG *man*) > *maŋn > OE *mann* ~ *monn*, OF *mon*;
- PGmc *handuz ‘hand’ (Goth. *handus*, ON *hǫnd*, OS *hand*, OHG *hant*) > *haŋdu > OE *hand* ~ *hond*, OF *hond*;
- PGmc *langaz ‘long’ (Goth. *laggs*, ON *langr*, OS, OHG *lang*) > *laŋg > OE *lang* ~ *long*, OF *long*;
- PGmc *kambaz ‘comb’ (ON *kambr*, OHG *kamb*; cf. Gk γόμφος /gómph^hos/ ‘peg’) > *kaŋb > OE *camb* ~ *comb*;
- PGmc *managai ‘many’ (Goth. *managai*, OS, OHG *manage*) > *maŋagē > OE *manige* ~ *moniġe*, OF *monige*;
- PGmc *þanō ‘that’ (acc. sg. masc.) (Goth. *þana*) > *þaŋā > OE *þone*;
- PGmc *namō ‘name’ (Goth., OS, OHG *namo*) > *naŋmō > OE *nama* ~ *noma*, OF *noma*;
- PGmc *standana ‘to stand’ (Goth. *standan*, ON *standa*, OS *standan*, OHG *stantan*) > *staŋdan > OE *standan* ~ *stondan*, OF *stonda*;
- PGmc *brannijana ‘to burn (trans.)’ (Goth. *ga-brannjan*, ON *brenna*) > PWGmc *brannijan (OHG *brennen*) > *braŋnijān > OE *brænnan > *bærnan*, OF *brenna > *berna*;
- PGmc *anud- ‘duck’ (ON *ond*; cf. Lat. *anas*, *anat-*) >→ PWGmc. *anudi (OHG *anut*) > *aŋudi > OE *ænydi > *ænid* > *ened*;
- PGmc *landī ‘flank, loin’ (ON *lend*; cf. Lat. *lumbus*) >→ PWGmc. *landī(n) ‘loin, kidney’ > *laŋdī(n) in OE pl. *lændinu* > *lendenu*, OF *lenden*;
- PGmc adv. *langiz ‘longer’ (ON *lengr*) > PWGmc. *langi (OS *leng*) > *laŋgi > OE *leng*, OF *leng*;
- PNWGmc *swamm ‘(s)he swam’ (ON *svamm*, OHG *swam*) > *swaŋmm > OE *swam* ~ *swom*;
- PNWGmc *framjana ‘to further’ (ON *fremja*), pres. 3sg. *framīþi > PWGmc. *framⁱm’an, *framīþi ‘accomplish, do, make’ (OS *fremmian*, OHG *fremmen*, *fremit*) > *fraŋmⁱm’an, *fraŋmīþi > OE *fræmman, *fræmith* > *fremman*, *fremēþ*, OF *fremma*.

It can be seen that rounding of short low vowels was much less uniform. It is not usually noted in OS spelling, but there are a few examples (cf. Gallée 1993: 45–6, Klein 1977: 501). In OE rounding was a late prehistoric change (see 6.6.1), and the outcome fluctuated over time. For instance, it seems clear that early Mercian *a* ~ *o* developed into categorical *o* in the 9th-century western Mercian of *Ps(A)* (Toon 1983: 90, 96–114)—an outcome that persisted in the west midlands in Middle English (see vol. iii)—and a similar development seems to have occurred in Northumbrian (Toon 1983: 91–2). Spellings with *o* in other southern areas probably reflect Mercian influence (note especially the clear pattern in Kentish, Toon 1983: 93–6); some might be merely graphic, but it would be no surprise if rounding spread outwards from Mercia as a variable sound change (as Toon suggests). However, it was eventually suppressed in most of England south of the Humber; late WS exhibits *a* almost categorically (Brunner 1965: 52).

The nasalization of unstressed **a* is best discussed in connection with two other sound changes; I will therefore address it below. Before we turn to other sound changes, however, we should try to determine the extent to which the nasalization of low vowels was shared by all the northern dialects of WGmc. Since our only evidence for the nasalization is later rounding of the vowels, some guesswork is unavoidable, but it seems best at least to rehearse the pattern of facts. Here are the OE, OF, and OS members of the cognate sets containing nasalized long low vowels adduced in the preceding lists (omitting the 3pl. ending, on which see below):

	OE	OF	OS
‘to hang’	<i>hōn</i>	<i>hwā</i>	<i>hāhan</i>
‘to seize’	<i>fōn</i>	<i>fā</i>	<i>fāhan</i>
‘brought’	<i>brōhte</i>	<i>brōhte</i>	<i>brāhta</i>
‘thought’	<i>pōhte</i>	<i>thōgte</i>	<i>thāhte</i>
‘persecution’	<i>ōht</i>	<i>achta</i>	—
(other examples before * <i>h</i> are OE only; all exhibit <i>ō</i>)			
‘one-handed’	—	—	<i>hāf</i>
‘soft’	<i>sōft</i>	—	<i>sāftor</i>
‘other’	<i>ōper</i>	<i>ōther</i>	<i>ōðar</i>
‘tooth’	<i>tōþ</i>	<i>tōth</i>	—
‘true’	<i>sōþ</i>	—	<i>sōð</i>
	OE	OF	OS
‘to be bold’	<i>nēþan</i>	<i>binētha</i>	<i>nāðian</i>
‘walking’	<i>fēþe</i>	—	<i>fāði ~ fōði</i>
(the examples before * <i>s</i> are OE only, all with <i>ō</i> or <i>ē</i>)			

‘they came’	<i>c(w)ōmon</i>	<i>kōmon</i>	<i>quāmun</i>
‘they took’	<i>nōmon</i>	<i>nōmon</i>	<i>nāmun</i>
‘moon’	<i>mōna</i>	—	<i>māno</i>
‘done’	<i>dōn</i>	<i>dān</i> (? , see below)	<i>andōn</i> (? , see below)
‘hope’	<i>wēn</i>	—	<i>wān</i>
‘wife’	<i>cwēn</i>	—	<i>quān</i>
‘at once’	<i>sōna</i>	<i>sōn</i>	<i>sān(o)</i>
‘sad’	<i>gēōmor</i>	—	<i>jāmar</i> ‘lament’
‘to strive’	<i>rōmiġan</i> ?	—	<i>rōmon</i>

(the remaining examples are OE only; all exhibit *ō* or *ē*)

It can be seen that OE always exhibits *ō* or its i-umlaut product (*œ* in some dialects, *ē* in others). The same is nearly true of OF—so much so that *dān* must be suspected of being a Low German form (cf. Helten 1890: 241; *achta* appears to have a shortened vowel, though the reasons for that are not clear). OF *fā* is a somewhat different case. It is clear that *hwā* is the sound change outcome of **hōa* < **hōhan* (with restoration of contracted endings, as in North. OE); the same sequence of changes gave **fwā*, which regularly became *fā* by the subsequent loss of nonsyllabic **w* after a labial (so Bremmer 2009: 26). The OS outcomes are quite different and apparently contradictory. Few lexical items exhibit rounding, but those that do include the very common quantifier *ōđar* and three words, *sōđ*, *fōđi*, and *rōmon*, which do not occur in OHG. That suggests that the absence of rounding is a dialect feature that spread from OHG into OS. But the words that do not exhibit rounding also include several that are not found in OHG—*quān*, *sān(o)*, *fāđi*—as well as one, *nāđian*, whose OHG cognate *nenden* is so different in shape that it cannot very well be the source of the OS *ā*. We seem forced to conclude that rounding was variable or dialectal in OS. But the fact that it occurred at all indicates that nasalization of these vowels did occur in OS as well as in the coastal dialects.

Most stressed low vowels that were not nasalized were fronted in the dialect ancestral to OE; many were also fronted in the dialect ancestral to OF. (The OF situation will be discussed at several points below, as the OE context warrants.) Once again fronting is not usually noted in OS spelling, but there are a few examples of *e* for etymological **a*, especially in eastern documents (Gallée 1993: 17, 44–5). Before **w* which was not followed by a high front vocalic, **a* and **ā* apparently remained unchanged in OE, even in the Anglian dialects; the OF evidence, though meager, suggests that fronting of long **ā* did occur before **w* in OF. Apparent exceptions to fronting in OF (cf. van Helten 1890: 1–6, 16–8) are difficult to judge, because subsequent changes might have obscured the original scope of fronting (as they have also in OE, see 6.3); for

instance, OF *was* '(s)he was', *warth* '(s)he became', etc. might indicate that *a was not fronted after *w, but it is also possible that *a was fronted to *æ in such words, then retracted to *a* again after *w*. (See further 6.3.1.)

There are hundreds of examples of the fronting of short *a; the following are typical:

- PGmc *haftaz 'bound' (Goth. *hafta*, ON *haptr* 'captive') > PWGmc *haft 'captive' (OS, OHG *haft*) > OE *hæft*;
- PGmc *hafraz 'he-goat' (ON *hafr*; cf. Gk *κάπρος* /kápros/ 'boar') > PWGmc *hafr > OE *hæfer*;
- PGmc *gab '(s)he gave' (Goth., ON, OS *gaf*, OHG *gab*) > OE *gēaf*, OF *jeſ*;
- PGmc *stabaz 'staff, letter' (Goth. *stafs* (i-stem) 'element, component', ON *stafr*) > PWGmc *stab (OS *-staf*, OHG *stab*) > OE *stæf*, OF *stef*;
- PGmc *h^wat 'what?' (ON *hvat*, OS *hwat*, OHG *waʒ*) > OE *hwæt*, OF *hwet*;
- PGmc *watōr 'water' (cf. Goth. *wato* with n-stem alternant generalized) > PWGmc *watar (OS *watar*, OHG *waʒzar*) > OE *wæter*, OF *weter*;
- PGmc *bad '(s)he asked for' (Goth. *baþ*, ON *bað*, OS *bad*, OHG *bat*) > OE *bæd*, OF *bed*;
- PGmc *fadēr 'father' (Goth. voc. *fadar*, ON *faðir*) > PWGmc *fader (OS *fader*, OHG *fater*) > OE *fæder*, OF *feder*;
- PGmc *k^waþ '(s)he spoke' (Goth. *qaþ*, ON *kvað*, OS *quad*, OHG *quad*) > OE *cwæþ*, OF *queth*;
- PGmc *paþaz 'path' (Iranian loanword, cf. Av. *paθ-*) > PWGmc *paþ (OHG *pfad*) > OE *pæþ* (but OF *path*);
- PGmc *h^waþeraz 'which (of two)?' (Goth. *hwapar*, archaic ON *hvaðarr*) > PWGmc *hwaþar > OE *hwæþer*;
- PGmc *was '(s)he was' > (Goth., OS, OHG *was*, early ON *vas*) > OE *wæs* (also unstressed *was*, and OF *was*);
- PGmc *grasą 'herbaceous plant, grass' (Goth., ON *gras*) > PWGmc *gras (OS, OHG *gras*) > OE *græs* ~ *gær*s, OF *gres* ~ *gers*;
- PGmc *fastaz 'fixed, firm' (ON *fastr*; cf. Goth. *fastan* 'to keep; to fast') > PWGmc *fast (OS, OHG *fast*) > OE *fæst*, OF *fest*;
- PGmc *brak '(s)he broke' (Goth., OS *brak*, OHG *brah*) > OE *bræc*, OF *brek*;
- PGmc *þaką 'roof' (ON *þak*; cf. Lat. *toga*, orig. *'covering' (coll.)) > PWGmc *þak (OHG *dah*) > OE *þæc*;
- PGmc *akraz 'field' (Goth. *akrs*, ON *akr*) > PWGmc *akr ~ *akkr- (see 3.1.3; OS, OHG *ackar*) > OE *æcer*, OF *ekker*;
- PGmc *waknō- ~ *wakna- 'wake up' (intr.; Goth. *ga-waknan*, ON *wakna*) > OE *wæcnan*;
- PGmc *mag '(s)he can' (Goth., OS, OHG *mag*, ON *má*) > OE *mæg*, OF *mei*;
- PGmc *dagaz 'day' (Goth. *dags*, ON *dagr*) > PWGmc *dag (OS *dag*, OHG *tag*) > OE *dæg*, OF *dei*;

PGmc, PWGmc *dagas ‘day’s’ (ON *dags*, OS *dagas*; Goth. *dagis*, OHG *tages* with analogical ending, see vol. i 3.4.4 (ii), pp. 201–2) > *dægæs > OE *dægæs*, OF *deis*;
 PGmc, PWGmc *magaþ- ‘girl’ (Goth. *magaþs*, OS *magað*, OHG *magad*) > OE *mægeþ*, OF *megith* ‘virgin’;
 PGmc *naglaz ‘nail’ (ON *nagl*; cf. Goth. *ganagljan* ‘to nail’) > PWGmc *nagl (OS, OHG *nagal*) > OE *nægl*, OF *neil*;
 PGmc *bar ‘(s)he carried’ (Goth., ON, OS, OHG *bar*) > OE *bær*;
 PGmc *waraz ‘aware, alert’ (Goth. pl. *warai*, ON *varr*) > PWGmc *war (OS *war*; OHG *giwar* ‘aware, attentive, prudent’) > OE *wær*;
 PGmc *hal ‘(s)he concealed’ (OS, OHG *hal*; cf. OIr. *ceilid* ‘(s)he conceals’) > OE *hæl*;
 PGmc *smalaz ‘small’ (Goth. sup. *smalista*, ON *smal-*) > PWGmc *smal (OS, OHG *smal*) > OE *smæl*, OF *smel*;
 PNWGmc *fatą ‘container’ (ON *fat*) > PWGmc *fat (OS *fat*, OHG *fa3*) > OE *fæt*, OF *fet*.

At least two words show that fronting occurred before *w which was followed by *i:

PGmc *awiz ‘sheep’ (cf. Goth. *awistr* ‘sheepfold’; Lat. *ovis* ‘sheep’) > PWGmc *awi ‘ewe’ (OHG *ou*) > *æwi > OE *ewi → *eowu* (with shift into the *ō*-stems);
 PNWGmc *klawiþō ‘itch’ (ON *kláði*) > PWGmc *klawiþō (OHG *klouwida* with shift of gender) > *klæwiþā > OE *klewiþā > *cleweþa*.

Examples of fronted *a that subsequently underwent further sound changes will be adduced in Chapter 6.

Straightforward examples of short *a unfronted before *w plus a back or nonhigh vowel are rare; a fairly good one is:

PNWGmc. *awalaz ‘hook, fork’ (cf. ON *soð-áll* ‘meat-fork’) > PWGmc *awal > *awæł > OE *awel*.

Two others are class II weak verbs which apparently replaced inherited class I weak verbs at an early date:

PGmc *taujaną ‘to fit’ (Goth. *taujan* ‘to make’, Early Runic past 3sg. *tawide* ‘made’) > PWGmc *tawⁱwⁱan ‘to prepare’ (OHG *zouwen*) → *tawōjan > OE *tawian* ‘to prepare (raw material), to dress (hides)’;
 PNWGmc *þaujaną ‘to thaw’ (ON *þeyja*, OHG *douwen*) → *þawōjan > OE *þawian*.

The changes affecting short *a collectively gave rise to an alternation *[æ ~ a ~ ǣ] from which native learners should at first have been able to recover a single underlying phoneme */a/; see 6.3.2 for the eventual outcome in OE.

It can be seen that virtually all short *a that were neither nasalized nor followed by an unfronted *w were fronted to *æ in pre-OE. Whether fronting

of short *a was comparably exceptionless in OF is not so clear; we will revisit that question in section 6.3.1.

Except when immediately followed by *w which was in turn *not* followed by a high front vowel, non-nasalized long *ā was fronted to *æ* in the West Saxon dialect of OE, but fronted and raised to *ē* in Kentish and the Anglian dialects. (Kentish *ē* in these words did not develop from *æ* by the 9th-century merger, pace Hogg 1992: 62 [2011: 61] with references; the crucial evidence is the comparative adverb *nēor* ~ *nīor* ‘nearer’, on which see 6.2.1 below.) The OF outcome is written *ē*; it seems clear that it was a higher mid vowel in the dialects of our OF documents (cf. Hofmann 1964: 161–4, 182–5, Hoekstra 2001: 725 with cautions and references), but in the dialect ancestral to Insular North Frisian dialects it was apparently lower, i.e. roughly **æ* (Jørgensen 1946: 108–13, Hofmann 1964: 161–4, 182–5, Århammar 2001: 750–3, Boutkan 2001: 617 with references). OS shows sporadic spellings with *ē* (Gallée 1993: 62–3). Examples:

- PGmc *slēpaną ‘to sleep’ (Goth. *slēpan*) > PWGmc *slāpan (OHG *slāfan*) > WS OE *slāpan*, Merc. *slēpan*, North., OF *slēpa*;
- PGmc *wēpną ‘weapon’, pl. *wēpnō (Goth. pl. *wepna*) > PNWGmc *wāpną (ON *vāpn*) > PWGmc *wāpn (OHG *wāfan*) > WS OE *wāpen*, Merc., Kent., OF *wēpen*;
- PGmc *gēbun ‘they gave’ (Goth. *gebun*) > PNWGmc, PWGmc *gābun (ON *gāfu*, OS *gābun*, OHG *gābun*) > WS OE *gēafon*, North. *ā-gēfon*, OF *iēvon*;
- PGmc *lētanaą ‘to let go, to allow’ (Goth. *letan*) > PNWGmc *lātanaą (ON *láta*, OS *lātan*, OHG *lāzan*) > WS OE *lētan*, Merc., Kent. *lētan*, North., OF *lēta*;
- PGmc *ētun ‘they ate’ (Goth. *etun*) > PNWGmc, PWGmc *ātun (ON *ātu*, OHG *āzun*) > WS OE *æton*, Merc. *ēton*, North. *ēton*;
- PGmc *rēdanaą ‘to advise’ (Goth. *garedan* ‘to take thought for’) > PNWGmc *rādanaą (ON *rāða*) > PWGmc *rādan (OS *rādan*, OHG *rātan*) > WS OE *rādan*, Kent. *rēdan*, North., OF *rēda*;
- PGmc *dēdiz ‘deed’ (Goth. *missa-ded-* ‘misdeed’) > PNWGmc *dādz (ON *dād*) > PWGmc *dādi (OS *dād*, OHG *tāt*) > WS OE *dæd*, Merc. *dēd*, OF *dēde* ‘crime’;
- PGmc *swēsaz ‘one’s own’ (Goth. *swes*) > PNWGmc *swāsaz ‘one’s own, dear’ (ON *sváss*) > PWGmc *swās (OS *swās* ‘dear, beloved’, OHG *swās* ‘confidential’) > WS OE *swæs*, Kent. *swēs* ‘gentle’, OF *swēs* ‘in line to inherit’;
- PGmc *wēzun ‘they were’ (Goth. *wesun* with voiceless Verner’s Law alternant levelled in from the sg.) > PNWGmc *wāzun (ON *vāru*) > PWGmc *wārun (OS, OHG *wārun*) > WS OE *wæron*, Merc. *wērun*, Kent., OF *wēron*;
- PGmc *bērun ‘they carried’ (Goth. *berun*) > PNWGmc, PWGmc *bārun (ON *bāru*, OS, OHG *bārun*) > WS OE *bæron*, North. *bēron*;
- PGmc *swēraz ‘heavy’ (Goth. *swers* ‘respected’) > PNWGmc *swāraz (ON *svárr*) > PWGmc *swār (OS *swār*, OHG *swār(i)*) > WS OE *swær*, North., OF *swēr*;

- PGmc *jērą ‘year’ (Goth. *jer*) > PNWGmc *jārą (ON *ár*) > PWGmc *jār (OHG *jār*; so also MS C of the OS *Heliand*) > *jær (OS *gēr* in MS M of the *Heliand*) > WS OE *ġær > *ġear*, Merc., Kent. *ġēr*, OF *jēr*;
- PGmc *mēlą ‘(a) time’ (Goth. *mel*) > PNWGm. *mālą (ON *mál*) > PWGmc *māl (OHG *māl*) > WS OE *mæl*, OF *et-mël* ‘period of 24 hours’;
- PGmc *mēgaz ‘kinsman’ (Goth. *megs* ‘son-in-law’) > PNWGmc *māgaz (ON *mágr* ‘kinsman by marriage’) > PWGmc *māg (OS, OHG *māg*) > WS OE *mæg*, North., Kent. *mēg*, OF *feder-mēch* ‘paternal relative’;
- PGmc *brēkun ‘they broke’ (Goth. **brekun*) > PWGmc *brākun (OS *brākun*, OHG *brāhhun*) > WS OE *bræcon*, North. *brēcon*, OF *brēkon*;
- PGmc *lēkijaz ‘physician’ (Goth. *lekeis*) > PWGmc *lākijaz (OHG *lāhhi*) > WS OE *læce*, Merc., Kent. *lēce*;
- PWGmc *strātu ‘paved road’ (OS *strāta*, OHG *strāza*) > WS OE *stræt*, North., Kent. *strēt*, OF *strēte*;
- PWGmc *-ārī (OS *-eri* with shortening and i-umlaut, OHG *-āri*; ← Lat. *-ārius*, see 4.3.4) > *-æri > OE, OF *-ere*, e.g. in OE *cýbere* ‘witness, martyr’, OF *kēthere* (title of a lawcourt official).

At least three words show that *ā, like short *a, was fronted before *w followed by a high front vowel:

- PGmc *lēwijaną ‘to betray’ (Goth. *lewjan*) > PWGmc *lāwijan (OHG *gi-lāen*) > WS OE *læwjan > *læwan*, Angl. *lēwjan > North. *be-lēwa*;
- PGmc *-tēwijaz ‘ordered, reckoned’ (Goth. *taihun-teweis* ‘decimal’) > PWGmc *-tāwī in WS OE *ælae-tæwī > *æltæwe* ‘complete, perfect’ (for the prefix cf. e.g. Goth. *ala-brunsts* ‘holocaust’);
- pre-OE *brāwī ‘eyelid’ (cf. OHG *brāwa* ‘eyebrow’ with different stem vowel) > WS OE *bræwī > *bræw*, Angl. *brēwī > Merc. *bræg*, cf. Kent. dat. pl. *brēwum*.

Examples of fronted *ā that subsequently underwent further sound changes (including retraction to *ā again in WS) will be adduced in Chapter 6.

The clearest example of the retention of *ā before *w plus a back or nonhigh vowel in OE, but fronting in OF, is ‘claw’:

- PNWGmc *klāwu ‘claw’, pl. *klāwōz (ON *kló*) > PWGmc. *klāu, pl. *klāwō (OHG *klāwa*) > OE *clæa*, pl. *clāwa* (whence also sg. *clāwu* by backformation) but OF *klēwe* ~ *klē*.

The other examples of the retention of *ā before *w in OE are strong verbs which had vowel-final roots in PGmc. These verbs acquired various hiatus-filling root-final consonants in WGmc. languages. In OE the consonant inserted was *w, which apparently arose first between the stressed stem vowel and pres.

indic. 1sg. *-u, past indic. pl. *-un (Þórhallsdóttir 1993: 114–37).² OF appears to have done the same, to judge from the derivative *grōwinge* ‘growth, swelling’ (Þórhallsdóttir 1993: 128). This must have occurred early enough to prevent fronting of *ā in pre-OE. The secure examples are the following:

- PGmc *sēanaŋ ‘to sow’ (Goth. *saian*) > PNWGmc *sāanaŋ (ON *sá*, OHG *sāan* (Otfrid))
 >→ WS, Merc., Kent. *sāwan*, North. *sāwa* but OS *sājan*, OHG *sāhen* (Notker,
 with purely graphic *h*; *sāwen* (*Tatian*) appears to have both *w and *j); note also
 OF ptc. *e-sēn* ‘sown’;
- PGmc *wēanaŋ ‘to blow’ (of wind, Goth. *waiian*) > PWGmc *wāan >→ OE *wāwan:
 pres. 3sg. *wāwep*, *Rid* 40.81 (possibly with i-umlaut, but probably reflecting
 fronting in pre-OE *wāwiþi, see above); past ptc. *bi-wāune* ‘windswept’, *Wan* 76;
- PNWGmc *knāanaŋ ‘to recognize, to know’ (ON *kná*) >→ WS *cnāwan*, WS, Merc.
on-cnāwan, North. *on-cnāwa*, cf. Kent. past ptc. *an-c[n]āwen*;
- PWGmc *māan ‘to mow’ >→ OE *māwan* but OHG *māen*; cf. also OF 3sg. *mēth* in
 an i-umlaut environment (which makes it difficult to determine whether fronting
 had previously occurred);
- PWGmc *þrāan ‘to twist’ >→ OE *þrāwan* but OS *þrājan*, OHG *drāen*;
- PWGmc *blāan ‘to blow’ >→ OE *blāwan* but OHG *blāen*.

Of course it is possible that non-nasalized low vowels before *w plus a back or nonhigh vowel were fronted in OE, as they clearly were in OF, but were later retracted again; but if that is what happened, the retraction must have occurred before the fronted vowel had been raised to *ē* in the Anglian dialects. The simplest hypothesis is that fronting never occurred in that environment (so Hogg 1992: 81 [2011: 79]).

In the pre-OE dialects in which *ā was both fronted and raised it merged with the rare inherited *ē, which thereby became common. In those dialects there was probably a rare residual *ā occurring only before *w; it seems less likely that native learners analyzed so different a vowel as an allophone of *ē. In the ancestor of WS OE there was at first a much more common phoneme *ǣ or *ā with allophones *[æ:~a:]. If the distinctive nasalization of long *ā before nasal consonants was prompted by the preexistence of nasalized vowels before fricatives (see above), those allophones of *ā had probably been shifted into a different phoneme *ǣ with a defective distribution (only before fricatives and nasals); otherwise the nasalized long low vowel must have been yet

² This must have happened well after the PWGmc loss of *w between vowels and *u (3.1.5). The reason why *w was not reinserted in forms like *kneu ‘knees’, *fau ‘few’ (neut. nom.-acc. pl.) was presumably that they now contained diphthongs, with no syllable boundary at which *w could be inserted.

another allophone of *ā before nasals and of the sequence *an before fricatives, though that seems less likely. In all the dialects the eventual monophthongization of (*ai >) *āi to *ā in all positions (see 6.1.2) disrupted this system and probably led to the reanalysis of all these allophones as underlying phonemes.

It seems possible that fronting was blocked both in OE and in OF in monosyllabic words beginning with a sequence *Cw-, to judge from OE, OF *hwā* ‘who?’ and OE *swā*, OF *sō* ~ *sā* ‘thus, so’ (Goth. *swa*). On the other hand, the existence of an OE variant of the adverb with a front vowel—Merc. *swē*, WS and North. (!) *swā*—suggests that the prehistories of these words were more complex; Luick’s suggestion that the vowel of *swa was not fronted when unstressed (Luick 1914–40: 126) should at least be considered (see also below).

The treatment of unstressed low vowels in the northern WGmc dialects was somewhat different. They were fronted in most environments—including before nasals, so long as the nasal did not belong to the same syllable. Klein 1977: 390–537 argues persuasively that OS shared in this development; the outcome was written *-a* in many OS documents, *-a* varying with *-e* in a few (including the Munich manuscript of the *Heliand*), predominantly *-e* in a few. Examples of unstressed *a include:

- PGmc *-as, a-stem gen. sg. (cf. Early Runic *Gōdagas*) > OE *-æs* (e.g. in *heafunæs* ‘of heaven’ *RuthCr* 45, 8th c.) > *-es*, e.g. in *dægēs*; OF *-es*, OS *-as* ~ *-es*;
- PGmc *gaburanai nom. pl. ‘born’ (Goth. *gabaúranaí*) > PWGmc *gaboranē > *gæborænē > OE *gæborene*; from the forms with overt endings (all beginning with vowels), *-en* was levelled into the endingless nom.-acc. sg. masc. and neut. of participles and adjectives in *-an-;
- PGmc *h^waþeraz ‘which (of two)?’ (Goth. *hvaþar*, archaic ON *hvaðarr*) > PWGmc *hwaþar > *hwæþær > OE *hwæþer*;
- PGmc *watōr ‘water’ (cf. Goth. *wato* with n-stem alternant generalized) > PWGmc *watar (OHG *waʒʒar*) > *wætær > OE *wæter*, OF *weter*, OS *watar* ~ *water*;
- PGmc *fedwōr ‘four’ (Goth. *fidwor*) > *fewwār > PWGmc *feuwar > *feuwær > OE *fēower*, OF *fiūwer*, OS *fiuwar*;
- PWGmc *honag / *hunag (OHG *honag*) > *hunæg > OE *huneg > *huniġ*.

Examples of unstressed *ā include:

- PGmc gen. sg. *gebōz (Goth. *gibos*, ON *gjafar*) > PWGmc *gebā (OHG *geba*) > *gebæ (OS *geba* ~ *gebe*) > OE *gebæ (cf. *Æthilburgæ* in Ct. 5.5, 7th century) > *ġiefe*, OF *ieve*;
- PGmc acc. sg. *gebō (Goth. *giba*) > PWGmc. *gebā (OHG *geba*) > *gebæ (OS *geba* ~ *gebe*) > OE *gebæ (cf. *ærġfæræ* ‘flight of arrows’, *LRid* 13) > *ġiefe*, OF *ieve*;
- PGmc *satiđō ‘I set (up)’ (Early Runic *satido*, Goth. *satida*) > PWGmc *sattā (OHG *sazza → *sazta*) > *sættæ (OS *satta* ~ *sette*, North. *ġe-sætte*) > OE *sette*;

PGmc acc. sg. masc. *blindanō ‘blind’ (Goth. *blindana*) > PWGmc *blindanā > OE *blindænā > *blindnæ (cf. *riicnæ*, *RuthCr* 44) > *blindne*;

PWGmc nom. sg. *tungā ‘tongue’, *augā ‘eye’ (OHG *zunga*, *ouga*; the PGmc endings are not securely reconstructable because they have been remodelled in every daughter) > *tungæ, *augæ (OS *tunga* ~ *tunge*; ‘eye’ is attested only in the pl.) > OE *tunge*, *ēage*.

In the Anglian dialects this unstressed vowel, whatever its phonetics, must have been an allophone of *ē, and one would expect it to have merged with inherited *ē, including *ē < *ai. In fact such a merger occurred throughout the northern WGmc dialect area. Examples of *ē:

PGmc weak past indic. 3sg. *-dē (Goth. *-da*, ON *-ði*) > PWGmc *-dē > OE, OF *-de*, OS *-de* ~ *-da*;

PGmc pres. subj. *werþai ‘it may become’ (Goth. *wairþai* with diphthong restored by levelling; ON *verði*) > PWGmc *werþē (OHG *werde*) > OE *weorþe*, OF *werthe*, OS *werde* ~ *werða*;

PGmc dat. sg. *dagai ‘day’ (Goth. *daga*, ON *degi*) > PWGmc *dagē (OHG *tage*) > OE *dæge*, OF *deie*, OS *dage* ~ *daga* (1 × *dege* in the Merseburg glosses);

PGmc masc. nom. pl. *gōdai ‘good’ (Goth. *godai* with *-ai* reintroduced from *þai* ‘those’) > PWGmc *gōdē > OE, OF *gōde*, OS *gōde* ~ *gōda*.

Unstressed *a was nasalized, and therefore not fronted, only if it was followed by a nasal in the syllable coda (unstressed *ā apparently did not occur in that position). The most obvious examples are infinitives and participles, e.g.:

PGmc *bindanā ‘to tie’ (Goth. *ga-bindan*, ON *binda*) > PWGmc *bindan (OS *bindan*, OHG *bintan*) > *bindan > OE *bindan*, OF *binda*;

PGmc *bindand- ‘tying’ (Goth. **bindands*, ON *bindandi*) > PWGmc *bindandi (OS *bindandi*, OHG *bintanti*) > *bindandī > OE *bindændi > *bindende*, OF *bindende* ~ *bindande*.

The same outcome appears in most caseforms of n-stems. Compare the inflection of OE *guma* ‘man’:

	Old English			PWGmc		PGmc
sg. nom.	<i>guma</i>	<	*gumā	<	*gumō	< *gumō̄
acc.	<i>guman</i>	<	*gumān	<	*guman	< *gumanu
gen.	<i>guman</i>		←		*gumini	< *guminiz
dat.	<i>guman</i>		←		*gumini	*gumini
pl. nom.	<i>guman</i>	<	*gumān	<	*guman	< *gumaniz
acc.	<i>guman</i>	<	*gumān	<	*guman	← *gumanunz
gen.	<i>gumena</i>	< *gumana	←	*gumænā	< *gumanō	< *gumanō̄
dat.	<i>gumum</i>		<		*gumum	< *guma(m)maz

There has been a great deal of remodelling in this paradigm. In fact, in the gen. pl. there has been even more remodelling than would appear from confrontation of the usual OE form with its PWGmc ancestor: the phonologically regular medial vowel *æ (see above) was regularly syncopated, to judge from early WS *tungna* ‘of tongues’ and numerous poetic forms (Cosijn 1886: 49, Campbell 1962: 249, Brunner 1965: 222–3), but was then ‘restored’ as *-a-*, to judge from early Merc. *figirdoccana* ‘of finger-muscles’ (*CorpGl* 687), a few early WS forms in *-ana*, and a considerable number of similar northern Merc. and North. forms (Cosijn 1886: 49, Campbell 1962: 249, Brunner 1965: 222–3); finally *-ana* was regularly dissimilated to *-ena* (Campbell 1962: 158–9). But the extensive levellings, including the introduction of *-an* into the gen. and dat. sg. and acc. pl., must have begun from a ‘critical mass’ of forms in which *-an* was the regular sound-change outcome, and those forms can only have been the acc. sg. and nom. pl. This is one piece of evidence for the PWGmc loss of word-final short high vowels after most unstressed syllables (see 3.1.4). (See further 5.2 below.)

At the same time as the northern fronting, or shortly afterward, unstressed *ō in word-final syllables was unrounded in OE, in OF, and in the OS dialect of the Lublin psalm fragments and a few other short documents (Klein 1977: 479–87). Note the following:

- PGmc *namō ‘name’ (Goth. *namo*) > PWGmc *namō (OS, OHG *namo*) > *nāmā > OE *nama* ~ *noma*, OF *noma*;
- PGmc nom. pl. *gebōz ‘gifts’ (Goth. *gibos*, ON *gjafar*) > PWGmc *gebō > *gebā > OE *giefa*, OF *jeva*;
- PGmc gen. pl. *dagō ‘of days’, *gebō ‘of gifts’, *tungōnō ‘of tongues’ (Goth. *gibo*, *tungono*, and cf. *dage*; ON *daga*, *gjafa*, *tungna*) > PWGmc *dagō, *gebō, *tungōnō (OS *dago*, *geb(on)o*, *tungono*; OHG *tago*, *gebōno*, *zungōno*) > *dægā, *gebā, *tungōnā > OE *daga*, *giefa*, *tungena*; OF *degana*, *jev(en)a*, *tungena* (the n-stem gen. pl. ending has the stem syllable of the masculine by levelling);
- PGmc gen. sg. *sunauz ‘son’s’ (Goth. *sunaus*, ON *sonar*) > PWGmc *sunō (?OS *suno*, *Heliand* 5788; cf. early OHG *fridō* ‘of peace’) > *sunā > OE, OF *suna*;
- PGmc *ahtōu ‘eight’ (Goth. *ahtau*, ON *átta*) > PWGmc *ahtō (OS, OHG *ahto*) > *ahtā > OE *eahta*, OF *achta*.

Note that the *ā which was the output of this sound change eventually merged with the reflexes of unstressed nasalized low vowels in the northern dialects.³

³ A potential problem for this chronology is OE *oppe* ‘or’ ← *eþþo < PWGmc *eþþō (cf. OHG *eddo*) < PGmc *ehþau (?; cf. Goth. *aifþau*), in which the final *-o appears to have been shortened before being unrounded and long before the regular shortening of unstressed vowels in OE (see 6.8.3). Perhaps the most likely solution is that *-ō was shortened at such an early date because the word was weakly stressed.

Quite a few scholars have attempted to explain the fronting of low vowels by the influence of vowels on each other in phonetic space, or ‘structural pressure’; a recent example, with references, is Kortlandt 2008: 266–70. I am not convinced, for the following reason. Unless such explanations are guesses, or are based on supposed common sense, they depend theoretically on Martinet’s hypothesis that phonemic oppositions with high ‘functional load’ tend to be preserved and strengthened. But attempts to measure the influence of functional load on sound change in particular cases have consistently yielded negative results (King 1967, Surendran and Niyogi 2006: 44–5, 55–7). We need to admit that we do not really know why similar phonemes sometimes merge, sometimes become less like each other, and sometimes undergo changes of other kinds, such as parallel development. It can at least be observed that the fronting of low vowels is a fairly common sound change, affecting long *ā in the Attic-Ionic dialects of Ancient Greek, for example, and Gallo-Romance *a in open syllables; in the present state of our knowledge that is the most that can be said with confidence.

The diphthongs *ai and *au developed quite differently from short *a. In this case too older treatments, such as Campbell 1962: 52–3, attempt to construct a relative chronology on the assumption that *a in diphthongs should have behaved like other *a. But modern work in sociolinguistics shows that diphthongs can and do change as phonemic units, independently of the changes of steady-state vowels (see e.g. Labov 1994). I will address this in more detail in 6.1.2 below.

5.1.3 *Other northern WGmc sound changes*

It is often suggested that inherited *l̥ became *ld in PWGmc word-internally (cf. e.g. Luick 1914–40: 833–4, Campbell 1962: 169), but the facts do not support so broad a generalization. In particular, the *d* of OHG *wildi* ‘wild’ and *faldan* ‘to fold’ (seldom *faltan*, Seebold 1970: 183) is the regular outcome of PWGmc *l̥ by a much later, specifically OHG sound change (whereas PWGmc *d would have become OHG *t*), and in these words it probably cannot have been levelled in from word-final position: *wildi* has no consonant-final forms, and *d* is unlikely to have been levelled through the paradigm of *faldan* starting from the endingless pres. iptv. 2sg. and past indic. 1, 3sg. (though such a change is admittedly not impossible). Moreover, two potential examples might reflect a Verner’s Law alternation *l̥ ~ *d, namely the words which survive in OE as *gold* ‘gold’ ←< *gul̥pa- ~ *gulda- (see vol. i 4.3.4 (i), p. 270) and *feld* ‘field’, early OE *-felth* in place names, ←< *fel̥pu- ~ *feldaw- ←

*felþu- ~ *fuldaw- (zero grade and *-d- also in the related *folde* ‘earth’). But it does seem that word-internal *lþ became *ld by regular sound change in NORTHERN WGmc; the following clear examples can be cited:

PGmc *falþana ‘to roll up, to fold’ (Goth. past *faifalþ* ‘he rolled (it) up’) > PWGmc *falþan (OHG *faldan*) > *faldan > OE *fealdan* (it seems a bit less likely that *d was levelled through the paradigm from the default past and past ptc., though that is not impossible);

PGmc *wilþijaz ‘wild’ (Goth. *wilþeis*, ON *villr*) > PWGmc *wilþi (OHG *wildi*) > *wildī (OS *wildi*, OF *wilde*) > OE *wilde*;

PGmc *balþaz ‘bold, brave’, masc. nom. pl. *balþai (Goth. adv. *balþaba*, ON *ballr*) > PWGmc *balþ, *balþē (OHG *bald*, *balde*) > *balþ, *baldē → *bald, *baldē (OS *bald*, *balda*) > OE *beald*, *bealde*;

PGmc *wulþraz (*-iz?) adj. ‘worth’ (Goth. *wulþrs*; cf. *wulþus* ‘glory’) > PWGmc *wulþr > neut. *wuldr ‘glory’ > OE *wuldor* (cf. *wuldortorhtan* ‘splendidly bright’, 3 syll. at *Beo* 1136);

PGmc *gulþinaz ‘golden’ (Goth. *gulþeins*, ON *gullinn*) > PWGmc *gulþin (OHG *gulđin*) > *gulđin > OE *gylden*, OF *gelden*, OS *gulđin*.

Michiel de Vaan has made a good case for a metathesis of the consonant cluster *sl to ls between unstressed vowels in the more northerly dialects of WGmc, including Riparian dialects and those ancestral to Netherlandic (de Vaan 2012); the somewhat irregular distribution of examples can be accounted for by levelling in a-stem nouns, in which the nom.-acc. sg. was endingless. Most of the examples involve a fairly rare noun-forming suffix, e.g.:

PNWGmc *smirwislā ‘ointment, salve’ (ON *smyrsl*) > PWGmc *smirwisl, *smirwislV- > *smirwisl, *smirwilsa- > *smiorwils > *smiorils > OE *smierels > late WS *smyrels*.

However, the noun *ġīsl* ‘hostage’ as the second element of compound names also underwent the change; thus *Audagīsl, *AudagīslV- > OE *Ēadgīls*, for instance. Evidence for a similar metathesis of intervocalic *þl is much weaker (de Vaan 2012).

At some time after the class II weak present stem vowel *-ō- was replaced by *-ō- ~ *-ōja- on the model of class I *-i- ~ *-ija- in the northern WGmc dialects (see 5.2), the sequence *-CijV- was syncopated to *-CjV-; the syncope could not have occurred earlier because after it occurred there would have been no model for the northern WGmc remodelling in weak class II. Nevertheless the same change occurred in OHG. Possibly syncope of *-CijV- spread through the (by now disintegrating) WGmc dialect continuum; but the change is so natural that it could easily have occurred independently in various WGmc dialects. It is exemplified by every class I weak present with a heavy root

syllable and all ja-stem, jan-stem, and jōn-stem nominals with heavy root syllables, e.g.:

- PGmc *dōmijanaþ ‘to judge’ (Goth. *domjan*, ON *dæma*) > PWGmc *dōmijan > *dōmjan > OE *dēman*, OF *dēma*, OS *dōmian*, OHG *tuomen*;
- PGmc *wurkijanaþ ‘to work, to make’ (Goth. *waurkjan*, ON *yrkja*) > PWGmc *wurkijan > *wurkjan > OE *wyrčan*, OF *werka* ~ *wirtsa*, OHG *wurken* (OS *wirkian* has probably been remodelled, as if regularly derived from *werk*);
- PGmc *gaumijanaþ ‘to observe’ (Goth. *gaumjan*, ON *geyma* ‘to heed, to take care of’) > PWGmc *gaumijan > *gaumjan > OE *gīeman*, OS *gōmian* ‘to heed, to keep’, OHG *goumen* ‘to take care of’;
- PGmc *sōkijanaþ ‘to look for, to seek’ (Goth. *sokjan*, ON *sækja*) > PWGmc *sōkijan > *sōkjan > OE *sēcan*, OF *sēka* ~ *sētsa*, OS *sōkian*, OHG *suohhen*;
- PNWGmc *garwijanaþ ‘to prepare’ (ON *gøra*) > PWGmc *garwijan > *garwjan > OE *gierwan*, OS *gerwian*, OHG *garewen*;
- PWGmc *raikijan ‘to reach’ > *raikjan > OE *ræcan*, OF *rētsa*, OHG *reihhen*;
- PGmc nom. pl. *hirdijōz, acc. pl. *hirdijanz ‘herdsmen’ (Goth. *hairdjos*, *hairdjans*, ON *hirðar*, *hirða*) > PWGmc *hirdijō, *hirdijā (*-ijā?) >→ *hirdjōs, *hirdjā > OE *hierdas*, OS *hirdios* (nom. pl. form generalized in both functions), OHG *hirtea* (acc. pl. form generalized in both functions);
- PGmc, PWGmc gen. sg. *rikijas ‘of a kingdom’ (ON *rikis*) > *rikjas > OE *ricæs* > *ricēs*, OS *rikias*;
- PWGmc *kampijō ‘warrior’ > *kampjō > OE *cempa*, OHG *kempfo*;
- PWGmc nom. *miliju, acc. *milijā ‘mile’ > *milju, *miljā > OE *mīl*, *mīle*, OHG *mīla* (inherited acc. in both functions).

After this highly restricted syncope had run its course, *h was variably lost when followed by two nonsyllabics. Again there are OHG examples of this change, though they seem to be rare. Note the following:

- PGmc *niuhsijanaþ ‘to spy, to investigate’ (Goth. *bi-niuhsjan*, ON *nýsa*) > PWGmc *niuhsijan > *niuhsjan > *niusjan > OE *nēosan* ‘to seek out, to visit’ (poetic, probably Mercian), OS *niusian* ‘to try’, OHG *niusen* ‘to try’;
- PGmc *sehstō ‘sixth’ (Goth. *saihsta*, ON *sétti*) > PWGmc *sehstō ~ *sestō > North. OE *sesta*, but WS *siexta*, OS, OHG *sehsto*;
- PNWGmc *þihslu ‘(yoke-)pole’ (ON *þisl* (poetic)) > PWGmc *þihslu ~ *þislu > OS *thisla* but OHG *dīhsala*; OE *þīxl* (dat. pl. *dīxlum*, *ErfGl* 1043, *þīxlum*, *CorpGl* 2007; *wægnþīxl*, *CorpGl* 205) ~ *þīsl* (WS; also dat. pl. *dīslum*, *EpGl* 1043);
- (post-)PWGmc *wahstm ‘growth, increase’ (cf. OHG *wahst*, *wahsamo*) > *wastm > > OE *wæstm*, OS *wastum*.

In addition, dat. pl. *here-wæsmun* ‘martial prowess’ in *Beo* 677 might be a form of *wæstm* or a cognate of OHG *wahsamo* (see above). The fact that the vowels

of *wæstm* and *þīsl* exhibit no diphthongization in WS (where later monophthongization before *h* did not occur) can be accounted for only by supposing that these **h* were lost before breaking took place. OS *wastum*, *thīsla*, and *nīusian* suggest that this was a shared northern WGmc change (since the shape of ‘sixth’ can have been influenced by that of ‘six’ in any daughter at any time). On the other hand, the fact that *þīxl* is in competition with *þīsl* in early Mercian OE suggests that **h* survived in some form of the word or in some dialect, since there is no other word on which *þīxl* could have been remodelled; in that case loss of **h* in these heavy consonant clusters could have been a partly parallel change in the diverging NWGmc dialects. We might account for the variation in *þīxl* ~ *þīsl* by suggesting that **h* was lost only when the cluster was word-final; but that makes it impossible to account for *sesta* and *nēosan*—and note further that *eaxl* ‘shoulder’ < **ahslu* is another counterexample. The best we can do is to conclude that **h* was lost, possibly variably, possibly only in some dialects, when followed by two or more consonants at a time before breaking occurred in OE.

None of the changes discussed in this section and the preceding were shared exclusively by the dialects ancestral to Old English and Old Frisian; all were shared at least in part by OS. Moreover, the conditioning of at least one shared change was not identical in OE and OF: **ā* was fronted before **w* plus a back or nonhigh vowel in the latter, but not in the former. As we will see in Chapter 6, no sound changes other than those discussed in this section were unambiguously shared by those two languages. In fact the only changes of any kind that might be shared exclusively by OE and OF are the replacement of **-iw-* with **-aw-* in *u*-stems, which occurred far back in the PWGmc period (see 3.1.4), and the default formation of adverbs, on which see the end of the following section. (The levelling of ablaut in the *n*-stem suffix occurred also in ON.) When we add to these linguistic considerations the knowledge that pre-OE and pre-OF occupied an extensive portion of the North Sea coast and were spoken by a number of tribes which our historical sources regard as clearly different, we are forced to conclude that the distinctive northern WGmc sound changes must have spread through an already differentiated dialect continuum (cf. H. Kuhn 1955: 27–8).

5.2 Northern West Germanic morphological innovations

The most striking inflectional innovation of the northern WGmc dialects is the syncretism of all plural forms of the finite verb, in each tense-and-mood paradigm, under the form of the 3pl. In addition, the 2pl. imperative, which was identical in form with the 2pl. present indicative (to judge from OHG),

adopted the form of the 3pl. present indicative. The following comparative partial paradigm of the strong verb ‘become’ will illustrate:

	OHG	OS	OF	OE
pres. indic.				
1pl.	<i>werdumēs</i> ⁴	<i>werđaađ</i>	<i>werthath</i>	<i>weorþaþ</i>
2pl.	<i>werdet</i>	<i>werđaađ</i>	<i>werthath</i>	<i>weorþaþ</i>
3pl.	<i>werdant</i>	<i>werđaađ</i>	<i>werthath</i>	<i>weorþaþ</i>
pres. iptv.				
2pl.	<i>werdet</i>	<i>werđaađ</i>	<i>werthath</i>	<i>weorþaþ</i>
pres. subj.				
1pl.	<i>werđem</i>	<i>werđen</i>	<i>werthe</i>	<i>weorþen</i>
2pl.	<i>werđēt</i>	<i>werđen</i>	<i>werthe</i>	<i>weorþen</i>
3pl.	<i>werđēn</i>	<i>werđen</i>	<i>werthe</i>	<i>weorþen</i>
past indic.				
1pl.	<i>wurtum</i>	<i>wurđun</i>	<i>wurdon</i>	<i>wurdon</i>
2pl.	<i>wurtut</i>	<i>wurđun</i>	<i>wurdon</i>	<i>wurdon</i>
3pl.	<i>wurtun</i>	<i>wurđun</i>	<i>wurdon</i>	<i>wurdon</i>
past subj.				
1pl.	<i>wurtīm</i>	<i>wurđin</i>	<i>wurde</i>	<i>wurden</i>
2pl.	<i>wurtīt</i>	<i>wurđin</i>	<i>wurde</i>	<i>wurden</i>
3pl.	<i>wurtīn</i>	<i>wurđin</i>	<i>wurde</i>	<i>wurden</i>

Evidently this is a simplification of the grammar, but it is not immediately obvious how it could have resulted from native learner errors. However, let us try to reconstruct the endings that we should expect the northern dialects of PWGmc to have inherited. We know that the voiceless Verner’s Law alternant was generalized in the 3pl. (see further below). We have no way of knowing which alternant was generalized in the lost 2pl., but it is not unreasonable to suppose that it was voiced *-d, as in OHG; in fact we might expect as much, since only the voiced alternant seems to have occurred in the PGmc past indicative and past subjunctive, whereas the voiceless alternant occurred only in the indic. in about half the present stems (vol. i 3.4.3 (i), pp. 182–4; 4.3.3 (i), pp. 237–9). The endings would then have been the following:

⁴ The -ēs of this OHG ending corresponds to nothing in Gothic or Old Norse and has no clear PIE antecedent. Though it could conceivably reflect a PWGmc innovation, since OHG is the only WGmc language that preserves distinctive 1pl. endings, it seems better to hypothesize that the PWGmc form was *-um, as expected from comparison with Gothic and Old Norse, and to regard the extension as a purely OHG innovation.

	pres. indic.	pres. subj.	past indic.	past subj.
1pl.	*-um	*-ēm	*-um	*-īm
2pl.	*-id	*-ēd	*-ud	*-īd
3pl.	*-āþ (see 3.1.4)	*-ēn	*-un	*-īn

Recall that *d had become a stop in all positions in PWGmc (3.1.1). In three of the four tense-and-mood paradigms the 1pl. and 2pl. should therefore have differed from the 3pl. by only one phonological distinctive feature each: labial vs. coronal in the case of the 1pl., oral vs. nasal in the case of the 2pl. It seems at least possible that native learner errors of perception, in which *-m and *-d were mistaken for *-n, might have led to the use of the 3pl.—the plural form not marked for person, or the ‘most unmarked’ plural form—for all plural subjects in those tense-and-mood paradigms. Generalization of the syncretism to the present indicative and (probably last) the present imperative would then be unremarkable, even though the present indicative was the unmarked tense-and-mood paradigm; a partly similar change in Middle English will be discussed in vol. iii. It seems likely that a fossilized 1pl. form survives in WS *wuton* ~ *uton*, North. *wutun* ~ *wutum* ‘let’s’ (see 7.1.6).

In the preceding discussion we had to deal with the levelling of Verner’s Law alternants of person-and-number endings. Both voiced and voiceless endings must have existed still in PWGmc, since the daughter languages level the alternation in different ways. The attested situation can be summarized as follows.

OHG has voiced *-d(i) > -t in the pres. indic. 3sg. of all verbs and in all 2pl. forms, as well as *-nd > -nt in the pres. indic. 3pl. of all verbs. By contrast, voiced *-z > ∅ appears only in the strong past indic. 2sg., which reflects an old subjunctive in *-īz (see 3.2.1 above); other 2sg. indic. and subj. forms, including the innovative past subj. 2sg. -īs, end in -s < *-s(i).

There is a great deal of variation in the spelling of word-final dental obstruents in OS (cf. Gallée 1993: 137–9). Pres. indic. 3sg. -d seems to reflect the voiced alternant, as in OHG. But the 3pl. is also very frequently spelled -ad, which probably cannot reflect *-and because the nasal should not have been lost; it must be a later development (or merely a spelling variant?) of -ađ < *-āþ < *-anþ, as in OE. Therefore we cannot exclude the possibility that 3sg. -d is also a regular sound-change development of -đ < *-þ(i). The distribution of 2sg. ∅ (< *-z) and -s mirrors that of OHG.

In the indicative present and weak past OE has systematically generalized the voiceless endings; we find 2sg. -s < *-s(i), 3sg. -þ < *-þ(i), 3pl. -ap (see above). However, in the 2sg. of the strong past and all subjunctives the voiced

alternant $\emptyset < *z$ has been generalized. OF agrees with OE, except that the strong past 2sg. has been replaced by a later analogical form.

The northern dialects also underwent a major innovation in the inflection of class II weak verbs, first explored in detail in Cowgill 1959. Recall that PWGmc had remodelled the inflection of class I weak verbs with heavy root syllables so that the present-stem suffix was $*-i-$ alternating with $*-ija-$; thus the inflection of **hauzijan* ‘to hear’ was (in part) pres. indic. 1sg. **hauziju*, 2sg. **hauzisi*, 3sg. **hauziþi*, 3pl. **hauzijāþ*, subj. **hauzijē-*, iptv. 2sg. **hauzi*, etc. (see 3.2.1, 4.2.1). This alternation was extended to class II weak verbs: the stem vowel $*-ō-$ was not altered in the pres. indic. 2sg., 3sg., and iptv. 2sg., but in those forms that had $*-ija-$ in class I the class II suffix was extended to $*-ōja-$ (Cowgill 1959: 8–9). A comparison of the development of a present of this class, **ardōn* ‘to dwell, to inhabit’, in OHG and OE will illustrate:

	OHG		PWGmc		OE ⁵		
infinitive	<i>artōn</i>	<	<i>*ardōn</i>	→	<i>*ardōjan</i>	>	<i>eardian</i>
indic. 1sg.	<i>artōm</i>	← ⁶	<i>*ardō</i>	→	<i>*ardōju</i>	>→	<i>eardiu</i>
2sg.	<i>artōs</i>	<	<i>*ardōs</i>			>	<i>eardas</i>
3sg.	<i>artōt</i>	← ⁷	<i>*ardōþ</i>			>	<i>eardað</i>
3pl.	<i>artōnt</i>	←	<i>*ardōnþ</i>	→	<i>*ardōjāþ</i>	>	<i>eardiað</i>
iptv. 2sg.	<i>arto</i>	<	<i>*ardō</i>			>	<i>earda</i>
subj. stem	<i>artō-</i>	<	<i>*ardō-</i>	→	<i>*ardōjē-</i>	>	<i>eardie-</i>
participle	<i>artōnti</i>	<	<i>*ardōndī</i>	→	<i>*ardōjandī</i>	>	<i>eardiende</i>

This major innovation was fully shared with OF. In OS the northern and southern forms appear to be in competition. From the perspective of 9th-century speakers of OS the northern forms are probably archaisms (cf. Cowgill 1959: 2–3, 12–13); that is, this appears to be a trait in which OS originally participated fully in the northern innovation, only to abandon it later under pressure from more southerly WGmc dialects.

The extension of this change to the majority paradigm of weak class III (see 3.3.2), so that the uniform stem vowel $*-ē-$ was replaced by $*-ē-$ ~ $*-ēja-$, can also have been a general northern innovation; but it can be demonstrated only for OE, since in the other northern WGmc languages the relevant verbs appear in weak class II. In OE the first vowel of $*-ēja-$ was shortened, then syncopated

⁵ The forms given here are southwest Mercian, *Ps(A)*, since that dialect preserves the inherited 1sg. and 2sg. endings better than West Saxon.

⁶ The OHG form exhibits athematic 1sg. $-m$, which spread widely among stems in long vowels from *tuom* ‘I do’ (Cowgill 1959: 11).

(see 6.7.1), so that the relevant forms exhibit a sequence /-Cj-/ with no gemination. For the most part only relics survive, e.g.:

- PGmc *wakai- ~ *wakja- (*wakā-?) ‘be awake’ (Goth. *wakan*, ON *vaka*) >→
 PWGmc *wakē- (OHG *wahhēn*, very rarely *wahhōn*) → *wakē- ~ *wakēja- > OE
 (northern Merc.) *wæccan*, (North.) *wæcca* (with late gemination < *čj); otherwise
 shifted into class II, cf. OE (WS) *wacian*, (southwestern Merc.) *wæcian*, OF
wakia, OS *wakon* ~ *wacogean*;
- PGmc *pulai- ~ *pulja- (*pulā-?) ‘endure’ (Goth. *þulan*, ON *þola*) >→ PWGmc
 *polē- (OHG *dolēn*, rarely *dolōn*) → *polē- ~ *polēja- > OE (North., *Ru*²) *ðælgē*
 ‘to suffer’, iptv. pl. *ðæligas*, pres. indic. 3sg. *ðælgas*; otherwise class II, cf. OE
 (WS) *þolian*, (North.) *ðoliða*, OF *tholia*, OS *tholon* ~ *thol(o)ian*;
- PGmc *wunai- ~ *wunja- (*wunā-?) ‘be at peace’ (Goth. *unwunands* ‘troubled’, ON
una ‘to be content’) >→ PWGmc *wu/onē- ‘be used to, stay, dwell’ (OHG
wonēn) → *wunē- ~ *wunēja- in OE (northern Merc.) pres. indic. pl. *wynigap*
 ‘(we) remain’; otherwise class II, cf. OE (WS, southwestern Merc.) *wunian*, OS
(gi)wonon ~ *wunon*;
- PGmc *surgai- ~ *surgja- (*surgā-?) ‘be sad, worry’ (Goth. *saúrgan*) >→ PWGmc
 *sorgē- (OHG *sorgēn*) → *sorgē- ~ *sorgēja- in OE (early Merc.) *soer[ǵ]endi*
 ‘anxious, worried’ (*EpGl* 79); otherwise class II, cf. OE (WS) *sorgian*, OS
sorgon;
- PNWGmc *sparai- ~ *sparja- (*sparā-?) ‘spare’ (ON *spara*) >→ PWGmc *sparē-
 (OHG *sparēn* ~ *sparōn*) → *sparē- ~ *sparēja- > OE (North., *Rit*) *spæria* ‘to
 spare’, pres. iptv. sg. *spær* (with various levellings and remodellings, though
 the front vowel in the root points to a class III present); otherwise class II, cf.
 OE class II (WS) *sparian*, (southwestern Merc.) *spearian*;
- PWGmc *bibē- ‘tremble’ (OHG *bibēn*, rarely *bibōn*) >→ *bibē- ~ *bibēja- possibly
 in North. OE (*Ru*²) past pl. *bi[ʃ]gedon*; otherwise OE class II *bifian*.

Surprisingly, one of these OE relics might have been an inherited fientive verb:

- PGmc *hlinō- ~ *hlina- ‘lean’ (?; cf. Gk κλίνειν /klí:ne:n/ Lat. *inclināre*) >→
 PWGmc *hlinē-? (OHG *linēn*) → *hlinē- ~ *hlinēja- in OE (early Merc.)
onhlingu ‘I lean’ (*CorpGl* 1137); otherwise class II, cf. OE (WS) *hlinian*, (North.)
hlioniða ‘to recline’, OS *hlinon*;

on the other hand, it seems equally possible that this verb was a stative in PGmc.

I argued in 4.2.2 that the PWGmc masc. a-stem nom. pl. ending should be reconstructed as *-ō. If that is correct, we need to find an alternative source for the *-s of northern WGmc *-ōs. All the WGmc languages created a proximal deictic ‘this’ from the inherited deictic ‘that’ and a clitic which appears to have been *-s(i) (see 3.3.2 ad fin.). It seems possible that the same clitic could be appended to other nominal forms; masc. a-stem nom. pl. *-ō (see 4.2.2) plus

*-s would yield the attested northern form. A rough parallel can be cited: the Classical Armenian pluralizer $-k^h$, which cannot reflect *-(V)s because it never appears in the nom. sg. of o-, i-, or u-stems, probably reflects a particle which spread from the indefinite pronoun (Stempel 1994).⁸ Of course this hypothesis does not solve all the problems; in particular, it is unclear why the clitic became fossilized in only one inflectional category. But further work on this or some similar alternative might yield a more plausible source for *-ōs than any that have been proposed so far.

An important but obscure innovation of the northern WGmc dialects was the remodelling of n-stem inflection (see also 5.1.2 above). Compare the inflection of masc. ‘name’ and fem. ‘tongue’ in OE, OF, OS, and OHG:⁹

	OE	OF	OS	OHG
masc.				
sg. nom.	<i>nama</i>	<i>noma</i>	<i>namo</i>	<i>namo</i>
acc.	<i>naman</i>	<i>noma</i>	<i>namon</i> ~ <i>-an</i>	<i>namon</i> ~ <i>-un</i>
gen.	<i>naman</i>	<i>noma</i>	<i>namen</i>	<i>namen</i> ~ <i>-in</i>
dat.	<i>naman</i>	<i>noma</i>	<i>namen</i>	<i>namen</i> ~ <i>-in</i>
pl. nom.-acc.	<i>naman</i>	<i>noma</i>	<i>namon</i>	<i>namon</i> ~ <i>-un</i>
gen.	<i>namena</i>	<i>nomena</i>	<i>namono</i>	<i>namōno</i>
dat.	<i>namum</i>	<i>nomum</i>	<i>namon</i>	<i>namōm</i>
fem.				
sg. nom.	<i>tunge</i>	<i>tunge</i>	<i>tunga</i>	<i>zunga</i>
acc.	<i>tungan</i>	<i>tunga</i>	<i>tungun</i>	<i>zungūn</i>
gen.	<i>tungan</i>	<i>tunga</i>	<i>tungun</i>	<i>zungūn</i>
dat.	<i>tungan</i>	<i>tunga</i>	<i>tungun</i>	<i>zungūn</i>
pl. nom.-acc.	<i>tungan</i>	<i>tunga</i>	<i>tungun</i>	<i>zungūn</i>
gen.	<i>tungena</i>	<i>tungena</i>	<i>tungono</i>	<i>zungōno</i>
dat.	<i>tungum</i>	<i>tungum</i>	<i>tungon</i>	<i>zungōm</i>

Except for the OF loss of word-final *-n*, the OE and OF forms match perfectly; the OS and OHG forms likewise match one another, with the partial exception of the masc. acc. sg. It seems clear that one or both groups of dialects have remodelled n-stem inflection extensively; if both, they have done so in

⁸ Another reason why this hypothesis is attractive is that at least once in the Armenian Bible an inst. sg. form (without $-k^h$) is used with plural reference (James Clackson, p.c.), which suggests that the differentiation between singular and plural instrumental endings is secondary.

⁹ The neut. inflection is like the masc., except that the neut. nom.-acc. sg. has the same ending as the fem. nom. sg.; the weak adjective inflection is like that of n-stem nouns. There is some variation in the spelling of unstressed vowels, especially in OS; I have given the most typical spellings. See especially Gallée 1993: 213–14, Braune and Reiffenstein 2004: 207–8.

completely different directions. Relic forms are few and do not tell us much; aside from the irregular OE nom. pl. *exen* (see 2.3.1 (i) ad fin.), we have early North. OE acc. sg. masc. *galgu* ‘gallows, cross’, fem. *foldu* ‘earth’, *eorðu* ‘earth’, as well as oblique fem. *Ēastron* ‘Easter’, which is difficult to evaluate (see 3.1.5). At least the following possible developments can be considered.

- 1) The northern dialects participated in the change of word-final *-ōn to *-ūn; *Ēastron* and the OE fem. acc. sg. relics in *-u* reflect that change, and *galgu* reflects a limited spread to the masc. Otherwise the northern dialects have generalized masc. acc. sg., nom.-acc. pl. *-an to the masc.-neut. gen.-dat. sg. (see 5.1.2 above) and then generalized the masc.-neut. inflection to the fem., probably independently. In that case acc. sg. *-an probably has to be inherited, since nom.-acc. pl. *-an would be too small a basis for generalization of *-an throughout the singular (but see further below); OS, OHG *-on*, apparently < *-anu, would have to be a dialect development within the PWGmc period (presumably with later spread to the nom.-acc. pl.—unless the latter reflects neut. *-anu by syncretism?).
- 2) As in (1), but the ending of OE masc. acc. sg. *galgu* reflects the same preform as OS, OHG *-on*. In that case the northern dialects must have replaced gen.-dat. sg. *-ini with *-ani very early, perhaps at the same time that *-iw- was replaced by *-aw- in u-stems (see 3.1.4); otherwise it is difficult to see how *-an* could have been generalized starting from the masc. nom.-acc. pl. alone.
- 3) The sound change outcome of *-ōn in the northern dialects was *-an*; in that case the masc. and neut. inflection could have been remodelled on the fem., whether or not North. relic acc. sg. *-u* reflects (pre-)PWGmc *-anu.

Probably other scenarios can be devised. I know of no proposal that solves all the problems convincingly.

The productive formation of adverbs in the northern WGmc dialects is distinctive. A productive PGmc formation in *-ō can be reconstructed from Goth. *-o*, OS, OHG *-o*, and ON relics like *viða* ‘widely’; the productive ON suffix *-liga* can reflect PGmc *-likō. But a corresponding northern WGmc ending *-a* appears only in a few fossilized adverbs, e.g. OE *sōna* ‘immediately’ (= OS *sāno*), *geāra* ‘long ago’. The usual northern ending is OE, OF *-e*. This presumably reflects PGmc *-ē and/or *-ē; the former seems to be reflected in Gothic place adverbs such as *nehva* ‘near’, *faírra* ‘far’, etc., the latter in Goth. *hidre* ‘hither’ and other place adverbs. The details of this formation’s development remain obscure.

Finally, an important morphosyntactic change was the loss of the third-person reflexive. The oblique forms of the pronoun (acc. *sek ~ *sik, dat. *siz) are not attested in any northern WGmc language. (The dat. has also been lost in OHG; it isn't clear whether that was an independent change.) The possessive adj. *sīn survives in its original function in OE, but it is rare except in verse, being usually replaced by the gen. forms of the third-person pronoun. In OF and OS, as in OHG (and possibly under OHG influence), *sīn* has been shifted into non-reflexive masc. sg. function, meaning simply 'his'.

5.3 Some northern West Germanic lexical innovations

Even if gaps in attestation permitted, a complete list of northern WGmc lexical innovations would be of limited use or interest; however, a few seem worth mentioning here because they are relevant to grammar. (See Nielsen 1985: 109, 111, 113, 116–17).

A striking innovation shared by OE and OF is a pair of forms meaning 'less, least'. The PGmc and PWGmc forms were made to a root *minn- < (post-)PIE *mi-nw- (see vol. i 3.2.6 (iii), p. 139):

PGmc *minnizō 'less' (Goth. *minniza*, ON *minni*) > PWGmc *minnizō > OS, OHG *minniro*;

PGmc adv. *minniz 'less' > (Goth. *mins*) > PWGmc *minni > OHG *min*;

PGmc *minnistaz 'least' (Goth. *minnists*, ON *minstr*) > PWGmc *minnist > OS, OHG (weak) *minnisto*.

The comparative adj. and adv. survive in OF *minna* ~ *minnera* 'lesser, smaller, younger', *min* 'less' (unless they are loanwords from OS?), but the usual words for 'less, least' in OE and OF are made to a root *lais- ~ *laiz-:

northern WGmc *laisizā 'less' > *laisā (see 3.2.1) > OE *lāssa*, OF *lessa* ~ *lessera*;

northern WGmc adv. *laisi 'less' > OE *lās*, OF *lēs*;

northern WGmc *laisist ~ *laizist (?) 'least' > OE *lāsest* ~ *lārest*, OF *lēst* ~ *lērest*.

OS has only the adv. *lēs* in *Heliand* 2462:

Nio gī an thesumu lande thiū lēs lēra mīna

wordun ni wīsiad;

'Do not ye any the less for that proclaim my teaching in this land;'

Possible etymological connections are far-flung and far from compelling (cf. Heidermanns 1993: 358).

A second (and very puzzling) innovation affects two numerals. Most Gmc languages exhibit the expected consonant (or lack of a consonant) in the cardinal 'nine' and the ordinal 'tenth':

PGmc *ne(w)un ‘nine’ (see vol. i 3.2.6 (i), p. 137) > Goth. *niun*, ON *níu*, OHG *niun*;
PGmc *tehundō ‘tenth’ > Goth. *taihunda* (ending replaced), ON *tíundi* (ending
replaced), OHG *zehanto*; *-h- also in OE *tēoþa*, OF *tiānda*, OS *tehando*, though
the first exhibits a voiceless Verner’s Law alternant in the suffix.

But in northern WGmc we find forms with medial *-g-:

northern WGmc *nigon ‘nine’ > OE *nigon*, OF *niugen*, OS *nigun* ~ *nigon*;
northern WGmc *tegāþā (?) ‘tenth’ > OE (Merc.?) *teogoþa* (in the translation of
Bede), OS *tegotho* (Freckenhorst tax roll, Gallée 1993: 235).

The distribution of the second item is striking and difficult to interpret; it
seems possible that the OF and usual OS forms have been influenced by OHG,
but for the *-h- of the usual OE form the influence of (WS) *tīen*, (Angl., Kent.)
tēn ‘ten’ must be invoked. In any case the northern byform of ‘tenth’ appears
to exhibit a voiced Verner’s Law alternant. No convincing explanation for the
shape of ‘nine’ has been advanced.

A fractional numeral has been created, or else preserved, only in the
northern WGmc languages:

northern WGmc *twaidī ‘two-thirds’ > OE *twāde*, OF *twēde*, OS *twēdi* ‘half’
(Werden tax roll, Gallée 1993: 236).

Finally, it appears that an inherited inst. sg. of the interrogative stem *hwa-
has been preserved in specialized function in OE and OF:

PGmc (?) inst. sg. *hwō ‘by what?, by which?’ > PNWGmc, PWGmc *hū > OE, OF
hū ‘how?’.

It is unlikely that OS *hwō* ‘how?’, OF *hō* ‘how?’ (if it is not simply an OS loan),
and other forms with *ō are etymologically identical, as they should not have
escaped the PNWGmc sound change of word-final *-ō to *-ū (see 2.1.1). The
precise meaning of this form can be a northern WGmc innovation, but the
form itself is probably old, originally in competition with i-stem *hwī (see
vol. i 4.3.6 (ii), p. 290, and section 4.2.5 of this volume).

6

The separate prehistory of Old English: sound changes

The phonology of Old English is notoriously complex. That complexity is largely the result of a long sequence of regular sound changes which occurred roughly between the time when pre-OE became identifiable as a northern WGmc dialect group and the end of the 9th century, the period of the earliest surviving examples of extensive OE prose. Brunner 1965: 14–193, Campbell 1962: 50–198, and Hogg 1992 [2011] give reasonable summaries of these developments, the last in great detail; Luick 1914–40: 1–320, 797–932 is also very detailed; all but Brunner pay considerable attention to the relative chronology of changes and extend further forward in time than this chapter. Thus most of the relevant facts are known. However, Luick's and (in essence) Brunner's accounts are pre-phonemic, and though Campbell and especially Hogg are much more up to date, they retain an old-fashioned philological focus on explaining the forms which the student encounters rather than writing an internal history of the language. I will attempt the latter, trying to improve on previous accounts in the hope that future scholars will be able to improve on mine.

6.1 Fronting of low vowels and the development of diphthongs

6.1.1 *The distribution of the outcomes of fronting*

The northern WGmc fronting of *a and *ā has been treated above in 5.1.2. The outcomes of the long low vowel were different in the different OE dialects. Since no specifically OE sound changes can be dated before the fronting, while one of the earliest must have followed it (see 6.2), it is evident that OE was already dialectally diverse when it became an identifiable dialect group.

It is reasonable to ask whether fronting occurred when the bulk of speakers of pre-OE were still living on the continent of Europe or only after large

numbers had begun to settle in Britain.¹ The only relevant evidence at our disposal is the pattern of the different outcomes of the fronting of PWGmc *ā. Of the OE dialects for which we have any significant evidence, West Saxon exhibits *æ* (with retraction to *ā* in some environments and breaking to *ēa* in others—see 6.2, 6.3), whereas Kentish, Mercian, and Northumbrian all exhibit *ē*. That would seem to suggest that much of the progress of fronting as a variable sound change could have occurred in Britain, with raising to *ē* spreading along the eastern coast but not to the middle Thames, where West Saxons were present in comparatively small numbers before the middle of the 6th century and could have been relatively isolated from the other English settlements (cf. Jackson 1953: 199 n. 4, 201–3, Stenton 1971: 24, Yorke 1990: 131–2). Of course the pattern fits the geography of the continent equally well, with raising to *ē* spreading along the North Sea coast among the Jutes and Angles but not spreading to the west nor penetrating the interior, either or both of which might have been populated by tribes vaguely referred to as ‘Saxons’.² Since we have no record of the OE dialect of Wight, which Bede says was a Jutish settlement (and so might have shared the raising to *ē* if it occurred on the continent) but might also have been relatively isolated (and so might not have shared the raising, like West Saxon, if it occurred in Britain), the OE evidence does not allow a choice between those two geographic alternatives.

However, there are several English dialects which are almost or entirely unattested in the OE period but well enough attested in the 13th century to shed some light on the problem. Not surprisingly, most seem to exhibit higher mid *ē* as the product of raising. But the dialect of Essex instead has *ā*, apparently with no fronting at all (see vol. iii). That fronting really failed to apply in East Saxon is of course very unlikely; but it is clear that the outcome of

¹ For the history of early Anglo-Saxon England Stenton 1971 is still indispensable; also important are Jackson 1953, J. Campbell et al. 1982, Myres 1986, Yorke 1990, and Salway 1991. It is now generally recognized that the Anglo-Saxon ‘invasion’ of Britain was a process of gradual immigration probably extending over much more than a century and certainly beginning in the 4th century, when the province was still firmly under Roman control but the army was increasingly recruited from Germanic immigrants, including immigrants from the northern WGmc area. It is also clear that for the coastal Germanic tribes the North Sea was a means of regular travel and communication, not a barrier; the relative ignorance of seafaring among most medieval English people belongs to a later age. Questions about where particular linguistic changes could have taken place need to be posed and answered with those considerations firmly in mind.

² I here adopt the straightforward hypotheses that the sketchy account of Anglo-Saxon origins in Bede’s *Ecclesiastical History*, book I, ch. 15, is roughly correct in its general outlines (though it clearly oversimplifies); that the origins of the Jutes and Angles are to be located on the western coasts of Jutland and Schleswig-Holstein respectively; and that the ‘Saxons’ must have been somewhere to the south or west (with Frisians occupying the coast west of the Weser). Of course none of this can be proved, but it does not follow that hypotheses which reject or disregard the few tenuous facts that we have are preferable.

PWGmc *ā cannot have merged with *ē in that dialect, and that it must have been lower than ē in the OE period—i.e., it was approximately *ǣ*, as in West Saxon. Essex was not an isolated area; on the contrary, the lower Thames valley was settled early, it included (at Harrow) a major center of polytheistic worship, and the chief town of Essex was London, which may have been a center of trade continuously from the Roman period to the present and was certainly an important center of Anglo-Saxon population by the early 7th century (Stenton 1971: 53–7). There is no obvious reason why a raising of *ǣ* to ē that was spreading along the eastern coast of Britain in the 4th, 5th, or 6th century should have failed to penetrate Essex. But if the raising was characteristic of coastal dialects on the continent and failed to penetrate far inland or westward, its absence among the two major settlements of ‘Saxons’ makes sense. Nor is the absence of any such phenomenon in Sussex a problem. Sussex was thinly settled because its soil is poor; there is no evidence for a distinctive South Saxon dialect at any time, apparently because Sussex was an area into which dialect characteristics spread from the significant centers of population in Kent and Wessex.

It is not so clear what to make of the fact that areas to the immediate north of Wessex and Essex apparently also exhibited lower reflexes of PWGmc *ā in Middle English (ME), even though they are ‘Anglian’ areas in which we might have expected to find ē. The evidence is the distribution of names beginning with *Strat-*, shortened from *strāt* or *strǣt*, vs. *Stret-*, shortened from *strēt*; the line south of which *Strat-* is found runs from the Severn roughly along the northern borders of Gloucestershire and Oxfordshire, then approximately through Northampton and Cambridge, then northward through Bury-St-Edmund’s and Thetford, with all but the western part of East Anglia showing *Strat-* (Brandl 1915: 30–42 with references). If the outline of events sketched in Jackson 1953: 203–5, 210 is correct, a good deal of southern Mercia, as of the mid-8th century, had originally been Saxon and might have remained Saxon in dialect, which would account for *Strat-* in the western half of its northernmost range; but that does not account for the appearance of *Strat-* in coastal East Anglia. Probably we should also reckon with spread of *ǣ* from West Saxon and East Saxon to adjacent dialects for economic reasons (given the economic importance of London) and political reasons (given that the kings of Wessex eventually became kings of England). Unfortunately that tends to undermine the arguments of the preceding paragraph: couldn’t *ǣ* have spread from Wessex alone in the 10th and later centuries? Of course it could have, especially if significant numbers of West Saxons settled in London in the 10th and 11th centuries (which seems possible, though I know of no hard evidence for it). Still, the observed distribution of raised and unraised

outcomes of PWGmc *ā in England seems somewhat easier to explain if the pattern had become more or less fixed on the continent by the 5th century (so Campbell 1962: 110), so that it could spread in England both from West Saxon and from East Saxon more or less independently; but it has to be admitted that the question posed at the beginning of this section cannot be answered definitively.

6.1.2 Tensing of diphthong nuclei and subsequent developments

The development of inherited diphthongs in all dialects of OE was clearly different from their development in related languages. I here discuss their development down to the period of i-umlaut; see also Luick 1914–40: 130–7, Campbell 1962: 52–4, 116–20, Hogg 1992: 79–80, 101–6 [2011: 77–8, 99–103].

As I noted in section 5.1.2 (ad fin.), there is no reason to expect that the nuclei of the PWGmc diphthongs *ai and *au must have behaved similarly to other short *a (or to long *ā) in the fronting; thus not all of the relative chronology of, e.g., Campbell 1962: 52–3 is secure. However, one of Campbell's chronological inferences is cogent: the fronting of inherited *ā must have preceded the monophthongization of *ai to *ā*—or rather, the fronting of inherited *ā must have been *well under way* before the monophthongization of *ai was *complete*, since otherwise we would find *ā* < *ai fronted. The two changes could have been simultaneous, or have overlapped in time, or the monophthongization could be later; what is not possible is that the whole course of monophthongization preceded any significant fronting.

PWGmc *ai appears in all OE dialects as *ā*. Examples are numerous; the following are typical:

- PGmc masc. nom. pl. *þai 'those' (Goth. *þai*, OS *thē*) > OE *þā* (OF *thā*);
- PGmc *draib '(s)he drove' (ON *dreif*, OS *drēf*, OHG *treib*) > OE *drāf*;
- PGmc *hlaibaz 'bread' (Goth. *hlaiþs*, ON *hleifr*, OHG *leib*) > OE *hlāf* (OF *hlēf*);
- PGmc *haimaz 'native place' (ON *heimr* 'world', OS *hēm*, OHG adv. *heim* 'homewards'; cf. Goth. *haims* 'village', fem. i/ō-stem) > OE *hām* 'home' (OF *hēm*);
- PGmc *wait '(s)he knows' (Goth. *wait*, ON *veit*, OS *wēt*, OHG *weiþ*) > OE *wāt* (OF *wēt*);
- PGmc *gait- 'goat' (Goth. *gait*, ON *geit*, OS *gēt*, OHG *geiþ*) > OE *gāt*;
- PGmc *aiþaz 'oath' (Goth. *aiþs*, ON *eiðr*, OS *ēð*, OHG *eid*) > OE *āþ* (OF *ēth*);
- PGmc *uz rais 'it rose' (Goth. *urrais*, ON *reis*, OS *arēs*, OHG *arreis*) > OE *ārās*;
- PGmc *maizō 'bigger, more' (Goth. *maiza*, ON *meiri*, OS, OHG *mēro*) > OE *māra* (OF *māra*);
- PGmc *stainaz 'stone' (Goth. *stains*, ON *steinn*, OS *stēn*, OHG *stein*) > OE *stān* (OF *stēn*);

- PGmc *hailaz ‘unhurt, healthy’ (Goth. *hails*, ON *heill*, OS *hēl*, OHG *heil*) > OE *hāl* (OF *hēl*);
- PGmc *sairą ‘pain, wound’ (Goth. *sair*, ON *sár*, OS, OHG *sēr*) > OE *sār* (OF *sēr*);
- PGmc *aih ‘(s)he has’ (Goth. *aih*, ON *á*) > OE *āh* (OF *āch*);
- PGmc *snaiwaz ‘snow’ (Goth. *snaiws*, ON *snær* ~ *snjór*, OS, OHG *snēo*) > OE *snāw*;
- PGmc *saiwalō ‘soul’ (Goth. *saiwala*, OS, OHG *sēola*) > OE *sāwol*;
- PNWGmc *raidu ‘act of riding’ (ON *reið*; OHG *reita* ‘chariot’) > OE *rād* ‘riding, expedition’ (OF *rāf-rēd* ‘a ride on a stolen horse’);
- PNWGmc *aik- ‘oak’ (ON *eik*, OS *ēk*, OHG *eih* ~ *eihha*) > OE *āc* (OF *ēk*);
- PNWGmc *taihōn- ‘toe’ (ON *tá*, OHG *zēha*) > OE *tā* (OF *tāne*);
- PWGmc *saipā ‘soap’ (OHG *seifa*) > OE *sāpe*;
- PWGmc *gaist ‘spirit’ (OS *gēst*, OHG *geist*) > OE *gāst* (OF *jēst*);
- PWGmc *aiskōn ‘to ask’ (OS *ēskon*, OHG *eiskōn*) >→ OE *āscian* (OF *āskia*).

The OF development must have been largely different, as the examples cited demonstrate: the default OF reflex is *ē*; we find *ā* when a velar follows immediately or the following syllable contained a back vowel, and probably in unstressed monosyllables (de Vaan 2011; cf. also Hofmann 1995). Considering the development of the u-diphthongs (see immediately below), it seems clear that in OE the nucleus of *ai was first tensed; the disappearance of the offglide must have been a subsequent change. The phonetic development was probably approximately *[ai] > *[a.i] > *[a.ɨ] > [a:]. The 4th- or early 5th-century runic inscription *raihan* on the knucklebone of a roe deer (OE *rā* < *rāha* < PWGmc **raihō*, cf. OHG *rēho*) found in a cremation urn at Caistor-by-Norwich (Page 1999: 19, 21) might record some intermediate stage of this development (Bammesberger 1991a: 402, 1996: 17, 2006: 172, 176–8), though it might instead exhibit inherited *ai with no change (Hines 1991: 79; see also the end of this section). When the final stage of this development was reached the new *ā* merged with the old *ā* surviving before *w*; as a result, *ā* now occurred before all consonants and word-finally, and so contrasted with the reflex of inherited *ā before nasals and (in WS) *æ* just about everywhere else. It seems likely that the reflex of *ā was weakly rounded by that point, and it must have been strongly nasalized, since the new *ā* ought automatically to have been weakly nasalized by a following nasal consonant, yet the two vowels did not merge. (See further section 6.3.3.)

The development of *ai in OE *earfop* ‘hardship’ < **ærbāp* < PWGmc **arbaiþi*, apparently with secondarily stressed *ai, and in the compounds *eofot* ‘crime’ < (**ebhāt* (*EpGl* 854 *ebhat-*), *eofolsian* < **ebhālsian* (see 6.9.1 ad fin.) shows that the eventual outcome *ā* was rounded when it did not bear the primary stress. It seems likely that *ō* ‘ever’, beside usual *ā*, reflects a destressed form which was re-stressed after that change (Hogg 1992: 79 [2011: 77]).

PWGmc *au appears in most dialects as *ēa*. It seems clear that *au was first tensed and fronted to *ǣo*, which is still attested occasionally in 8th-century documents; later the offglide was unrounded and lowered, and the spelling *ǣa*, which is also attested, was simplified to *ēa* (Campbell 1962: 53, 116–17), though there seems to have been no further change in the pronunciation. In some areas of Northumbria the unrounding never occurred, and the diphthong is usually written *ēo* (Campbell 1962: 117–18). Examples are numerous; the following (cited with the majority outcome) are typical:

- PGmc *hawwaną ‘to chop’ (ON *hoggva*) > PWGmc *hauwan (OHG *houwan*) > OE *hēawan* (OF *hāwa*);
 PGmc *hlaupaną ‘to run, to jump’ (Goth. *us-hlaupan*, ON *hlaupa*, OHG *loufan*) > OE *hlēapan* (OF *hlāpa*);
 PGmc *laubaz ‘leaf’, *laubą ‘foliage’ (Goth. *laufs*, ON *lauf*, OS *lōf*, OHG *loub*) > OE *lēaf* (OF *lāf*);
 PGmc *straumaz ‘stream’ (ON *straumr*, OS *strōm*, OHG *stroum*) > OE *strēam* (OF *strām*);
 PGmc *raudaz ‘red’ (Goth. *rauþs*, ON *rauðr*, OS *rōd*, OHG *rōt*) > OE *rēad* (OF *rād*);
 PGmc *daudaz ‘dead’ (Goth. *dauþs*, ON *dauðr*, OS *dōd*, OHG *tōt*) > OE *dēad* (OF *dād*);
 PGmc *dauþuz ‘death’ (Goth. *dauþus*, OS *dōd*, OHG *tōd*) > OE *dēaþ* (OF *dāth*);
 PGmc *kaus ‘(s)he tested’, NWGmc ‘(s)he chose’ (ON *kaus*, OS, OHG *kōs*) > OE *ċēas* (OF *kās*);
 PGmc *lausaz ‘free (from)’ (Goth. *laus*, ON *lauss*, OS, OHG *lōs*) > OE *lēas* (OF *lās*);
 PGmc *auk ‘also’ (Goth., early ON *auk*, OS *ōk*, OHG *ouh*) > OE *ēac* (OF *āk*);
 PGmc *augōn- ‘eye’ (Goth. *augo*, ON *auga*, OS *ōga*, OHG *ouga*) > OE *ēage* (OF *āge*);
 PGmc *hauhaz ‘high’ (Goth. *hauhs*, OS, OHG *hōh*) > OE *hēah* (OF *hāh*);
 PNWGmc *auraz ‘earth’ (?; ON *aurr* ‘mixed sand and pebbles’) > OE *ēar* ‘earth’ (name of the ea-rune);
 PNWGmc *haul- ‘rupture, hernia’ (ON *haull*; OHG *hōla*) > OE *hēala* ‘hydrocele’;
 PNWGmc *nautą ‘bovine, ox’ (ON *naut*, OHG *nōz*) > OE *nēat* (OF *nāt*);
 PNWGmc *auzōn- ‘ear’ (ON *eyra*, OS, OHG *ōra*) > OE *ēare* (OF *āre*);
 PNWGmc *baunu ‘bean’ (ON *baun*, OS, OHG *bōna*) > OE *bēan* (OF *bāne*).

In this case too OF exhibits a different outcome, namely *ā*.

By the loss of *-az and *-ą in PWGmc (see 3.1.2) stems in *-awa- acquired endingless nom.-acc. sg. forms in *-au. These at first developed regularly in pre-OE, but levelling later obscured the sound-change outcomes. The following are typical:

- PGmc *hrawaz ‘raw’ (ON *hrár*) > PWGmc. *hrau, *hraw- (OHG *rō*) > OE *hrēa, *hraw-, whence *hrēaw(-)* by mutual levelling;

PNWGmc *strawą ‘straw’ (ON *strá*, OHG *strō*) > OE *strēa, *straw-, whence *strēaw(-)* by mutual levelling (but cf. *strēaberige* ‘strawberry’).

The PWGmc loss of *w in the sequences *awu and *āwu (see 3.1.5) created new *au and *āu; both underwent the OE development to *ēa*:

PWGmc nom. sg. *þrau, acc. sg. *þrawā ‘threat’ (OHG *drawa*) > OE *þrēa*, *þrawe, whence backformed nom. sg. *þrawu* (*thrauu EpGl* 53, *thrauuo CorpGl* 200; the old nom. sg. *þrēa* has mostly been levelled through the paradigm);

PWGmc nom. sg. *klāu, acc. sg. *klāwā ‘claw’ (OHG *klāwa*) > OE *clēa, *clāwe*, whence backformed nom. sg. *clāwu* (on nom. pl. *clēa* see below);

PWGmc nom.-acc. pl. neut. *fau, dat. pl. *faum ‘few’ (OHG *fō*) > OE *fēa*, *fēam*, whence the diphthong was levelled into *fēawe*, etc.

OE *frēa* ‘lord’ < (?) PWGmc *frawō and *pēa* ‘peacock’ ← Lat. *pāvō* seem to show that *ō was treated like *u in these sequences; if that is true, OE nom. pl. *clēa* developed regularly < *klāwō, and *clāwa* ‘claws’ must have been remodelled on the basis of other *ō*-stem nom. pl. forms.

It was noted in 3.1.3 that PWGmc *[-aw¹w¹-], which had developed from PGmc. *-awj-, apparently became *[-auj-] at some point in pre-OE. These new *au also underwent the development to *ēa*:

PGmc *awjō ‘island’ > PNWGmc *awju (ON *ey*) > PWGmc *[aw¹w¹ju] (OHG *ouwa*, with gemination) > *auju > *ēaju > WS OE *īeg*, Angl. *ēg*;

PGmc *hawjā ‘grass, hay’ (Goth. *hawi*, ON *hey*) > PWGmc *hawi, *[haw¹w¹-] (OS *hōi*, OHG *hewi*—the inherited nom.-acc. sg.—and *houwi*, with gemination levelled in from the oblique forms) > *hawi, *hauj- > *hæwi, *hēaj- > WS OE *hīeg*;

PGmc *strawjaną ‘to spread out’ (Goth. *straujan*) > PWGmc *straw¹w¹jan (OHG *gistrouwen* ‘to bestrew’) > *straujan > *strēajan > Angl. OE *strēgan* ‘to strew’.

PWGmc. *eu and *iu underwent the same tensing as the a-diphthongs but did not otherwise shift in the vowel space. The outcome of the former is usually written *ēo*. Examples are numerous:

PGmc *kewwaną ‘to chew’ (ON *tyggva* with dissimilation of velars; cf. Toch. B *śwātsi* ‘to eat’) > PWGmc *keuwan (OHG *kiuwan*) > OE *cēowan*;

PGmc. *fedwōr ‘four’ (Goth. *fidwor*) > PWGmc. *feuwar (OS *fiuwar*) > OE *fēower* (OF *fiūwer*);

PGmc *deupaz ‘deep’ (Goth. *diups*, ON *djúpr*, OS *diop*, OHG *tiof*) > OE *dēop* (OF adv. *diāpe*);

PGmc *þeubaz ‘thief’ (Goth. *þiubs*, ON *þjófr*, OS *thiof*, OHG *diob*) > OE *þeof* (OF *thiāf*);

PGmc *geutanaą ‘to pour’ (Goth. *giutan*, OS *giotan*, OHG *giozan*) > OE *gēotan* (OF *bijāta* ‘to water’);

PGmc *þeudō ‘nation, tribe’ (Goth. *þiuda*, ON *þjóð*, OS *thiod* ~ *thioda*, OHG *diota*) > OE *þēod* (OF *thiāde*);

PGmc *freusanaą ‘to freeze’ (ON *frjósa*, OHG *friosan*) > OE *frēosan*;

- PGmc *deuza ‘animal’ (Goth. dat. pl. *diuzam*, OS *dior*, OHG *tior*; ON *dýr* with z-umlaut) >→ OE *dēor* (with -r levelled in from inflected forms; so also OF *diār*);
- PGmc *seukaz ‘sick’ (Goth. *siuks*, ON *sjúkr*, OS *siok*, OHG *sioh*) > OE *sēoc* (OF *siāk*);
- PGmc *fleugana ‘to fly’ (ON *fljúga*, OHG *fliogan*) > OE *flēogan* (OF *fliāga*);
- PGmc *leuhada ‘light’ [noun] (Goth. *liuhaþ*) ?> PWGmc *leuht ‘light’ (Boutkan and Siebinga 2005: 238; OS, OHG *lioht*) > OE *lēoht* (OF *liāht*);
- PGmc *teuhana ‘to pull’ (Goth. *tiuhan*, OS *tiohan*, OHG *ziohan*) > OE *tēon* (OF *tiā*);
- PNWGmc *breusta ‘breast’ (ON *brjóst*, OS *brīost*) > OE *brēost* (OF *briāst*);
- PNWGmc *keulaz ‘keel, ship’ (ON *kjóll*, OHG *kiol*) > OE *cēol*;
- PNWGmc *feurþō ‘fourth’ (ON *fjórdi*, OS *fiordō*, OHG *fiordo*; see Stiles 1985–6, NOWELE 3: 5–6) > OE *fēorþa* (OF *fiārda*);
- PWGmc *reumō ‘strap’ (OS, OHG *riomo*) > OE *rēoma* ‘ligament’;
- PWGmc. *leuþ ‘song’ (OHG *liod*) > OE *lēoþ*;
- PWGmc *teunō ‘injury, wrong’ (OS *tiono*; cf. ON *tjón*) > OE *tēona*;
- PWGmc *beur ‘beer’ (OS, OHG *bior*) > OE *bēor* (OF *biār*).

Once again the default OF outcome *iā* is clearly different.

By the loss of *-az and *-a in PWGmc (see 3.1.2) stems in *-ewa- acquired endless nom.-acc. sg. forms in *-eu. Inherited *ewu > PWGmc *eu (3.1.5) and gave the same outcome. Forms containing these sequences at first developed regularly in pre-OE, but levelling later obscured the sound-change outcomes (though not so much as in the case of stems in *-awa-):

- PGmc *trewa ‘tree, wood’, nom.-acc. pl. *trewō (ON *tré*; Goth. *triwam* ‘with clubs’) > PWGmc *treu, *trew-, nom.-acc. pl. *treu (see 3.1.5; OS sg. *trio*) > OE *trēo*, *treow-*, nom.-acc. pl. *trēo* → *trēo(w)*, *trēow-*, nom.-acc. pl. *trēo(w)* (North. dat. pl. *trewum*);
- so also PGmc *knewa ‘knee’ (Goth. acc. pl. *kniwa*, ON *kné*, OHG *knio*) >→ OE *cnēo(w)*, *cnēow-*, *cnēo(w)* (North. acc. pl. *cnewa*);
- so also PGmc *þewaz ‘slave’ (Goth. nom. pl. *þiwos*) > PWGmc *þeu, *þew- (OHG *deo* ‘unfree’) >→ OE *þēo(w)*, *þēow-*.
- At least one example of *iu did not arise by raising of *i in PGmc. and so did not undergo i-umlaut in OE. It exemplifies the same tensing:
- PGmc *izweraz ‘your (pl.)’ (Goth. *izwar*) > PWGmc. *iuwar (OS, OHG *iuwar*) > OE *iower* (OF *iūwer*).

Another appeared in a loanword:

- PWGmc *diubul (OS *diubal*, OHG *tiubil* ~ *tiufal*) > OE *diōfol* (OF *diōvel*).

In a few words contraction of vowels in hiatus gave the same result:

- PGmc fem. nom. sg. *hī ‘this’ (cf. Goth. *si*, OHG *sī* ‘she’) > PWGmc *hiu (with addition of the usual ā-stem fem. nom. sg. ending; cf. OS, OHG *siu* ‘she’) > OE *hīo* ‘she’ (OF *hiu* ‘she’);

so also OE *sīo* ‘that’ (nom. sg. fem.; see 4.2.5);

PGmc neut. nom.-acc. **þrijō* ‘three’ (Goth. *þrija*) > PNWGmc. **þriu* (ON *þriju*, OS *thriu*, OHG *driu*) > OE *þrīo* (OF *thriu*);

PGmc. **frijōnd*- ‘loving; friend’ (Goth. *frijonds*) > PWGmc. **friund* (cf. OS *friund*, OHG *friunt*) > OE *frīond* (OF *friund*).

On the development of PWGmc. *[-i^w]- see the discussion in section 6.6.3. Other examples of **iu* occurred before syllables containing a high front vocalic and therefore later underwent i-umlaut; they will also be discussed in section 6.6.3.

Though the orthography of OF makes it difficult to draw firm conclusions, it looks as though the OF development of **iu* was not identical to the OE development.

What the OE developments of the diphthongs have in common is the tensing (or lengthening) of their syllabic nucleus; that must have been a single historical change, to be followed later by developments of the offglides. The tensing must have preceded the diphthongization called ‘breaking’ (6.2), because the results of the breaking of long vowels, not the results of the breaking of short vowels, merged with the inherited diphthongs. As we have seen, the inherited diphthongs developed very differently in OF. It thus appears that these are the earliest salient sound changes that distinguished the OE dialect group from other WGmc dialects.

Curiously, the developments **ai* > *ā* and **au* > *ēa* have approximately repeated themselves in some ModE dialects of the eastern and southeastern USA (Labov, Ash, and Boberg 2006: 126, 159). The vowel shift [aɪ] > [a:] (with some fronting, but not usually as far as [æ:]) is an instantly recognizable feature of southeastern American English. Fronting of [aʊ] to [æʊ] is more widespread; further development to [æ:²] occurs in some upland southern dialects, and a raised outcome [e:²] has been recorded from the working-class vernacular of Philadelphia. Of course there is no direct connection between these modern changes and the prehistoric OE changes; rather, similar subsystems of vowels can develop similarly under similar conditions of stress and timing.

6.2 Breaking and related changes

After the fronting of low vowels, all front vowels were ‘broken’ into diphthongs when followed by certain consonants and consonant clusters. The conditioning of the breaking rule was somewhat different for the low and nonlow front vowels, and there were also differences between the dialects; in some dialects **æ* was ‘retracted’ to **a* before certain consonant clusters instead of being broken. I will treat the environments that triggered breaking one by

one, discussing the different outcomes in detail; see also Luick 1914–40: 138–52, Campbell 1962: 54–60, Hogg 1992: 84–95 [2011: 82–93].

6.2.1 Breaking before *h

Before *h all the short front vowels were broken in all dialects: *æ > ea, *e > eo, *i > io. The actual sound change probably yielded hypershort *ÿ as the second element of these diphthongs (Campbell 1962: 116–17), but they developed in much the same way as the inherited diphthongs discussed in 6.1.2. Of the long front vowels, *ī occurred before *h in all dialects and was broken to īo. The only other sequences of long front vowel plus *h were reflexes of PWGmc *āh (see 5.1.2); in the non-WS dialects that sequence had become *ēh and was broken to ēoh, while in WS it had become *ǣh and was broken to ēah. Finally, there is a further complication in the evidence for breaking before *h: in the Anglian dialects diphthongs were subsequently monophthongized (‘smoothed’) before velars, including h (see 6.9.2), and that sound change obliterated much of the evidence for breaking in those dialects; however, in forms in which *h was lost before monophthongization occurred, the diphthongs survived. Several such forms will be adduced below. Note that breaking by following *h must have occurred after the loss of *h when followed by two nonsyllabics (see 5.1.3).

There are perhaps thirty examples of *ǣh > eah, including the following:

- PGmc *ahtōu ‘eight’ (Goth. *ahtau*, ON *átta*) > PWGmc *ahtō (OS, OHG *ahto*) > *ǣhtā > OE *eahta* (OF *achta*);
- PGmc *mahtē ‘(s)he was able’ (Goth., OS, OHG *mahta*, ON *mátti*) > *mǣhtǣ > OE *meahte* (OF *machte*);
- PGmc *sah^w ‘(s)he saw’ (Goth. *sahv*, ON *sá*) > PWGmc *sah (OS, OHG *sah*) > *sǣh > OE *seah* (OF *sach*);
- PGmc *ahs- ‘axle’ (ON *ǫxull*; cf. Lat. *axis*) > PWGmc *ahsu (OS, OHG *ahsa*) > *ǣhsu > *eahsu > OE *eax*;
- PGmc *ahslō ‘shoulder-joint’ (ON *ǫxl*; cf. Lat. *āla* ‘wing’) > PWGmc *ahslu (OS *ahsla*, OHG *ahsala*) > *ǣhslu > *eahslu > OE *eaxl* (OF *axle*);
- PGmc *wahsijanā ‘to grow’ (Goth. *wahsjan*) → PNWGmc *wahsanā (ON *vaxa*, OS, OHG *wahsan*) > *wǣhsan > OE *weaxan* (OF *waxa*);
- PNWGmc *hlahtraz ‘laughter’ (ON *hlátr*) > PWGmc *hlahtr (OHG *lahtar*) > *hlǣhtr > OE *hleahtr*;
- PWGmc *fahht ‘(s)he fought’ (OHG *fahht*) > *fǣht > OE *feahht*;
- PWGmc *flahs ‘flax’ (OHG *flahs*) > *flǣhs > *fleahs > OE *fleax*;
- PWGmc *kahhat^tan ‘to laugh loudly’ (OHG *kahhazzen*) > *kǣhhæt^tan > OE *ċeahhettan*;
- (post-)PWGmc *brahtm ‘noise, tumult’ (OS *brahtum*) > *brǣhtm > OE *breahtm* ~ *beahhtm*.

There is no trace of breaking in the OF cognates; either fronted *æ has been retracted to *a* before *hC*, or else **a* was never fronted in that environment in OF. It appears that the OE breaking also occurred before the PWGmc palatalized geminate *[xʲxʲ] (?; see further below) that had developed from *hʲ:

PGmc *hlahjanaǵ ‘to laugh’ (Goth. *hlahjan*) > PWGmc *hlahʲhʲan > *hlæhʲhʲan > *hleahʲhʲan > OE *hliehhan*.

Note especially a number of examples in which *h was subsequently lost with compensatory lengthening (and see 6.9.2 on the development of these sequences in the Anglian dialects):

PGmc *slahanaǵ ‘to hit, to kill’ (Goth., OS, OHG *slahan*, ON *slá*) > *slæhan > *sleahan > WS and Merc. OE³ *slēan* (OF *slā*);

PGmc *þwahanǵ ‘to wash’ (Goth. *þwahan*, ON *þvá*, OS *thwahan*, OHG *dwahan*) > *þwæhan > *þweahan > WS and Merc. OE *þwēan*;

PNWGmc *flahanaǵ ‘to skin’ (ON *flá*) > *flæhan > *fleahan > WS OE *flēan*;

PWGmc *lahan ‘to reproach’ (OS, OHG *lahan*) > *læhan > *leahan > WS OE *lēan*;

PGmc *ah^wō ‘river’ (Goth. *ahva*, ON *á*) > PWGmc *ahu (OS, OHG *aha*) > *æhu > *eahu > OE (all dialects) *ēa*;

PGmc *tahrǵ, *tagra- ‘tear’ (Goth. *tagr*, ON *tár*) > PWGmc *tahr, *tagra- / *tahr- (OHG *zahar* ~ *zahhar*) > *tæhr, *tægr- / *tæhr- > *teahr, *tægr- / *teahr- > WS and Merc. OE *tēar*, (poetic) *teagor* (*GuthB* 1340; OF *tār*); North. *teh(h)er* preserves the form with gemination and (since the *h* survives) exhibits Anglian monophthongization;

PGmc *ahaz, *ahiz- ‘ear (of grain)’ (remodelled *ahsǵ > Goth. *ahs*, ON *ax*) >→ PWGmc *ahar, *ahir- (OS, OHG *ehir*) > *æhær, *æhr- (?) > *eaher > OE *ēar*; North. *æhher*, *eher* exhibit late gemination of *h by following *r (< *z!) and Anglian monophthongization.

In these cases, too, there is no trace of breaking in OF. The importance of these examples for the relative chronology of pre-OE sound changes will be discussed in 6.3.1.

There are few examples of *eh and *ih; the following are reasonably well attested:

PGmc *fehu ‘cattle, property’ (Goth. *faihu*, ON *fé*, OS *fehu*, OHG *fihu*), gsg. *fehauz (ON *fjár*) >→ *feh,⁴ gsg. *fehæs (cf. gsg. OS *fehas*, OHG *fehēs*) > OE *feoh*, gsg. *fēos* (OF *fiā*, gsg. *fiā* ~ *fiās*);

³ Northumbrian *slaa* ‘to slay’ and *þwaa* ‘to wash’ reflect early reintroduction of **a* by lexical analogy with other class VI strong verbs (Campbell 1962: 56 n. 2); the Northumbrian development of *æhV by regular sound change is demonstrated by ‘river’ below.

⁴ Early transfer of this word into the *a*-stems must have occurred because *-u would have survived beyond the period when intervocalic *h was lost (see 6.9.1), yielding a form *fēo, as Alfred Bammesberger reminds me.

- PGmc *seh^wanā ‘to see’ (Goth. *sailvan*, ON *sjá*) > PWGmc *sehwan (OS, OHG *sehan*) > OE *seohan > *sēon* (OF *siā*);
- PGmc *eh^waz⁵ ‘horse’ (cf. Goth. *aīlvatundi* ‘thornbush’ (*‘horse-tooth’), Lat. *equos*) > PWGmc *ehu, *ehw- (cf. OS *ehuskalk* ‘horse-thain’) >→ OE *eoh* ‘horse’ (poetic);
- PGmc *h^weh^wlaz ‘wheel’ (ON *hvél*; cf. Toch. B *kokale* ‘chariot’) > PWGmc *hweh(u)l > OE *hweoh(u)l > *hwēol*;
- PGmc *fleht- ‘plait’ (OS, OHG vb. *flehtan*; cf. Lat. *plectere*) in (post-)PWGmc *flehtō > OE *fleohta* ‘hurdle’;
- PWGmc *gafehan ‘to rejoice’ (OHG *gifehan*) > OE *gæfeohan > *gēfēon*;
- PWGmc *fehtan ‘to fight’ (OS, OHG *fehthan*) > OE *feohtan* (OF *fiuchta*);
- PWGmc *gaskehan ‘to happen’ (OHG *giskehan*) >→ OE *gæskeohan > *gescēon* (poetic, with weak class II past) (OF *skiā*);
- post-PWGmc *pleh ‘danger’, *plehan ‘to risk’ > OE *pleoh*, *pleohan > *plēon* (but OHG *pflēgan* ‘to take care of, to manage’ and other related words exhibit -g-);
- PWGmc *mihs ‘dung’ (OS *mehs*) > OE *miohs > *miox* > *meox*;
- PWGmc *tīhhōn (?) ‘to arrange’ (OHG *zehōn*) >→ OE *tiohhian* ‘to intend, to judge’ (cf. OF *tiuche* ‘team; parcel of land’, Bremmer 2009: 34 with references);
- PWGmc *sihhwā ‘sieve’ (deriv. of *sihwan ‘to filter’, OHG *sīhan*; see 3.1.4) > OE *siohhæ > *seohhe*;
- post-PWGmc *sihtrā ‘sluice’ vel sim. (derived from the same verb as the preceding) > OE *siohtræ > *seohtre* ~ *sihtre* ‘drain’.

In OF these vowels are ‘broken’ to *iu* before surviving *h*; but whereas breaking was the earliest distinctively OE sound change that affected these vowels, in OF it apparently occurred after both i-umlaut and the loss of intervocalic *h (Bremmer 2009: 34–5). It is therefore overwhelmingly unlikely that this was a single historical development shared by OE and OF. Many OE examples of these sequences underwent palatal umlaut; they will be discussed in section 6.9.7. Most examples of *ih > *ioh occurred before high front vocalics and therefore later underwent i-umlaut; examples will be adduced when that sound change is discussed (section 6.6.3).

There are likewise few examples of *īh:

- PGmc *linhtaz ‘light (in weight)’ (Goth. *leihts*, ON *léttr*) > PWGmc *līht (OHG *līht*; OS adv. *līhto*) > *liht > OE *liōht* > *lēoht* (OF adv. *lichte*);
- PGmc *wīhaz ‘consecrated, holy’ (Goth. *weihs*) >→ PWGmc *wīh ‘sacred object’ (OS, OHG *wīh* ‘temple, sanctuary’) > OE *wīoh > *wēoh* ‘idol’;
- PGmc *tīhanā ‘to announce’, WGmc ‘to accuse’ (Goth. *gateihan*, OHG *zīhan*; OS *af-tīhan* ‘to deny’) > OE *tīohan > *tīon* > *tēon*;

⁵ The PIE form had of course been *ékwos, with a dorsal-plus-*w cluster, but in PGmc such clusters had merged with labiovelars (see vol. i, section 3.2.3 (ii), pp. 90–1).

- PGmc *li^waną ‘to lend’ (Goth. *lei^wan*) > PWGmc *lihwan (OS, OHG *lihan*) > OE *liohan > *liōn > *lēon*;
- PGmc *si^waną ‘to filter, to strain’ (cf. Skt *siñcāti* ‘(s)he moistens’) > PWGmc *sihwan (OHG *sihan*) > OE *siōhan > *siōn* > *sēon* (OF *siā*);
- PGmc *þinhaną ‘to thrive’ (Goth. *þei^wan*) > PWGmc *þīhan (OS *thīhan*, OHG *dīhan*) > *þīhan > OE *þiōhan > *þiōn* > *þēon*;
- PGmc *twīhnai ‘a pair; two each’ (Goth. *twei^whnai*) > OE *twiōhn- > OE *twēon-* in *be sām twēonum* ‘between two seas’ (*Beo* 858, etc.), *betwēonum* ‘between’ (OF *twīne* ‘of two kinds’);
- PWGmc *wrihan ‘to cover’ (OHG *intri^whan* ‘to uncover’) > OE *wriōhan > *wriōn* > *wrēon*;
- PWGmc *fi^wlu ‘file’ (the tool; OS *fila*, OHG *fihala*) > OE *fiōhlu > *fiol > *fēol*.

There is no trace of breaking in the OF cognates. OE examples in i-umlauting environments will be adduced in section 6.6.3.

There is apparently only one example of WS *æh, Kentish and Anglian *ēh, namely the lexeme ‘near’. Its reflexes have diverged considerably in the dialects:

- PGmc *nē^w- ‘near’ (Goth. adv. *nelva*) > PWGmc *nāhw- (OS, OHG *nāh*) > *nāēh- > West Saxon *nāēh > *nēah*;
- non-West-Saxon *nēh > *nēoh >
- Kentish *nēoh, comparative adv. *nēor* ~ *nīor* ‘nearer’;
- Anglian *nēh* (with monophthongization), but *nēo-* when *h was lost, e.g. in adv. *nēohur > *nēor* ‘nearer’, cpd. *nēohwisti > *nēowest* ‘neighborhood’.

Since *æ later merged with ē in Kentish (see 6.9.7), this is the best evidence that the immediate product of fronting in Kentish was higher mid ē (see 5.1.2). The OF cognate is *nēi*, comparative *niār*, superlative *nēsta*, without breaking.

It cannot be demonstrated that breaking of *i, *ī, and *ē before *h occurred in the Anglian dialects if a high front vocalic occurred in an immediately following unstressed syllable. Note the following examples:

- pre-OE *sihiþi ‘(s)he sees’ > WS *siohiþi > *siehp*, but
 Anglian *gæsihiþi > *gæsiþi > Merc. *gēsīþ*, North. *gēsiið* (with analogical restoration of the hiatus);
- pre-OE *wrihiþi ‘(s)he covers’ > WS *wriōhiþi > *wriēhp*, but
 Anglian *obærwrihiþi > Merc. *oferwriþ*;
- pre-OE *næhistā ‘nearest’ > WS *næhistā > *nīehsta*, but
 pre-OE *nēhistā > Anglian *nēhistā > Merc., North. *nēsta*.

However, it seems to be true that Anglian monophthongization could account for these forms (see 6.9.2) and that i-umlaut could account for the ē of *nēsta* (see 6.6.3). Unless further evidence is forthcoming, this issue will have to remain unresolved.

6.2.2 Breaking before *rC

Before *rC and *lC (i.e., *r* or *l* followed by a consonant) only short vowels occurred. All short front vowels normally underwent breaking before *rC. Examples of *ærC are very numerous, for instance:

- PGmc *arbaiþiz, *arbaidi- ‘hardship, hard labor’ (Goth. *arbaiþs*, *arbaidi-*) > PWGmc *arbaiþi, *arbaidi- (OS *arþed*, OHG *arbeit*; the second syllable contains *ai, not *ē, apparently because of secondary stress) > *ærbāþ > OE *earfop* (OF *arþēd*);
- PGmc *warþ ‘(s)he became’ (Goth. *warþ*, ON *varð*, OS *warth*, OHG *ward*) > *wærþ > OE *wearþ* (OF *warth*);
- PGmc *warp ‘(s)he threw’ (Goth. *us-warp* ‘(s)he threw out’, ON *varp*, OS *warp*, OHG *warf*) > *wærp > OE *wearp* (OF *warp*);
- PGmc *þarf ‘(s)he needs’ (Goth., ON *þarf*, OS *tharf*, OHG *darf*) > *þærf > OE *þearf*;
- PGmc *armaz ‘arm’ (Goth. *arms*, ON *armr*, OS, OHG *arm*) > *ærm > OE *earn* (OF *erm*);
- PGmc *dars ‘(s)he dares’, *darst ‘you dare’ (Goth. *gadars*, **gadarst*) >→ PWGmc *darr (with *rr < *rz levelled in from the pl.), *darst (OS *gidar*, OHG *gitar*, *gitarst*) > *dærr, *dærst > OE *dearr*, *dearst*;
- PGmc *barną ‘child’ (Goth., ON, OS, OHG *barn*) > *bærn > OE *bearn* (OF *bern*);
- PGmc *bar(z)da- ‘beard’ (ON *barð* (neut.) ‘rim, edge, prow’; cf. Lith. *barzdà*, Lat. *barba*, both ‘beard’ (fem.)) > PWGmc *bard (masc.; OS *bard*, OHG *bart*) > *bærd > OE *beard* (OF *berd*);
- PGmc *swartaz ‘black’ (Goth. *swarts*, ON *svartr*, OS *swart*, OHG *swarz*) > *swært > OE *sweart* (OF *swart*);
- PGmc *arsaz ‘arse’ (ON, OHG *ars*; cf. Hitt. *ārras*) > *ærs > OE *ears*;
- PGmc *barg ‘(s)he hid (it)’ (ON, OHG *barg*, OS *gi-barg* ‘she kept’) > *bærg > OE *bearg*;
- PGmc *farhaz ‘piglet’ (OHG *farah*; cf. Lat. *porcus* ‘pig’) > *færh > OE *fearh*;
- PGmc *markō ‘boundary, border’ (Goth. *marka*; cf. Lat. *margō*, *margin-* ‘edge’) > PNWGmc *marku (ON *mork* ‘woods’, OS, OHG *marka*) > *mærku > OE *mearc* (OF *merke*);
- PGmc *sparwō ‘sparrow’ (Goth. *sparwa*) > PWGmc *sparwō (OHG *sparo*) > *spærwā > OE *spearwa*;
- PNWGmc *warnōną ‘to warn’ (ON *varna* ‘to warn off, to deny’) > PWGmc *warnōn (OHG *warnōn*) >→ *wærnōjan > OE *wearnian*;
- PNWGmc *argaz ‘cowardly, effeminate’ (ON *argr*) > PWGmc *arg (OHG *arg* ‘bad, godless’) > *ærg > OE *earg* ‘cowardly, slothful, useless’ (OF *erch*);
- PNWGmc *harpōn- ‘harp’ (ON *harpa*) > PWGmc *harpā ‘harp’ (OS *harpa*, OHG *harpha*) > *hærpæ > OE *hearpe*;
- PWGmc *starb ‘(s)he died’ (OHG *starb*) > *stærb > OE *stearf* (OF *starf*);
- PWGmc *hwarb ‘turning; exchange; gathering, crowd’ (OS *hwarf* ‘gathering’, OHG *warb* ‘exchange’) > *hwærf > OE *hwearf*;

PWGmc *farr ‘bull’ (OHG *far*) > *færr > OE *fearr*;

PWGmc *ard ‘native place’, *ardōn ‘to inhabit, to dwell’ (OS *ard*, *ardon*, OHG *art*, *artōn*) >→ *ærd, *ærdōjan > OE *eard*, *eardian*.

There is no evidence for this sound change in OF; so far as we can tell, fronted *æ was retracted to *a* after *w* (and sporadically in a few other words), but otherwise raised to *e*. Strikingly, breaking did not occur in OE before *rj; the following examples are typical:

PGmc *arjaną ‘to plow’ (Goth. **arjan*, ON *erja*) > PWGmc *arjan (OHG *erien*) > *ærjan > OE *erian* (OF *era*);

PGmc *harjaz ‘army’, gen. sg. *harjas (Goth. *harjis*, *harjis*, ON *herr*, *hers*) > PWGmc *hari, *harjas (OS, OHG *heri*, *heries*) > *hæri, *hærjæs > OE *here*, *herges* (OF *here*, *heres*);

PGmc *hazjaną ‘to praise’ (Goth. *hazjan*) > PWGmc *hazjan > *hærjan > OE *herian*;

PGmc *wazjaną ‘to clothe’ (ON *verja*; Goth. *wasjan* has levelled the voiceless Verner’s Law alternant in from derivationally related words) > PWGmc *wazjan (OHG *werien*) > *wærjan > OE *werian*.

In many words Northumbrian exhibits *ar* instead of expected *ear*; thus we find *warþ*, *ġewarþ*, *arm*, *darr*, *arg* ‘adulterer’, *hwarf* ‘deception’, *farr*, *hrondsparwa* on the one hand but *hearpas*, *eard* on the other, as well as *dearf* ‘bold’, *earnigā* ‘to earn’, *ġearwiġa* ‘to prepare’, etc. In early Northumbrian dat. pl. *barnum* occurs (Cæd 5), but *Li* has *bearn*. The suggestion that ‘retraction’ to *a* occurs mainly in labial environments (Campbell 1962: 56 with n. 1) seems to be true of the earlier forms, but there are both positive and negative exceptions. In principle there are three ways to account for these forms: either

- 1) *a was never fronted in some environments in pre-Northumbrian, or
- 2) *æ was retracted to *a* instead of being broken to *ea* in some environments at about the same time that breaking occurred, or
- 3) the forms with *a* are the result of a subsequent sound change.

Campbell adopts the second solution, though he acknowledges that it cannot be proved (Campbell 1962: 54 n. 1; so also Luick 1914–40: 266). The first solution might seem attractive at first because *a* also appears in place of expected (fronted) *e* in some OF forms (see above); but the pattern *a* vs. *e* in OF is very different, *a* being largely confined to position after *w* (cf. Steller 1928: 8). Since there definitely are forms that underwent breaking of *ærC in Northumbrian, since there is some variation between *a* and *ea*, and since breaking in this sequence was exceptionless elsewhere in OE, the simplest hypothesis is that it was originally exceptionless in Northumbrian as well; the

most plausible account of the forms with *a* is that a subsequent sound change *earC* > *arC* occurred but did not go to completion throughout the Northumbrian dialect area. That change must have occurred before i-umlaut, since North. *wærma* ‘to warm’ can only reflect i-umlaut of a preform *warmjan (see 6.6.1).

Examples of *erC are somewhat less common; representative are:

- PGmc *werþanā ‘to become’ (Goth. *wairþan*, ON *verða*, OS *werðan*, OHG *werdan*) > OE *weorþan* (OF *wertha*);
- PGmc *werpanā ‘to throw’ (Goth. *wairpan*, ON *verpa*, OS *werpan*, OHG *werfan*) > OE *weorpan* (OF *werpa*);
- PGmc *werkā ‘work’ (ON *verk*, OS, OHG *werk*; cf. Gk *ἔργον* /*érgon*/) > OE *weorc* (OF *werk*);
- PGmc *berga- ‘hill, mountain’ (ON *bjarg* ~ *berg* (neut.) ‘rock’; cf. Goth. *bairgahei* ‘hill country’) > PWGmc *berg (masc.; OS, OHG *berg*) > OE *beorg* (OF *berch*);
- PGmc *berhtaz ‘bright’ (Goth. *baírhts*, ON *bjartr*, OS *berht*, OHG *beraht*) > OE *beorht*;
- PGmc *herdō ‘herd’ (Goth. *hairda*) > PNWGmc *herdu (ON *hjørð*, OHG *herta*) > OE *heord*;
- PGmc *erþō ‘earth’ (Goth. *airþa*) > PNWGmc *erþu (ON *jørð*) > PWGmc *erþu and *erþā (n-stem; OS *erða*, OHG *erda* exhibit both inflections) > OE *eorþ-* (in compounds), *eorþe* (OF *erthe*);
- PGmc *hertōn- ‘heart’ (Goth. *hairto*, ON *hjarta*) > PWGmc *hertā (OS *herta*, OHG *herza*) > OE *heorte* (OF *herte*);
- PGmc *sternōn- ‘star’ (Goth. *stairno*, ON *stjarna*) > PWGmc *sternō ~ *sterrō (OS *sterro*, OHG *sterno* ~ *sterro*) > OE *steorra* (OF *stera*);
- PGmc *ferhuz, *ferhw- ‘world’ (Goth. *fairhwus*) > PWGmc *ferh(u?) ‘life’ (OS *ferh* ~ *ferah*, OHG *ferah*, both ‘life, soul’) > OE *feorh* (OF *ferch*);
- PGmc *ferr- ‘far’ (Goth. *fairra*, ON *fjarri* ~ *ferri*, OS *fer*, OHG *ferro*) > OE *feorr* (OF *fir*);
- PGmc *hezd- ‘flax-hards’ (cf. Gk *κέσκεον* /*késkeon*/; PIE root *kes- ‘to comb’) > PWGmc *hezd- > *herd- > OE *heordan*;
- PGmc *lelōt ~ *lelt- ‘(s)he allowed’ (Goth. *laílot*) > Anglian OE *lelt > *lert > *leort*;
- PNWGmc *swerdā ‘sword’ (ON *sverð*, OS *swerd*, OHG *swert*) > OE *sweord* (OF *swerd*);
- PNWGmc *erlaz ‘nobleman’ (ON *jarl*, OS *erl*) > OE *eorl*;
- PWGmc *sterban ‘to die’ (OS *sterþan*, OHG *sterban*) > OE *steorfan* (OF *sterva*);
- PWGmc *smertan ‘to be painful’ (OHG *smerzan*) > OE *smeortan*;
- PWGmc *ernust(i) ‘seriousness, zeal’ (OS *ernisti*, OHG *ernust*) > OE *eornost*.

In this sequence too OF gives no evidence of breaking. Once again Northumbrian exhibits a divergent outcome, but in this case we can say with some certainty what happened. The exceptional forms are *worda*, *worpa*, and *sword*,

all with *o* for expected *eo* between *w* and *r*. However, *werc* exhibits Anglian monophthongization of earlier **weorc* (section 6.9.2; cf. the WS form)—and that must be why it escaped the change **weor* > *wor*, which we can thus confidently date after Anglian monophthongization.

Almost all examples of **irC* were followed by a high front vocalic and therefore underwent i-umlaut; they will be discussed in section 6.6.3. One example which did not, because at the time i-umlaut occurred the syllable following its root syllable always contained **ō* or **ā*, is ‘learn’:

PGmc **līznōną* ‘to learn’ (fientive, derivationally related to **laizijaną* ‘to teach’) >
 PWGmc **līznōn* (OS *līnon*, OHG *līrnēn*) >→ **līrnōjan* > OE *liornian* (OF *lirnia*).

However, just as **ih* and **ih* can have failed to undergo breaking in the Anglian dialects when a high front vocalic followed, so also **irh*, **irk*, and **irg* (Luick 1914–40: 143) and probably **irw* (Campbell 1962: 59); note the following:

PGmc **gabirhtjaną* ‘to make bright’ (Goth. *gabairhtjan* ‘to reveal’) > Angl. OE
 **gæbirhtjan* > Merc. *gebirhtan* ‘to reveal’ (WS *gebierhtan*);
 PNWGmc **fīrh*ijōz* ‘humans’ (deriv. of ‘world’/‘life’, see above; ON *firar*) >
 PWGmc **fīrhwijō* (gen. pl. OS *fīriho*, OHG *virho*, *fireo*) >→ Angl. OE **fīrhjas* > *firas*
 (poetic);
 PNWGmc **swirhijan-* ‘neck’ (ON *sviri*) > Angl. OE **swirhjä* > North. *swira* (WS
 **swīera* > *swýra*), cf. Merc. *swīr-bān* ‘neck-bone’;
 PNWGmc **smirwijaną* ‘to smear, to anoint’ (ON *smyrva* ~ *smyrja*, OHG *smirwen*) >
 Angl. OE **smirwjan* > Merc. *smirwan*, North. *smiriga* (WS *smierwan*);
 PWGmc **birkiją* ‘birch’ (OHG *birka*) > Merc. *birce* (*CorpGl* 1609);
 pre-OE **gæbirgjan* ‘to taste’ > North. *gebirga*.

The monophthongs followed by *r* plus a velar can probably all be accounted for by Anglian monophthongization, at least if **h* still survived in ‘humans’ and ‘neck’ when that sound change occurred (see the discussion in 6.9.1), but that will not explain the monophthong in ‘anoint’. Isolated data suggest that in some Anglian subdialects **irC* was not broken at all (Luick 1914–40: 143), or else that breaking was later reversed; examples in extensive Anglian documents include Merc. *āfirran* (*Ps(A)*), North. *āfirra* ‘to remove, to expel’ (*Li*; WS *āfierran*) and Merc. *hirtan* ‘to encourage’ (*Ps(A)*; WS *hiertan*).

It is usually suggested that **wirC* yielded **wurC* in the Anglian dialects, whence in most cases *wyrC* by i-umlaut (Hogg 1992: 93–4 [2011: 91]). However, the early evidence is meager and contradictory: we find North. *uuurthit* ‘becomes’ in *BDS* 1 vs. Merc. *EpGl* 1047 *sinuurbul*, *CorpGl* 2008 *siunhuurful* ‘rounded’. To suggest that *iu* is written for *ui* in the North. form to avoid three *u*’s in succession (Hogg 1992: 93–4 [2011: 91] with references)

seems ad hoc, and the probable North. development *werC > *weorC > werC (by Anglian monophthongization) ~ worC posited above suggests a parallel scenario *wirC > *wiorC > wurC. More study of this problem is needed.

6.2.3 Breaking and retraction before *lC

The sequence *ælc did not develop uniformly in the OE dialects. South of the Thames (i.e., in WS and Kentish) it was broken to ealC,⁶ but in the Anglian dialects it was instead retracted to alC. Neither development occurred before the palatalized geminate *[lʲ] that had developed from *lj in PWGmc (see 3.1.3). The following examples are representative:

- PGmc masc. nom. pl. *allai ‘all’ (Goth. *allai*) > PWGmc *allē (OS, OHG *alle*) > *ællæ > WS, Kent. OE *ealle*, Angl. *alle* (OF *alle*);
- PGmc *kaldaz ‘cold’ (Goth. *kalds*, ON *kaldr*, OS *kald*, OHG *kalt*) > *kæld > WS OE *céald*, Angl. *cald* (OF *kald*);
- PGmc *halmaz ‘straw’ (ON *halmr*, OHG *halm*; cf. Lat. *culmus*) > *hælm > WS OE *healm*, Angl. *halm*;
- PGmc *halp ‘(s)he helped’ (Goth. *ga-halp*, ON, OS *halp*, OHG *half*) > *hælp > WS OE *healp*, Angl. *ge-halp* (OF *halp*);
- PGmc *falh ‘(s)he pushed in’ (Goth. *ga-falh* ‘(s)he hid (it)’, ON *fal* ‘(s)he hid (it)’, OS *bi-falah* ‘(s)he handed over’, OHG *bi-falah* ‘(s)he entrusted, (s)he recommended’) > *fælh > WS OE *fealh* ‘(s)he came in, (s)he incurred, it came (to mind)’, Merc. *æt-falh* ‘(s)he clung’ (OF *bi-fel* ‘(s)he buried’);
- PGmc *skalkaz ‘servant, retainer’ (Goth. *skalks*, OS, OHG *skalk*) > *skælk > WS OE *scealc* (OF *skalk* ‘scoundrel’);
- PGmc *halsaz ‘neck’ (Goth., ON, OHG *hals*) > *hæls > WS OE *heals*, cf. North. *hals-cod* ‘kerchief’ (OF *hals*);
- PGmc *saltą ‘salt’ (Goth., ON, OS *salt*, OHG *salz*) > *sælt > WS OE *sealt*, Angl. *salt*; PNWGmc *saltaz ‘salty’ (ON *saltr*) also > *sælt > WS OE *sealt*, North. *salt*, cf. Merc. *salt-nis* ‘saltiness, salt marsh’ (OF *salt*);
- PGmc *salbō ‘ointment’, *salbōną ‘to anoint’ (Goth. *salbon*, OS *salba*, *salbon*, OHG *salba*, *salbōn*) >→ *sælbu, *sælbōjan > WS OE *sealf*, *sealfian* (OF vb. *salvia*);
- PGmc *galgō ‘gallows’ (Goth. *galga* ‘cross’, ON *galgi*) > PWGmc *galgō (OS *galgo* ‘cross’, OHG *galgo*) > *gælgā > WS OE *gealga*, early North. acc. *galgu* (OF *galga*);
- PGmc *haldana ‘to keep, to protect’ (Goth. *haldan*, ON *halda*) > PWGmc *haldan ‘to hold’ (OS *haldan*, OHG *haltan*) > *hældan > WS, Kent. OE *healdan*, Merc. *haldan*, North. *halda* (OF *halda*);

⁶ The fairly frequent instances of alC in early Kentish and WS documents can easily be ascribed to the influence of a Mercian literary standard, which must have existed in the second half of the 8th century (when Mercia was at the height of its power) and can have exerted influence for decades afterwards. For the linguistic consequences of Mercian dominance see especially Toon 1983.

- PNWgmc *fallaną ‘to fall’ (ON *falla*, OS, OHG *fallan*) > *fællan > WS OE *feallan*, Merc. *fallan*, North. *falla* (OF *falla*);
- PNWgmc *hallu ‘hall’ (ON *holl*, OS, OHG *halla*) > *hællu > WS OE *heall*, Angl. *hall*;
- PWGmc *balg ‘(s)he got angry’ (OS, OHG *balg*) > *bælg > WS OE *bealg*; PWGmc *anafalt ‘anvil’ (OHG *anafalz*) > *ʰanæfælt > WS OE *anfealt*;
- PWGmc *swalwā ‘swallow’ (the bird; OHG *swalewa*) > *swælwæ > WS OE *swealwe*, Merc. *swalwe*.

But *æ remained fronted and unbroken before *[j], e.g. in:

- PGmc *saljaną ‘to give, to hand over’ (Goth. *saljan* ‘to offer, to sacrifice’, ON *selja*) > PWGmc *salʲʲan (OS *sellian*, OHG *sellen*) > *sæʲʲʲan > OE *sellan* (OF *sella*);
- PGmc *haljō ‘hell’ (Goth. *halja*, ON *hel*) > PWGmc *halʲʲu (OS *hellia*, OHG *hella*) > *hæʲʲʲu > OE *hell* (OF *helle*);
- PGmc *aljaną ‘zeal’ (Goth. *aljan*, ON *eljan* ‘power’) > PWGmc *alʲʲʲan (OS *ellian*, OHG *ellen*) > *æʲʲʲʲʲan > OE *ellen* ‘zeal, courage’.

As with the Northumbrian examples of *arC*, there are three possible explanations for the Anglian outcome *alC*. In this case too failure of fronting might seem attractive, considering that OF usually exhibits *alC*; the orthography *e ~ a* in i-umlaut environments (e.g. in *fella ~ falla* ‘to fell’; cf. van Helten 1890: 31–5) might then represent [æ] (Steller 1928: 9). Alternatively, *a might have been fronted to *æ before *lC in all dialects of English and Frisian, but then retracted to *a* in OF and Anglian OE; this is perhaps the best candidate for a sound change after the fronting of *a that might be historically shared by OF and some OE dialects (cf. Nielsen 1985: 129). On the other hand, since both breaking and retraction must have been triggered by the velar quality of the following non-palatalized *l, independent convergent development cannot be excluded.

However, three considerations make a failure of fronting implausible. One is OE dialect geography. The distribution of *alC* and *æʲʲʲʲʲC doesn’t make much sense on the continent of Europe, since Jutish (in Jutland) and “Saxon” dialects (probably in the interior) would have to share an innovation—fronting before *lC—not shared by the Anglian dialect(s) between them. On a map of England, however, the distribution of *alC* and *ealC* makes perfect sense; that argues that the divergence occurred later, and a later date greatly increases the likelihood of a development PWGmc *alC > northern WGmc *æʲʲʲʲʲC > southern OE *ealC* but central and northern OE *alC*. A second consideration from the OE standpoint is phonetics. We have seen that fronting occurred even before the velar fricative /h/ (i.e., [x]); we know that it did because the fronted vowel was subsequently broken. If a velar fricative did not inhibit fronting at

that time, it is unlikely that /l/ would have done so, even if it was velarized. However, breaking—which must have occurred substantially later—was triggered by back consonants (see the discussion below); and a velarized [ɫ] could as easily have provoked “retraction” to [ɑ] as breaking to [æ²]. A possible third consideration, this time from OF, is the past tense *bifel* cited above. It is true that it can only have lost its *-h by levelling from the present (in which *h was lost regularly between sonorants), and it is also true that it follows the pattern of strong class IV because it has lost its *h; but those innovations might have been easier if there had been a preform *bifælh with a fronted vowel before *-lh.

Whether retraction in the sequence *æIC was more or less simultaneous with breaking is not completely clear. Three considerations suggest that it could have been. One is that it occurred in exactly the same environments (see above). A second is that both changes occurred before the palatalization of velars (see 6.4 below). The third is that no relevant changes intervened between breaking and retraction. Thus it is both possible and reasonably plausible that those two sound changes were really part of a single historical event. It might seem more economical to suggest that retraction of *æ before *IC was part of the more general retraction of *æ when a single consonant or geminate and a back vowel followed (see 6.3.1). But retraction before *IC occurred regardless of the following vowel, and even in monosyllables (see the above examples), and since the conditioning of the two changes was quite different, it is almost certain that they were separate historical events.

All these considerations leave unanswered the question of whether retraction of *æ to *a* before *IC* was a shared OF-Anglian change—probably mediated by trade across the North Sea—or an independent parallel development. I can find no principled way to decide that question.

Breaking of *e and *i before *IC was much more restricted: it occurred only in the sequences *elh and *ilh.⁷ Moreover, since the latter sequence occurred only before a high front vocalic, it apparently was not broken in the Anglian dialects—just as *ih, *ih, and *irC apparently failed to undergo breaking in that environment (see above). As might be expected, examples are very few:

⁷ It is not clear whether we can account for the breaking in *āseolcan* (1× in *CP*), *āsealcan* (*GenA* 2168) ‘to become sluggish’ and in non-WS *seolf* ‘oneself’ (emphatic, not reflexive) by a plausible regular sound change. The development of the first contrasts with that of *melcan* ‘to milk’ (late WS), while in the glosses to the *Lindisfarne Gospels* (for instance) *seolf* ‘oneself, ipse’ contrasts with *delfa* ‘to dig’. The obvious hypothesis is that preceding *s*- somehow triggered breaking, but that does not seem plausible phonetically, and it does not explain why *self* survived unchanged in WS (Cosijn 1883: 36).

PGmc *felhaną ‘to push in’ (Goth. *filhan* ‘to hide’, ON *fela* ‘to hide’, OS *bi-felhan* ‘to hand over’, OHG *bi-felahan* ‘to recommend’) > *feolhan > OE *fēolan* ‘to succeed in reaching’ (OF *bi-fela* ‘to bury’);
 PNWgmc *selhaz ‘seal’ (the animal; ON *selr*, OHG *selah*) > OE *seolh*;
 PWGmc *skelh ‘oblique, crooked, squinting’ (OHG *skelah*) > OE **sceolh*, weak *scēola*;
 PWGmc *elh- ‘elk’ (OHG *elahho*) > OE **eolh*, **eolha* > Merc. *elh*, *ēola*;
 PGmc pres. 3sg. **filhidi* (same verb as the first example) → pre-OE **filhiþi* >→ Merc. *æt-filēð* ‘(s)he clings’ (*Ps(A)*); the WS form, which is not attested, must have been **fielhþ*).

6.2.4 Diphthongization of *e and *i before *w and *lw

Finally, *e and *i became *eo* and *io* respectively before *w, unless the latter was in turn followed by a high front vocalic, and *e seems to have become *eo* before the sequence *lw (Ball and Stiles 1983). Examples are few:

PGmc **knewa*- ‘knee’ (Goth. acc. pl. *kniwa*, ON *kné*, OS, OHG *knio*) > OE *cneow-* (OF *knē* ~ *knī*);
 PGmc **trewa*- ‘tree, wood’ (Goth. dat. pl. *triwam* ‘with clubs’, ON *tré*, OS *trio*) > OE *treow-* (OF *trē*);
 PGmc **pewa*- ‘slave’ (Goth. nom. pl. *þiwos*, OHG *deo* ‘unfree’) > OE *þeow-*;
 PGmc past ptc. **siwanaz* ‘filtered’ (OHG *siwan*) >→ **siwæn* > **ā-siowen* > *ā-seowen* ~ *ā-siwen*;
 PWGmc **giwē-* ‘to desire eagerly’ (OHG *giwēn*) >→ **giowōjan* > OE *giowian* ‘to ask for’;
 northern WGmc **twiwō* ‘twice’, **þriwō* ‘thrice’ (OS *thriwo*) > OE **twiowa*, *þriowa* > *tweowa*, *þreowa* (OF *twia*, *thria*);
 pre-OE **niwul* ‘headlong, prostrate’ > **niowol* > *neowol* ~ *niwol*;
 PGmc **gelwaz* ‘yellow’ (OS *gelu*, OHG *gelo*; cf. Lat. *helvos* ‘bay (horse)’) > PWGmc **gelu*, **gelwa-* > OE **ġelu*, *ġeolw-* >→ *ġeolu*;
 PGmc **melwā* ‘meal’ (archaic deriv. of **malana* ‘to grind’; ON *mjǫl*, OF *mel*, OS, OHG *melo*) > *melu*, *meolw-* >→ *meolu*, *meolw-* and (more often) *melu*, *melw-* (OF *mele*).

Late Northumbrian pl. *cnewa*, dat. pl. *trewum*, pres. 3sg. *giuað* ~ *giwiġeð*, etc. seem to lack this diphthongization. However, two considerations suggest that diphthongization did occur in the ancestor of that dialect. One is that *meolo* does show diphthongization; the other is that *nīwe* ‘new’, which we know had a (long) diphthong in pre-OE, has undergone monophthongization in late North., and a similar change can account for the other unexpected monophthongs before *w*. Forms such as *ðēas* ‘servants’ and *twiġa* ‘twice’ have undergone still other changes.

This diphthongization was more or less identical with back umlaut, by which the same vowels were diphthongized before a single consonant plus a back vowel (see 6.9.4 below). The only apparent difference in the trigger for these changes is that the diphthongization under discussion here occurred even before *wæ, i.e. when *w was followed by a nonhigh front vowel, and before *lw. It is therefore tempting to try to treat this change as part of back umlaut.

However, the reconstructable chronology of changes makes that impossible. It is true that this diphthongization did not occur by regular sound change before the sequences *wi and *wī, but in a couple of words *io was introduced before *wī by lexical analogy with related forms exhibiting *eow—and those *io were then subject to i-umlaut, which clearly occurred before back umlaut because of the history of *eowu* ‘ewe’ (see 6.6.2)! Note the following:

PGmc *triwīnaz ‘wooden’ (Goth. *triweins*) > PWGmc *triwīn → *triowīn (by lexical analogy with *treow-*, see above) > WS *triewīn > *triewen > late WS *trywen*;
 PGmc *þiwi ‘female slave’ (Goth. *þiwi*, ON *þý*, OS *thiu* ~ *thiwi*, OHG *diu*) → *þiwinⁱnⁱu (with the suffix of e.g. *gyden* ‘goddess’) >→ *þiowinn (by lexical analogy with *þeow-*) > *þiewin > late WS *þywen*.

We have to conclude that the diphthongization of nonlow front vowels before *w was an early change, possibly historically connected with the other changes collectively called breaking.

6.2.5 Further developments of *h; phonetic considerations

At some point after breaking occurred, *hs became /ks/, usually spelled *x*. We know that that must have happened because *x* is also used to spell /ks/ that arose by syncope, e.g. in *rīcsian* ~ *rīxian* ‘to rule’ (see 6.7.1), and by metathesis, e.g. in late WS *axan* for *ascan* ‘ashes’ and *fixas* for *fiscas* ‘fish (pl.)’. This cannot be a change historically shared with closely related languages, since it must postdate breaking (cf. Campbell 1962: 172); apparently it also postdated palatal diphthongization (see 6.9.7).

Accepting the OE short diphthongs at face value (see 1.1) makes it easy to explain the phonetics of breaking as velarization of the latter portion of a vowel (short or long) by a following consonant. Velarization by [x] (= /h/) is obviously natural; the only questions raised are (1) why it occurred before *[xⁱxⁱ]^j in the unique example ‘laugh’, and (2) why it did not also occur before [ɣ] (= /g/). The answer to the second question might be that postvocalic /h/ was actually pronounced further back in the mouth than postvocalic /g/; in other words, we should be thinking in terms of velarization by postvelar [χ]. If that is true, palatalized *[xⁱxⁱ]^j might not have been geminate palatal [ç:] or the like when breaking occurred; it might have been [χx] (or even [χç]?), in

which case velarization of a preceding vowel would be natural. Alternatively—and perhaps more plausibly—the broken vowel *ea could have spread from the related noun *hleahtr by lexical analogy. It also makes sense that *ǣC was normally [ǣt]C, but that */l/ had usually been fronted to such an extent by a preceding higher front *e or *i that only a following postvelar [χ] was sufficient to velarize it (except in the sequence *ilhi in Anglian dialects, which must have been *[ilçi] or the like). The fact that breaking also occurred before *rC suggests that *r in that position was actually postvelar [R]. That is probably not strictly necessary to explain the observed outcomes—a front vowel might also be retracted by a retroflex [ɾ] or [ɽ], for example. But the fact that *rj, like geminate palatalized *[ʲʲ], failed to trigger breaking does suggest that a feature [+back] was somehow involved. Of course none of these phonetic guesses is necessarily valid for any other period of the language; phonetic change is universal, and after native learners had reanalyzed the outputs of breaking as the results of a phonological rule (not merely phonetic variation), the triggering consonants could have developed in other directions.

The eventual creation of an English rune with the value *ea*, which does not occur in any other tradition (Stiles 1995: 185–6), is an obvious consequence of the OE development of inherited *au and/or of breaking; it seems possible that it originated as a ligature of the runes for *æ* and *o*, in which case it was probably created while the diphthongs were still approximately [æ(:)o] (Bammesberger 2006: 180).

Finally, it should be stressed that breaking is characteristic of OE only; what is called ‘breaking’ in OF was a different and much more restricted change which occurred after *i*-umlaut had run its course (Bremmer 2009: 33–5)—i.e., in a position in the relative chronology of changes different from the position of breaking in OE (see 6.6 below).

6.3 General retraction of *æ and *ǣ; phonemicization of low vowel allophones

6.3.1 General retraction of *æ

After breaking had run its course, those stressed *æ which were immediately followed by a single or geminate consonant or sC-cluster which was in turn followed by a back vowel became *a* (Luick 1914–40: 152–7, Campbell 1962: 60–2, Hogg 1992: 96–100 [2011: 93–9]). Since all the vowels in question had been *a in PWGmc, an obvious question is why we do not simply maintain that they were never fronted at all. The crucial evidence that fronting did occur is provided by the group of words exemplified by *slēan* ‘to slay’ < *sleahan < *slæhan < PWGmc *slahan (see section 6.2.1), which must have undergone

fronting because the vowels of their root syllables underwent breaking, which affected only front vowels. If fronting could take place before /h/ (which was approximately the velar fricative [x], or even postvelar [χ], phonetically at the time) plus a back vowel, it should have occurred before any single non-nasal consonant plus a back vowel, even in such a form as *dagum ‘days’ (dat. pl.), which must therefore have become *dægum. Since the attested form in most OE dialects is *dagum*, it follows that retraction must have occurred subsequently to fronting—and subsequently to breaking, because the diphthong of ‘slay’, etc. did not again become *a (Luick 1914–40: 155–6, Campbell 1962: 60–1).

A large number of forms exhibit retracted *a*, and many are parts of paradigms in which *a* and *æ* alternate. Because of the shapes of pre-OE inflectional endings and derivational suffixes, *a* tends to appear in the root syllables of morphologically definable groups of forms, and it will be convenient to sort the examples by that criterion.

Weak verbs of class II always exhibit retracted *a* rather than *æ* before a non-nasal consonant in a monosyllabic root syllable, since at the time retraction occurred the following syllable always contained **ō* or **ā*. There are more than fifty examples; the following are typical:

- PGmc *karōną ‘to worry about’ (Goth. *karon*) > PWGmc *karōn ‘to be sad, to lament’ (OS *karon*, OHG *karōn*) >→ *kærōjan > OE *carian* ‘to be anxious, to grieve’;
- PGmc *laþōną ‘to invite’ (Goth. *laþon*, ON *laða*) > PWGmc *laþōn (OHG *ladōn*) >→ *laþōjan (OS *lad(o)ian*) > *læþōjan > OE *laþian* (OF *lathia*);
- PGmc *wakja- (*wakā-?) ~ *wakai- ‘be awake’ (Goth. *wakan*, ON *vaka*) > PWGmc *wakē- (OHG *wahhēn*) → *wakōn (OS *wakon*) → *wakōjan (OS *wakogean*) > *wækōjan > OE *wacian* (OF *wakia*);
- PGmc *hatja- (*hatā-?) ~ *hatai- ‘hate’ (Goth. *hatan*, ON *hata*) > PWGmc *hatē- (OHG *haʒʒēn*) → *hatōn (OS *haton*) >→ *hætōjan > OE *hatian* (OF *hatia*);
- PNWGmc *baþōną ‘to bathe’ (ON refl. *baðask*) > PWGmc *baþōn (OHG *badōn*) >→ *bæþōjan > OE *baþian* (cf. *bæþ* ‘bath’);
- PNWGmc *gladōną ‘to gladden’ (ON *glaða*) >→ *glædōjan > OE *gē-gladian* (cf. *glæd* ‘glad’);
- PNWGmc *hagōną ‘to be fitting’ (ON *haga* ‘to turn out (well or badly)’) > PWGmc *hagōn ‘to suit, to be pleasing’ (OS *bi-hagon*) >→ *hægōjan > OE *gē-hagian* (OF *hagia* ‘to take pleasure in’);
- PNWGmc *skrapōną ‘to scrape’ (ON *skrapa*) >→ *skræpōjan > OE *scrapian*;
- PNWGmc *stabōną ‘to administer (an oath), to dictate’ (ON *stafa*) > PWGmc *stabōn (OHG *stabōn*) >→ *stæbōjan > OE *stafian* (OF *stavia*);
- PNWGmc *talōną ‘to calculate, to consider’ (ON *tala* ‘to talk over’) > PWGmc *talōn (OS *talon*, OHG *zalōn*) >→ *tælōjan > OE *talian* (OF *talia*);

PNWGmc *dagja- (*dagā-?) ~ *dagai- ‘dawn’ (ON *daga*) > PWGmc *dagē- (OHG *tagēn*) >→ *dægōjan > OE *dagian* (cf. *dæg* ‘day’);
 PNWGmc *sparja- (*sparā-?) ~ *sparai- ‘spare’ (ON *spara*) > PWGmc *sparē- (OHG *sparēn*) >→ *spærōjan > OE *sparian* (OF *sparia* ‘to keep safe’);
 PWGmc *makōn ‘to make’ (OS *makon*, OHG *mahhōn*) >→ *mækkōjan > OE *macian* (OF *makia*);
 PWGmc *hakkōn ‘to hack’ (OHG *hakkōn*) >→ *hækkōjan > OE *tō-haccian*;
 PWGmc *batē- ‘become better’ (OHG *baʒʒēn*) >→ *bætōjan > OE *batian* (OF *batia* ‘to benefit’);
 PWGmc *kapē- ‘look’ (OHG *kaffēn*) >→ *kæpōjan > OE *capian*;
 pre-OE *hnaepōjan ‘to doze’ > OE *hnappian* (cf. OHG *naffezen* ‘to fall asleep’ < *hnapat¹an).

Nominals with derivational suffixes containing *u or *ō likewise exhibit retracted *a*:

PGmc *nak^wadaz ‘naked’ (Goth. *naqaps*) > PWGmc *nak(k)wad (OHG *nackot*) > *nækkud > OE *nacod* (OF *naked*);
 PNWGmc *nabulō ‘navel’ (ON *nafli*, OHG *nabalo*) > *næbulā > OE *nafola* (OF *navla*);
 PNWGmc *habukaz ‘hawk’ (ON *haukr*, OS *havuk*, OHG *habuh*) > *hæbuk > OE *hafoc*;
 PNWGmc *latōstā ‘slowest’ (neut.; ON *latast*) > PWGmc *latōst adv. ‘most recently, latest’ > *lætōst > OE *latost*;
 PNWGmc *sānþasāgulaz ‘truth-speaking’ (ON *sannsoḡull*) > *sāþæsægul > OE *sōþsagol*;
 PNWGmc *sadulaz ‘saddle’ (ON *sōðull*, OHG *satul*) > *sædul > OE *sadol* (OF *sadel*);
 PNWGmc *stapulaz ‘post, pillar’ (ON *stōpull*; OHG *staffal* ‘rung (of a ladder)’) > *stæpul > OE *stapol*;
 PNWGmc *staþulaz ‘act of standing; standing thing’ (ON *stōðull* ‘place for milking’) > PWGmc *staþul (OHG *stadal* ‘act of standing’) > *stæþul > OE *staþol* ‘base, foundation’ (OF *dik-stathul* ‘base of a dike’);
 PWGmc *wakul ‘wakeful, vigilant’ (OHG *wahhal*) > *wækul > OE *wacol*;
 PWGmc *gabulu ‘fork’ (OS *gabala*, OHG *gabala*) > *gæbulu > OE *gafol*.

So do u-stems:

PGmc *maguz ‘boy’ (Goth. *magus*, ON *mōgr* ‘son’) > PWGmc *magu (OS *magu* ‘son’) > OE *magu* ‘young man, son’ (poetic);
 PNWGmc *laguz ‘water, the sea’ (ON *lōgr*) > PWGmc. *lagu (cf. OS *lagustrōm* = OE *lagustrēam*) > *lægu > OE *lagu*.
 Retracted *a* also normally appears in the root syllables of n-stems, most of whose endings exhibit *a* (< *a) in OE:

- PGmc *askōn- ~ *azgōn- ‘ashes’ (Goth. *azgo*, ON *aska*) > PWGmc *askā, *askōn- (OHG *asca*) > *æskæ, *æskōn- >→ OE *asce*, *ascan*, occasionally *æsce*, *æscan*;
- PGmc *maþō ‘worm’ (Goth. *maþa*) > PWGmc *maþō (OHG *mado*) > *mæþā > OE *maþa*;
- PNWGmc *rakkō ‘sailyard ring’ (ON *rakki*) > PWGmc *rakkō > *rækkā > OE *racca*;
- PNWGmc *krabbō ‘crab’ (ON *krabbi*) > PWGmc *krabbō > *kræbbā > OE *crabba*;
- PNWGmc *flaskōn- ‘bottle’ (ON *flaska*) > PWGmc *flaskā, *flaskōn- (OHG *flaska*) > *flæskæ, *flæskōn- >→ OE *flasce*, *flascan* (> late WS *flaxe*, *flaxan*);
- PNWGmc *marōn- ‘nightmare’ (ON *mara*) > PWGmc *marā, *marōn- (OHG *mara*) > *mæraē, *mæraōn- >→ OE *mare*, *maran* and *mære*;
- PNWGmc *hasō, *hazan- ‘hare’ (ON *heri*, OHG *haso*) > *hærā > OE *hara*;
- PNWGmc *apō, original meaning unknown, later ‘ape’ (ON *api*, OS *apo*, OHG *affo*) > *æpā > OE *apa*;
- PNWGmc *magō ‘stomach’ (ON *magi*, OHG *mago*) > *mægā > OE *maga* (OF *maga*);
- PNWGmc *nak^wō ‘ship’ (ON *nōkkvi*) > PWGmc *nakwō (OS *nako*, OHG *nahho*) > *nækwā > OE *naca*;
- PNWGmc *skaþō ‘damage, destruction’ (ON *skaði*) > PWGmc *skaþō (OS *skado* ‘evildoer’, OHG *skado*) > *skæþā > OE *scāþa* ‘evildoer’ (OF *skatha* ‘damage; criminal’);
- P(N?)WGmc *drakō (*-ō) ‘dragon’ (ON *dreki* with palatal umlaut levelled through the paradigm from the nom. sg., see 4.3.4 above; OHG *trahho*) > *drækā > OE *draca*;
- PWGmc *knabō ‘boy’ (OHG *knabo*) > *knæbā > OE *cnafa*;
- PWGmc *gagādō ‘companion’ (OS *gigado* ‘equal’, OHG *gigato* ‘related’) > *gægædā > OE *gegada*;
- PWGmc *man(na)slagō ‘murderer’ (OHG *manslago*) > *mān(næ)slægā > OE *manslaga*.

That unstressed *æ was not retracted is at least suggested by the development of a word for ‘witch’:

- PWGmc *hagatusi, *hagatus^jā- ‘witch’ (OHG *hagazussa*) > *hægætusi, *hægætus^jā- >→ early Merc. OE *hægtis* (*EpGl* 913, *CorpGl* 1913), late WS *hægtesse* (the majority form) ~ *hætse* (remodelled as an n-stem).

The details of syncope in this word were clearly complex, but the unstressed *æ of the second syllable must have remained front, since otherwise we would not expect the stressed vowel to have remained front and the intervening *g to have been palatalized. The second-syllable vowel must not have been syncopated before i-umlaut occurred, to judge from other evidence (see 6.6.4, 6.7.3).

6.3.2 Alternations and the phonemicization of short low vowel allophones

There are also several classes of lexemes in which retraction gave rise to an alternation between *a* and *æ*. The clearest cases are a-stem nouns, five masculine and more than a dozen neuter. The paradigms of two representative examples, *dæg* ‘day’ and *fæt* ‘container’, must have developed as follows (I adduce the parallel Old Saxon paradigms for comparison):

	OE		(post-)PWGmc		OS
sg. nom.-acc.	<i>dæg</i>	< *dæg	< *dag	>	<i>dag</i>
gen.	<i>dægēs</i>	< *dægæs	< *dagas	>	<i>dagas, -es</i>
dat.	<i>dæge</i>	< *dægæ	< *dagē	>	<i>dage, -a</i>
pl. nom.	<i>dagas</i>	< *dægās	< *dagōs	>	<i>dagos</i>
acc.	<i>dagas</i>	< *dægās	*dagā		<i>dagos</i>
			(cf. OHG <i>taga</i>)		
gen.	<i>daga</i>	< *dægā	< *dagō	>	<i>dago</i>
dat.	<i>dagum</i>	< *dægum	< *dagum	>	<i>dagum</i>

(The *-s of the nom. pl. might be post-PWGmc; see section 5.2 for discussion. In both languages the acc. pl. underwent syncretism with the nom. pl.; in OHG the reverse syncretism occurred.)

	OE		PWGmc		OS
sg. nom.-acc.	<i>fæt</i>	< *fæt	< *fat	>	<i>fat</i>
gen.	<i>fætēs</i>	< *fætæs	< *fatas	>	<i>fatas, -es</i>
dat.	<i>fæte</i>	< *fætæ	< *fatē	>	<i>fate, -a</i>
pl. nom.-acc.	<i>fatu</i>	< *fætu	< *fatu	>	<i>fatu</i>
gen.	<i>fata</i>	< *fætā	< *fatō	>	<i>fato</i>
dat.	<i>fatum</i>	< *fætum	< *fatum	>	<i>fatum</i>

It is clear that because of the shapes of the case-and-number endings retraction occurred in all and only the forms of the plural. As we will see immediately below, that was the main reason why the alternation between *æ* and *a* survived unaltered in this class of nouns. Other examples, given in nom. sg. and nom. pl., include the following (note that the OHG neut. pl. forms are endingless by analogy with nouns exhibiting heavy root syllables (Braune and Reiffenstein 2004: 185, §193 Anm. 5)):

PGmc *stabaz ‘staff’, pl. *stabōz (ON *staf̄r, stafar*; cf. Goth. i-stem dat. pl. *stabim*) > PWGmc *stab, *stabō (OHG *stab*, [acc. pl.] *staba*) → *stab, *stabōs > *stæb, *stæbās > OE *stæf, stafas* (OF *stef, stavar*);

- PGmc *paþaz ‘path’, pl. *paþōz (Iranian loanword, cf. Av. *paθ-*) > PWGmc *paþ, *paþō (OHG *pfad*, [acc. pl.] *pfada*) → *paþ, *paþōs > *pæþ, *pæþās > OE *pæþ*, *paþas* (OF *path*, pl. *-pathe*);
- PNWGmc *h^walaz ‘whale’, pl. *h^walōz (ON *hvalr*, *hvalar*) > PWGmc *hwal, *hwalō (OHG *wal*, [acc. pl.] *wala*) → *hwal, *hwalōs > *hwæl, *hwælās > OE *hwæl*, *hwalas*;
- PNWGmc *baþa, pl. *baþu ‘bath’ (ON *bað*, *bǫð*) > PWGmc *baþ, *baþu (OHG *bad*, OS gen. pl. *baðo*) > *bæþ, *bæþu > OE *bæþ*, *baþu* (OF *beth*);
- PNWGmc *bladā, pl. *bladu ‘leaf, blade’ (ON *blað*, *blǫð*) > PWGmc *blad, *bladu (OHG *blat*, OS pl. *bladu*) > *blæd, *blædu > OE *blæd*, *bladu* (OF *bled*);
- PNWGmc *baka, pl. *baku ‘back’ (ON *bak*, *bǫk*) > PWGmc *bak, *baku (OS *bak*) > *bæk, *bæku > OE *bæc*, *bacu* (OF dat. pl. *bekum*);
- PWGmc *fak, pl. *faku ‘portion’ (OHG *fah*) > *fæk, *fæku > OE *fæc*, *facu* ‘period of time’ (OF pl. *feke*).

So far as we can tell from surviving evidence, OF usually levelled this alternation.

One would expect adjectives of the same shape to exhibit *a* before endings containing back vowels and *æ* elsewhere. The former is generally true, but the latter is not true in WS; instead we find *æ* in closed syllables but *a* in open syllables, even when the ending contains a front vowel (Campbell 1962: 264). Thus the WS forms of *glæd* ‘glad’ include not only

- glæd* (masc. nom. sg., neut. nom.-acc. sg.), *glædne* (masc. acc. sg.), *glædre* (fem. gen. and dat. sg.), *glædra* (gen. pl.), all with closed root syllables, and
gladu (fem. nom. sg., neut. nom.-acc. pl.), *gladum* (dat. pl., masc. and neut. dat. sg.), with back vowels in the endings that have triggered retraction, but also
glades (masc. and neut. gen. sg.), *glade* (fem. acc. sg., masc. and neut. inst. sg., masc. and fem. nom.-acc. pl.), with retraction even though the endings were *-æs, *-æ, and in the inst. sg. *-ī.

Clearly the alternants of the root-syllable vowel have been redistributed. There are about a dozen adjectives like this in WS. Most were inherited from PGmc or PNWGmc, e.g.:

- PGmc *lataz ‘slow, lazy’ (Goth. *lats*, ON *latr*) > PWGmc *lat (OS *lat*, OHG *laʒ*) > *læt > OE *læt* ‘slow, negligent, late’ (OF *let* ‘late’);
- PGmc *waraz ‘aware’ (Goth. pl. *warai* ‘alert’, ON *varr*) > PWGmc *war (OS *war*, OHG *giwar*) > OE *wær*;
- PGmc *smalaz ‘narrow, small’ (Goth. sup. *smalista*, ON *smal-* in cpds.) > PWGmc *smal (OS, OHG *smal*) > *smæl > OE *smæl* (OF *smel*);
- PNWGmc *gladaz ‘glad, bright (sun or moon)’ (ON *gladr*) > PWGmc *glad (OHG *glat* ‘shining, clear’; cf. OS *gladmōd* ‘joyful’) > *glæd > OE *glæd* (OF *gled* ‘slippery’).

In the other dialects no such systematic redistribution of allophones occurred; for instance, the Northumbrian of *Li* attests *glæde* and *gewære*, while the Mercian of *Ps(A)* (in which $*\text{æ} > e$, see 6.5.2 below) has *hredē* to *hredð* ‘quick’ (WS *hræþ*) and *strece* to *strec* ‘vigorous’ (WS *stræc*). In all dialects, however, there are isolated levellings of the allophones in both directions.

A third group of lexemes in which we should expect to find the same alternation are the strong verbs of class VI; for instance, *faran* ‘to travel, to go’ ought to have a pres. subj. $*\text{fære}$, $*\text{-en}$, and the pres. indic. 2sg. and 3sg. should have been $*\text{færisi}$ and $*\text{færiþi}$, which we expect to have become $*\text{fers(t)}$ and $*\text{ferþ}$ in WS. In fact retracted $*a$ was levelled through the entire present stem and (usually) the past participle of class VI strong verbs that do not have j-presents. Moreover, the levelling apparently occurred not long after the alternation developed. No form of *calan* ‘to become cold’ or *galan* ‘to sing, to chant’ shows any evidence of palatalization or palatal diphthongization (see 6.4). Though i-umlaut did of course apply in the pres. indic. 2, 3sg. of these verbs (see 6.6), the result is *æ*, e.g. in *hlætst* ‘you draw (water)’, *āhlætt* ‘he will draw (water)’, *æcþ* ‘it aches’, *wiðsæcst* ‘you refuse’, *dræghþ* ‘(one) drags’, *cælp* ‘it gets cold’, *færst* ‘you go’, *færþ* ‘(s)he goes’, etc.; it follows that the input to i-umlaut must have been retracted $*a$, which can only have been introduced into such a phonotactic position by levelling.

Finally, we expect to find the alternation between $*\text{æ}$ and $*a$ in feminine \bar{o} -stem nouns. Most are abstract nouns, and a large majority occur only in the singular; retracted *a* is expected in the nom. sg. (ending $-u < \text{PWGmc } *u$), fronted *æ* in the other sg. forms (acc., gen. ending $-e < *-\text{æ} < \text{PWGmc } *-\bar{a}$; dat. ending $-e < *-\text{æ} < \text{PWGmc } *-\bar{e}$). That is what we actually find in the case of a poetic noun that occurs 28 times (including its many compounds):

PWGmc $*\text{þraku}$ ‘power, force’, acc., gen. $*\text{þrakā}$, dat. $*\text{þrakē}$ (OS *mōð-thraka* ‘worry’) $> *\text{þræku}$, $*\text{þrækæ} > \text{OE } \textit{þracu}$, $\textit{þræce}$.

Presumably the formulaic structure of Germanic oral poetry has preserved the original distribution of allophones. In other lexemes of this class that distribution has been disturbed. In a few cases we find *a* in the nom. sg. and both *a* and *æ* in the other forms:

PGmc $*\text{wrakō}$ ‘revenge, persecution’, gen. $*\text{wrakōz}$ (Goth. *wraka*, *wrakos*) $>$
 PWGmc $*\text{wraku}$, $*\text{wrakā} > *\text{wræku}$, $*\text{wrækæ} > \text{OE } \textit{wracu}$, $\textit{wræce} \sim \textit{wrace}$;
 PNWGmc $*\text{saku}$ ‘conflict, accusation’, gen. $*\text{sakōz}$ (ON *søk*, *sakar*) $>$ PWGmc $*\text{saku}$,
 $*\text{sakā}$ (OS *saka*, OHG *sahha*) $> *\text{sæku}$, $*\text{sækæ} > \text{OE } \textit{sacu}$, $\textit{sæce} \sim \textit{sace}$ (OF *seke*);
 PNWGmc $*\text{swaþ-}$ ‘track’ (cf. ON *svað* ‘slide, slippery place’, *svøðu-sár* ‘glancing wound’) $>$ PWGmc fem. $*\text{swaþu}$, $*\text{swaþā} > *\text{swæþu}$, $*\text{swæþæ} > \text{OE } \textit{swaþu}$,
 $\textit{swæþe} \sim \textit{swaþe}$.

But in most cases *a* has been levelled through the whole paradigm; at least a dozen nouns exhibit complete levelling, e.g.:

- PNWGmc *sagu ‘saw’ (the tool), gen. *sagōz (ON *sǫg*, *sagar*) > PWGmc *sagu, gen. *sagā (OHG *saga*) > *sægu, *sægæ >→ OE *sagu*, *sage*;
 PNWGmc *faru ‘journey’, gen. *farōz (ON *fǫr*, *farar*) > PWGmc *faru, *farā > *færu, *færæ >→ OE *faru*, *fare* (OF *ūt-fere* ‘journey abroad’);
 PWGmc *daru ‘injury’, gen. *darā (OHG *tara*) > *dæru, *dæræ >→ OE *daru*, *dare*;
 PWGmc *laku ‘stream, pool’, gen. *lakā (OHG *lahha*) > *læku, *lækæ >→ OE *lacu*, *lace*;
 PWGmc *talū ‘number, series, narrative’, gen. *talā (OHG *zala*; OS dat. *gēr-talu* ‘count of years’) > *tælu, *tælæ >→ OE *talū*, *tale* (OF *tele* ~ *tale* ‘talking’).

(On *caru* ~ *ċearu* ‘worry, which exhibits a more complex outcome, see section 6.5.1.)

The redistribution of allophones of the short low vowel calls for some comment, especially since we can demonstrate that it began early (see above). The changes of short low vowels discussed in sections 5.1.2, 6.2, and 6.3.1 gave rise to an exceptionless complementary distribution between the phones we have conventionally represented as *ą, *a, *æ, and *ea, probably [ã ~ a ~ æ ~ æ²]. Since their occurrence was completely predictable, what could prompt native learners to redistribute them? In fact this is one instantiation of a much broader question. As every working historical linguist knows, when the trigger for a phonological rule is lost, the outputs often are not lost; they survive as underlying or opaquely derived segments, and the rule either becomes morphologically conditioned or is lost altogether. Again, why should the effects of a lost phonological rule persist?

In the current state of our knowledge the most plausible explanation is the ‘invariant transparency hypothesis’ (ITH; Ringe and Eska 2013: 91–2, 98, 132, 135). The ITH starts from the observation that native learners in the early stages of acquisition are almost certain to accept a segment which occurs in all forms of a lexeme as underlying, even if it can actually be derived by phonological rule. As they bring their grammars into closer and closer conformity with the adult norm, some will probably adjust their underlying forms as they learn the adult rules, but the ITH suggests that others will not; those speakers will have redundant underlying segments that could be derived by phonological rule if only they had noticed the distribution of allophones across lexemes. That suboptimal quirk in their native-speaker grammars will of course remain invisible to the investigating linguist—until they produce *in the wrong environment* segments which the linguist would analyze as outputs of a phonological rule. The only clear constraint on this type of learner error is

that fine phonetic detail does not seem to be available for native-learner misanalysis; the segments that are mistakenly posited as underlying can all be described by means of the phonological feature system of the language.⁸ In effect, they are *potential* phonemes that learners reanalyze as actual phonemes.

Here is how such a process could lead to the generalization of retracted *a. Since class II weak verbs—a large and productive class—always exhibited *a in the root syllable (see above), native learners would at first posit underlying /a/ in their roots. Eventually some learners would learn that all those surface *a's could be derived from /æ/ by the retraction rule, but others would not notice that; the latter group would retain an underlying /a/ that was 'invisible' because it was redundant. Members of that group would then have the opportunity to misanalyze *farān, for example, as /faran/ or /farān/ rather than the correct /færan/; that in turn would give them an opportunity to generalize underlying /a/ to the entire present stem of the verb, yielding indic. 2sg. *farisi, 3sg. *fariþi, subj. sg. *faræ, pl. *faræ̃n, iptv. sg. *far. Moreover, a 'critical mass' of learners must have made those errors, probably reinforcing each other's errors at play while they were still learning the language, because the new forms with */a/ clearly 'caught on' in the speech community. Something like that must be what happened to the strong presents of class VI.

An early phonemicization of /a/ ≠ /æ/, and of /ɑ/ ≠ /æ/, would help account for the fact that in the runic alphabet used in England the original a-rune has developed into three different runes, the inherited shape representing /æ/ while new runes representing /a/ and /o/ (the last originally /ɑ/) have been derived from it with additional strokes (cf. Bammesberger 1991a: 392–7, 1994a: 17–19, 1996: 21, 2006: 179). However, though the same innovations appear in the Frisian runic alphabet, the early divergence of the two languages makes it more or less impossible that the innovations in spelling date to an 'Anglo-Frisian' period (Stiles 1995: 185–8). It seems more likely that the new runes were invented in the OE speech community, since the OE name for the new a-rune, *āc* 'oak', would be appropriate only in that language (whereas the word is *ēk* in OF), and that the new runes spread to the OF speech community because they were similarly useful (Quak 1991: 290–1).

Of course as further sound changes accumulated, making the underlying forms of prehistoric OE increasingly opaque, it would have become easier and easier for learners to make errors of this kind. It seems clear that by the end of the 9th century all four of the original allophones of short *a had become contrastive. Consider the output of a metathesis of *r* and a short low vowel:

⁸ I am grateful to Jonathan Gress-Wright for helpful discussion of this point.

PGmc *grasą ‘plant’, nom.-acc. pl. *grasō (Goth. *gras*) > PNWGMc *grasą, *grasu (ON *gras*, *grōs*) > PWGMc *gras, *grasu ‘grass’ (OHG, OS *gras*) > *græs, *græsu > OE *græs*, *grasu* and *gærs* (so also, independently, OF *gers*, *gerso*).

The output of this metathesis—*gærs*, not ‘*gers*’—forces us to recognize underlying /ea/ ≠ /æ/ (since the rime of *gærs* contrasts with *ears* ‘arse’, for example); but of course such an outcome was possible because native learners had *already* posited underlying /æ/ ≠ /ea/! The eventual outcome of nasalized *ą, variably written *a* ~ *o* and perhaps phonetically /ɔ/, also became contrastive, and once again that is proved by *r*-metathesis:

PGmc *rann ‘(s)he ran, it ran’ (Goth., ON, OS *rann*, OHG *ran*) > *rąnn (OF *ran*) > OE *rann* ~ *ronn* (rare) and *arn* ~ *orn*.

The output *arn* ~ *orn* contrasts not only with *earn* ‘eagle’, but also with *ærn* ‘house’ (see 3.3.1). Finally, *a* and *ea* came to contrast in a similar fashion, at least in WS: retracted *a* was generalized in *calu*, *calw*- ‘bald’ (OHG *kalo*, *kalaw*-), but broken *ea* was generalized in *fealu*, *fealw*- ‘tawny, yellow’ (OHG *falo*, *falaw*-).

Another question that needs to be asked is whether retraction also occurred in OF (Luick 1914–40: 156, Nielsen 1985: 129). As the reader can see from the OF forms adduced above, OF usually (though not invariably) has *a* where OE has *a*. Moreover, many of the discrepancies can be explained by levelling, all the more so because ‘Old’ Frisian is actually contemporary with Middle English and had therefore had many more generations in which to level alternations; that is surely the explanation for OF *drega* ‘to pull’ (OE *dragan*; but OF *fara* = OE *farán*), *degar* ‘days’ (OE *dagas*), etc. Unfortunately we cannot demonstrate that the OF *a*’s are the result of a sound change more or less like OE retraction, for the following reason. Recall that we were able to reconstruct retraction for OE *only* because breaking had intervened (see the beginning of this section); in effect, our evidence that the first vowel of OE *dagas* was not always a back vowel is the fact that fronting and breaking had occurred in *slēan*. But no breaking of *æ can be demonstrated for OF; note especially that the cognates of OE *slēan* and *ēa* are OF *slā* and *ā*, apparently < *slahan and *ahu with no change in vowels. It seems likely that OF underwent an across-the-board fronting of (non-nasalized) *a, followed by retraction, because the distributions of fronted and unfronted *a are so similar in the two languages in isolated forms; but we need to keep in mind the less likely possibility that fronting never occurred in OF in what might be called retraction environments—an impossible scenario for OE. This retraction, like the retraction before *iC, could be a historical change shared by OE and OF

(which of course were already somewhat different dialects, since their diphthongs were developing differently and breaking was apparently confined to OE), though in this case too we cannot demonstrate that.

The precise conditioning of retraction also remains somewhat unclear. Luick and Campbell point out that retraction is occasionally found before clusters of obstruent plus sonorant followed by a back vowel, and they conclude that the scope of the change must have been somewhat broader than we can demonstrate for certain, much of the evidence having been destroyed by levelling (Luick 1914–40: 153–4, Campbell 1962: 61). That is almost certainly correct, but it is difficult to draw any further conclusions.

6.3.3 West Saxon retraction of **ǣ* and other minor changes

Finally, long **ǣ* also underwent retraction before a single consonant followed by a back vowel, provided the consonant was not a coronal obstruent (Luick 1914–40: 155, Campbell 1962: 62, Hogg 1992: 100–1 [2011: 97–9]). Since the only attested OE dialect whose sound system included stressed **ǣ* at that time was WS, this retraction was confined to that dialect; the **ē* of the other OE dialects (and OF) was not affected. The results of this sound change were mostly levelled out, but there are enough surviving examples to demonstrate that it occurred:

- PGmc **mēgaz* ‘kinsman’, nom. pl. **mēgōz* (Goth. *megs*, **megos* ‘son-in-law’) > PNWGmc **māgaz*, **māgōz* (ON *mágr*, *mágar* ‘relative by marriage’) > PWGmc **māg*, **māgō* (OHG *māg*) → **māg*, **māgōs* (OS *māg*, *māgos*) > **mæg*, **mægās* > WS OE *mæg*, *māgas* → *mægās* (North. *mæg*, *mēgas*; OF *feder-mēch* ‘paternal relative’);
- PGmc **slēpaną* ‘to sleep’ (Goth. *slepan*) > PWGmc **slāpan* (OS *slāpan*, OHG *slāfan*) > **slǣpan* > WS OE *slāpan* → *slǣpan* (Merc. *slēpan*, North., OF *slēpa*); note also WS OE *slāpol* ‘sleepy’ < **slǣpul* < PWGmc **slāpul* (OHG *slāfal*), but WS OE *slǣp* ‘sleep’ < **slǣp* (cf. OF *slēp*) < PWGmc **slāp* (OS *slāp*, OHG *slāf*) < PGmc **slēpaz* (Goth. *sleps*);
- PGmc **lēgun* ‘they lay’ > PNWGmc **lāgun* (ON *lāgu*, OS, OHG *lāgun*) > **lǣgun* > WS OE *lāgon* → *lǣgon* (North. *lēgon*);
- PGmc **wēgun* ‘they moved (it)’ > PNWGmc **wāgun* (ON *vāgu*, OHG *wāgun*) > **wǣgun* > WS OE *wāgon* (*Jud* 325) → *wǣgon*;
- PGmc **swēraz* ‘heavy’ (Goth. *swers* ‘honored’) > PNWGmc **swāraz* (ON *svárr*) > PWGmc **swār* (OS, OHG *swār*) > **swǣr* > WS OE *swǣr*, dat. pl. *swārum*, weak obl. *swāran* → also *swār*, *swǣrum*, *swǣran* (North. *swēr* ‘lazy’, OF *swēr* ‘heavy, difficult’);

PNWGmc *wāru ‘pledge, agreement’ (ON pl. *várar*, OHG *wāra*) > *wāru > WS OE *wāer*, dat. pl. *wārum* (*Or*, Bately 1980: 91, l. 24, in the 10th-century manuscript) → *wāerum* (e.g. in the same passage in the 11th-century manuscript);
 PWGmc *ārundi ‘message, errand’ > (OS *ārundi*, OHG *ārunti*) > *āerundi > *ārundi (by retraction) > *āryndi (by i-umlaut, see 6.6.4) > WS OE *ārende* (OF *ērende*).

There are also a few examples without exact cognates in other languages (Luick 1914–40: 155, Campbell 1962: 62); the most noteworthy is *on sālum* ‘happy’, an idiom containing the dat. pl. of *sāel* ‘(right) time, opportunity, good fortune’ (also, with levelling, *on sāelum*; for related adjs. in other Gmc languages see Heidermanns 1993: 476–7). These new *ā* merged with the inherited *ā* that occurred before *w*, and with the outcome of *ai if it had been fully monophthongized by that date.

An unusual example of this retraction is a lexeme in which we might have expected to find i-umlaut instead:

PGmc *lēkinōnā ‘to heal’ (Goth. *lekinon*) > PNWGmc *lākinōnā (ON *lækna*) > PWGmc *lākinōn (OHG *lāhhinōn*) > *lākinōjan > *lākunōjan (?; Hogg 1992: 100 [2011: 98]) > WS OE *lācnian* (North. *lēcniġa*).

Hogg’s suggestion that the *i of this word was replaced by *u might seem at first to explain one irregularity by means of another. But it turns out that there are some other OE forms in which unstressed *i seems to have been replaced by *u when there was a back vowel in the following syllable. I will return to this problem in 6.7.1.

The verb *lācnian* exhibits a further point of interest: the high vowel in the open second syllable of its immediate ancestor might have been syncopated well before the most widespread syncope of short vowels. A review of the verbs in (northern WGmc) *-inō(ja)- and *-isō(ja)- adduced in section 4.3.3 (i) shows that several with umlautable vowels in the root syllable fail to exhibit i-umlaut; though we might account for that fact by means of Hogg’s hypothesis, it is also possible that there was a fairly widespread early loss of *-i- in these verb-forming suffixes. The most likely reason for such a development is that, at least in the longer forms (i.e., those in *-ja-), the *-i- fell between a primarily accented and a secondarily accented syllable (thus *-\$iCōjV-, where ‘\$’ indicates the root syllable). On the other hand, the *-i- of *bletsian* ‘to bless’ did umlaut the preceding syllable (see 6.6.1); possibly that verb was created too late to undergo this syncope, but if so, there must have been some surviving models in *-isōjan (most plausibly the ancestors of OE *eġesian* ‘to terrify’ and *temesian* ‘to sift’, with light root syllables). Some other cases of early syncope

are known, though the phenomenon has not been investigated systematically, so far as I know. This problem will be discussed further in 6.7.1.

This also seems the best point at which to note strong class IV past pl. *nāmon* ‘(they) took’ (and other forms made to the same stem), which occurs in WS and in the early Mercian *EpGl* (*naamun*, 113; *CorpGl* gives *nōmun*, 247). The sound-change reflex of PWGmc **nāmun* was of course *nōmun* ~ *nōmon*, which also occurs in WS and is usual in Anglian texts. Clearly *nāmon* is somehow the result of reanalysis (cf. Flasdieck 1930: 287–8).⁹ It would be reasonable to suppose that it arose after the reflex of inherited nasalized **ā* had become distinctively rounded, since it seems very unlikely that distinctively nasalized (but unrounded) **ā* and **ā̃* could have contrasted between two nasal consonants, which should automatically have imparted a weak nasalization to the latter vowel (though see further below). By the time **ā* had become distinctively rounded, WS **ǣ* had probably been retracted to *ā* in the parallel class IV and V stems of *lāgon*, *wāgon*, **brācun*, **bārun*, **stālun*, and a few other verbs, to which can be added *sāwon* with inherited **ā̃*; it is even conceivable that the corresponding stem of ‘give’ was **gābun* (cf. Flasdieck 1930: 188). Some sort of analogy with these stems is the obvious source for the *ā* of *nāmon* (Daunt 1930: 71, Bammesberger 1979: 126–8). But all those verbs exhibited *æ* in the past indic. 1/3sg., whereas the corresponding form of ‘take’ was *nam* ~ *nom*. We could suggest that *æ* and **ā* were still perceived as allophones of the same underlying phoneme /a/, whereas *ā* was clearly distinct from **ā̃* because both had an independent existence—the latter as the outcome of PGmc **am*, **an* before fricatives, the former as the outcome of PWGmc **ai*—and thus occurred freely before nasals, as *æ* did not (see 6.1.2); thus there could have been a (fairly short) period during which *ā* could have been introduced into *nāmon* by generalization of a rule extracted from the alternation in, say, the semantically related verbs ‘carry’, ‘move’, and possibly ‘give’. But that will work only for WS; unless *naamun* in *EpGl* is actually a WS form, it is difficult to see how to account for it analogically.

However, there is another possible explanation that does not depend on analogy. It is possible that native learners mistook the distinctively nasalized **ā̃* of **nāmun*, etc. for **ā̃* that had been allophonically nasalized to an exceptional degree between two nasals; such an error would yield the attested form *nāmun* regardless of the shape of parallel forms in other paradigms.

⁹ Flasdieck does not realize that the early glossaries are Mercian; his explanation could work only for WS, and in the form in which he states it, it is inconsistent with the reconstructable chronology of sound changes as laid out in this volume. I have tried to correct and build on his account.

Unfortunately this explanation is difficult to extend to the equally unexpected comparative *sēmra* ‘worse’ (on which see further 6.6.1 ad fin.).

A final detail should be mentioned here. In all dialects of OE some PWGmc *a appear as *o* in a number of unstressed words and unstressed syllables. Since there is good evidence that unstressed *a was at first fronted to *æ (see section 5.1.2), we have to suppose that *æ in some weakly stressed words was retracted and then rounded to *o*. Moreover—and not surprisingly—nasalized *ą in weakly stressed words also became *o* (consistently; i.e., the *a~o* variation does not normally appear), though the same change does not seem to have affected word-final *-ąn. Here are the most obvious examples:

- PGmc *ab ~ *aba ‘from’ (Goth., ON, OS *af*, OHG *ab* ~ *aba*) > *æb > *ab > OE *of*;
 PGmc masc. acc. sg. *þanō ‘that’, *h^wanō ‘whom?’ (Goth. *þana*, *hwana*) > PWGmc
 *þanā, *hwanā > stressed *þanæ, *hwanæ, unstressed *þænæ, *hwænæ (see
 section 5.1) > OE *þone*, *hwone*;
 PGmc *ana ‘on’ (Goth., OHG *ana*) > stressed *anæ, unstressed *ænæ > OE *on*;
 PGmc *þan(a) ‘then’, *h^wan(a) ‘when?’ (Goth. *þan*, *hwan*; OHG *dana*) > PWGmc
 *þannā, *hwannā (OHG *danna*, *wanna*) > *þannæ, *hwannæ > OE *þonne*,
hwonne.

In a few words retraction occurred, but rounding to *o* did not occur (or not consistently):

- PGmc *was ‘(s)he was’ (Goth., OF, OS, OHG *was*, early ON *vas*) > *wæs > stressed
 *wæs, unstressed *was > OE *wæs*, occasionally *was*;
 PGmc *ak ‘but’ (Goth., OS *ak*) > *æk > OE *ac*;
 cf. also *toward*, *toward* beside *toward* ‘facing, future; towards’ (with breaking, the
 stressed development).

In others the unstressed vowel has not only been retracted but raised all the way to *u*, usually spelled *u* ~ *o* unless a nasal follows immediately:

- PGmc *hlaibaz ‘bread’ (Goth. *hlaiþs*), *wardaz ‘guardian’ (Goth. *daúra-wards*
 ‘doorkeeper’) in pre-OE *hlāb(æ)wærd > *hlāb(w)ard > OE *hlāfurd* ~ *hlāford*
 ‘lord’;
 PGmc *furf ‘furrow’ (see 2.3.1 (i)), *langaz ‘long’ (Goth. *laggs*) in pre-OE *furf(æ)
 ļang > OE *furlung* ‘furlong’ beside *furlang* (influenced by simplex *lang*);
 PWGmc *werald(i) ‘world’ (lit. ‘age of men’; OS *werold*, OHG *weralt*) > *weræld(i)
 > *werald > OE *weoruld* ~ *weorold* (OF *warld*; late ON *verǫld* is probably a
 loanword, see de Vries 1962 s.v.);
 PWGmc *ā-kamb- ‘coarse flax fibers, tow’ (OHG *ākambi*; cf. PGmc *kambaz
 ‘comb’) > pre-OE *ākambā > *ācumba*.

A few further examples can be found at Luick 1914–40: 125–6.

6.4 Palatalization and the loss of *w after velars

6.4.1 Palatalization of velars

After the retraction of *æ had run its course, the velar consonants *k and *g were palatalized in various environments adjacent to front vowels (Luick 1914–40: 835–41, Campbell 1962: 179–82, Hogg 1992: 257–73 [2011: 253–70]). This must have amounted to more than the automatic slight fronting of velars adjacent to front vowels that occurs in most languages; apparently native learners misinterpreted automatic coarticulation effects as the results of a phonological rule.¹⁰ According to that definition, palatalization occurred in the following environments:

- 1) word-initial *k and *g were palatalized by any following front vowel;
- 2) non-initial *k and *g were palatalized by an immediately following *i or *ī;
- 3) otherwise, intervocalic *g was palatalized between any two front vowels, but *k was palatalized in that position only if the preceding vowel was *i or *ī;
- 4) preconsonantal and word-final *g were palatalized by any preceding front vowel, but word-final *k was palatalized only by a preceding *i or *ī, and it cannot be demonstrated that preconsonantal *k was palatalized at all.

Some of the new palatal allophones merged with the members of the clusters *k^jk^j, *g^jg^j that had been inherited from PWGmc (see 3.1.3). Unless native learners were still able to posit underlying /kj/, /gj/ for the latter, a contrast between palatals and velars must have become established almost immediately; in fact, it seems likely that the preexistence of *k^jk^j, *g^jg^j was one factor that led learners to reevaluate the coarticulation effects of front vowels on velars as distinctive.

The new *k^j must at first have been [c] (i.e., a voiceless palatal stop); *k^jk^j must have been [c:]. By about 900 [c] had probably become [tʃ], since at that time we first find *ortġeard* /ortjæ²rd/ ‘orchard’ spelled *orġeard* and *fetian* /fetjan/ ‘to fetch’ (see 7.1.5) spelled *feċċan*, apparently with *c* = [tʃ] < [tj] (Luick 1914–40: 904); geminate *ċċ* must then have been [tʃtʃ]. On the other hand, palatalized *k^j clearly had not become an affricate by the time the regular syncope of short vowels occurred; see 6.7.5 for discussion. In most positions *g was fricative [ɣ], and in those positions the new *g^j must have been fricative [j].

¹⁰ Campbell 1962: 173–9 does not realize this, and that makes his discussion far less useful than it might have been.

At some point this allophone merged with inherited *j as [j]; however, that could not have happened before i-umlaut occurred, since the new *g^j did not trigger i-umlaut (see 6.6.2). The cluster *ng was [ŋg], and palatalized *ng^j must therefore have been [ŋj]; *g^jg^j must have been [j:]. They eventually became [ndʒ] and [ddʒ] respectively. (When the handful of words with /gg/ = [g:] entered the language is unclear.) Both palatalization and these subsequent changes seem to have occurred in all attested OE dialects; in particular, the evidence of place names shows that there was no failure of palatalization in Northumbrian (see Gevenich 1918). The palatal allophones must have become contrastive when i-umlaut brought new examples of æ into existence after velar consonants (see 6.6.2, 6.6.4), though they can have been reinterpreted as underlying before that time.

The cluster *sk developed somewhat differently. Initial *sk before front vowels must have been palatalized to [sc] or [s^jc]. Medially *sk was apparently palatalized unless a back vowel followed; finally it was palatalized unless a back vowel preceded. By some time in the 10th century the result seems to have been [j:] after short vowels, [j] elsewhere (see Slettengren 1943 with references). But the palatalized allophone of /sk/ was also introduced word-initially before all vowels, regardless of frontness, before about 900, since its palatal quality is often indicated by the spellings *sceo-*, *scio-*. Eventually it was even palatalized before *r*, though direct evidence for that does not appear before c.1200 (e.g. *schrenche* ‘that he entrap’, *Trinity College Homilies*; *shriðd* ‘clothed’ and *shrud* ‘clothing’, *Orrmulum*; *schreapien* ‘to scrape’, *Ancrene Riwe*). Such a generalization of a marked allophone is unusual, but other cases are known; see Buckley 2009 for exemplification and discussion.

I here list examples of palatalization that did not subsequently trigger diphthongization of the following vowel (for the reasons given at the beginning of each block of examples); examples with palatal diphthongization will be listed in section 6.5.1. In all the OE forms cited I write the outcomes of palatalization as *č*, *ğ*, *čğ*, *ś*.

I first adduce word-initial examples in which diphthongization did not occur because the following vowel was high:

- PGmc *kinnuz ‘cheek’ (Goth. *kinnus*, ON *kinn*) > PWGmc *kinn(u) ‘jaw’ (OS, OHG *kinni*) > OE *činn* ‘chin’ (OF *tsin-bakka* ‘jaw’);
- PGmc *gīslaz ‘hostage’ (see vol. i 4.6, p. 296; ON *gīsl*, OHG *gīsal*) > OE *ğīsl*;
- PGmc *skipą ‘ship’ (Goth., ON, OS *skip*, OHG *scif*) > OE *ścip* (OF *skip*);
- PGmc *skīnaną ‘to shine’ (Goth. *skeinan*, ON *skīna*, OS, OHG *scīnan*) > OE *śčīnan* (OF *skīna*);
- PWGmc *kīsil ‘gravel’ (OHG *kīsil*) > OE *čīsel*;
- PWGmc *kīrikā ‘church’ (OHG *kīrihha*) > OE *čīriče* (OF *tserke*);

- PWGMc *kīþ ‘embryo, shoot’ (OS *kīð*, OHG *chīd*) > OE *ċīþ*;
 PWGMc *gibiþi ‘given, granted (by fate)’ (cf. OS *gibīdig* ‘allotted, given’, OHG *gibedīg* ‘productive’) > OE *gifeþe*;
 PWGMc *gimmu ‘gem’ (OHG *gimma*) > OE *gimm*;
 PWGMc *gīd ‘greed, avarice’ (OHG *gīt*) → *gīdisōn ‘to be greedy for, to covet’ (MHG *gītesen*) >→ OE *gītsian*.

In some other word-initial examples the root syllable of the word already contained a diphthong by breaking:

- PGmc *kalbaz, *kalbiz- ‘calf’ (neut.; cf. Goth. *kalbo*, ON *kalfr* (masc.)) > PWGMc *kalb, *kalbiz- (OHG *kalb*) > *kælb > *kealb > WS OE *ċealf* (but Angl. *cælf*, without breaking, reflects *kalbi, with generalization of the oblique stem);
 PGmc *kaldaz ‘cold’ (Goth. *kalds*, ON *kaldr*, OS *kald*, OHG *kalt*) > *kæld > *keald > WS OE *ċeald* (North. *cald*, OF *kald*);
 PGmc *gardaz ‘enclosure’ (Goth. *gards* ‘house’, ON *garðr*, OS *gard* ‘field’, OHG *gart* ‘garden’) > *gærd > *geard > OE *ġeard*;
 PGmc *galgō ‘gallows’ (Goth. *galga* ‘cross’, ON *galgi*) > PWGMc *galgō (OS *galgo* ‘cross’, OHG *galgo*) > *gælgā > WS OE *ġealga* (early North. acc. *galgu*, OF *galga*);
 PNWGMc *garwijaŋ ‘to prepare’ (ON *gōra* ‘to make’, OS *gerwian*, OHG *garewen*) > *gærwjaŋ > *gearwjan > *ġearwjan > WS *ġierwjan > *ġierwan*, but Angl. *ġerwjan > Merc. *ġerwan* (both by i-umlaut, see 6.6.3);
 PNWGMc *garnaŋ ‘yarn’ (ON, OHG *garn*) > *gærn > *ġearn > OE *ġearn*;
 PNWGMc *galdraz ‘incantation’ (ON *galdr*, OHG dat. pl. *galdrun*) > *gældr > *gealdr > WS OE *ġealdor* (neut.; Merc. *galdur-creft*);
 PNWGMc *skardaz ‘damaged, notched’ (ON *skarðr*, OS *skard* ‘wounded’; cf. OHG *lidi-scart* ‘maimed’) > *skærd > *skeard > OE *ſceard* (OF *skerd*);
 PNWGMc *skarpaz ‘rough’ (ON *skarpr* ‘shrivelled, rough’) > PWGMc *skarp ‘sharp’ (OS *skarp*, OHG *skarf*) > *skærp > *skearp > OE *ſcearp* (OF *skerp*);
 PWGMc *kaldi ‘cold(ness)’ (OHG *kaltī*) > *kældi > WS *kealdi > *ċealdi > *ċieldi → *ċieldu* (OF *kelde*);
 PWGMc *kahhatʰʰan ‘to laugh loudly’ (OHG *kahhazzen*) > *keahhætʰʰan > OE *ċeahhettan*;
 PGmc *gernaz ‘desirous, eager’ (ON *gjarn*, OS, OHG *gern*; cf. Goth. *faihu-gairns* ‘avaricious’) > *georn > OE *ġeorn* (OF adv. *jerne*);
 PWGMc *kerban ‘to carve, to cut’, past indic. 3sg. *karb > *keorban, *kearb > OE *ċeorfan*, *ċearf* (OF *kerva*);
 PWGMc *skelh ‘oblique, crooked, squinting’ (OHG *skelah*) > *skeolh > OE *ſceolh, weak *ſcēola*;
 PWGMc *giwē- ‘to desire eagerly’ (OHG *giwēn*) >→ *giowōjan > OE *ġiowian* ‘to ask for’.

In still others the diphthong was inherited:

PGmc *keusaną ‘to test’, *kiusidi ‘(s)he tests’, *kaus ‘(s)he tested’ (Goth. *ga-kiusan*, *ga-kiusiþ*; ON *kjósa*, past *kaus*) > PWGmc *keusan ‘to choose’, *kiusidi, *kaus (OS, OHG *kiosan*, *kiusit*, *kös*) > *kēusan, *kīusiþi, *kæus > *cēosan, *cīosiþi, *čēas > *čēosan, *čīesiþi, *čēas > OE *cēosan*, *čiest*, *čēas*; (OF *kiāsa* ~ *tsiāsa*, *kiost* ~ *tsiost*, *kās*);

PGmc *geutanaþ ‘to pour’, *giutidi ‘(s)he pours’, *gaut ‘(s)he poured’ (Goth. **giutan*, *giutiþ*; ON *gjóta* ‘to drop (cubs, calves, etc.)’, *gaut*) > PWGmc *geutan, *giutidi, *gaut (OS *giotan*, *gōt*; OHG *giozan*, *giužit*, *gōz*) > *gēutaþ, *giutiþi, *gæut > *gēotan, *giotiþi, *gēat > *gēotan, *gietiþi, *gēat > OE *gēotan*, *giēt(t)*, *gēat* (OF *bijāta* ‘to water’, *bijuth*, —);

PGmc *gaumijanaþ ‘to observe’ (Goth. *gaumjan*, ON *geyma* ‘to heed, to take care of’, OS *gōmian* ‘to heed, to keep’, OHG *goumen* ‘to take care of’) > *gæumijān > *gēamjān > *gēamjān > WS OE *gīeman*, Kent. *gēman*, North. *gēma*;

PGmc *skauniz ‘beautiful’ (Goth. *skauns*) > PWGmc *skaunī (OS, OHG *skōni*) > *skæunī > *skēanī > WS OE *scīene* (OF *skēne*);

PNWGmc *skeutanaþ ‘to shoot’, *skiutidi ‘(s)he shoots’, *skaut ‘(s)he shot’ (ON *skjóta*, *skaut*) > PWGmc *skeutan, *skiutidi, *skaut (OHG *skiozan*, *skiužit*, *skōz*) > *skēutaþ, *skiutiþi, *skæut > *skēotan, *skiotiþi, *skēat > *skēotan, *skīetiþi, *skēat > OE *scēotan*, *scīet(t)*, *scēat* (OF *skiāta*);

PNWGmc *gaukaz ‘cuckoo’ (ON *gaukr*, OS *gōk*, OHG *gouh*) > *gæuk > *gēak > OE *gēac*;

PNWGmc *skaubaþ ‘sheaf’ (ON *skauf* ‘bushy tail’, OHG *scouub*) > *skæub > *skēab > OE *scēaf*;

PNWGmc *keulaz ‘keel, ship’ (ON *kjóll*, OHG *kiol*) > *kēul > OE *cēol*;

PWGmc *kaw^hwian ‘to call’ (OHG *gikewen*) > *kaujan > *kæujan > *cēajan > WS OE *cīegan*, Engl., Kent. *cēgan*;

PWGmc *kaup ‘trade, purchase’ (masc.; OF *kāp*, OS *kōp*, OHG *kouf*) > *kæup > *kēap > OE *cēap* (ON *kaup* (neut.) is likely an independent formation).

Two words are attested only or mainly in Anglian form, without diphthongization:

PGmc *skapjanaþ ‘to harm’ (Goth. *skapjan*) > PWGmc *skap^hþjan > *skæp^hþjan > Merc. *scēpþan*, borrowed into WS prose (Campbell 1962: 70 n. 3; *scyððan*, pres. 3sg. *scyðeð* < early WS *scīeþ- 1 × each in *And*);

PWGmc *kēn ‘resinous pine-wood’ (OHG *kien*) > Anglian OE *cēn* (name of the c-rune; ‘torch?’).

A very common prefix exhibits no diphthongization even in WS because it was always unstressed:

PGmc. *ga- ‘co(n)-’ (also perfectivizing prefix; Goth. *ga-*) > PWGmc. *ga- (OS, OHG *gi-*) > *gæ- > *gi- > OE *ge-* (OF *e-*).

Examples of palatalized *sk before back vowels and *r* are numerous; the following are typical:

- PGmc *skabaną ‘to cut (hair), to shave’ (Goth. *skaban*, ON *skafa*) > PWGmc *skaban (OHG *skaban*) > OE *sc(e)afan* /ʃafan/ [ʃavan];
- PGmc *skuldē ‘(s)he was obliged’ (Goth. *skulda*) > PWGmc *skoldē (OS *skolda*, OHG *skolta*) > OE *sc(e)olde*, rarely *sciolde* /ʃolde/ (OF *skolde*);
- PGmc *skulun ‘they should’ (Goth., OS, OHG *skulun*) > OE *sculon*, *sceolon* /ʃulon/ (OF *skelen* with unlauded root-vowel);
- PGmc *skaiþaną ‘to separate’ (OS *skēðan*, OHG *sceidan*) → *skaidaną (OS *skēðan*; so also, independently, Goth. *skaidan*) > OE *sc(e)adan* /ʃa:dan/ (OF *skētha*);
- PGmc *skōhaz ‘shoe’ (Goth. *skohs*, ON *skór*, OS *skōh*, OHG *skuoh*) > OE *sc(e)ōh* /ʃo:h/ (OF *skōch*);
- PWGmc *skūr ‘shower (of rain)’ (OHG *scūr*) > OE *scūr* /ʃu:r/;
- PWGmc *skamu ‘shame’ (OS, OHG *scama*) > *skaṃu > OE *sc(e)amu* /ʃɒmu/ (OF *skome*);
- PNWGmc *skrūðą ‘gear, outfit’ (ON *skrúð*) > PWGmc. *skrūd > OE *scrūd* ‘clothing’ /ʃru:d/.

It can be seen that the OF pattern of palatalization was somewhat different from that of OE. Word-initial *g seems to have been palatalized to *j* in OF by any following front vowel, but palatalization of word-initial *k seems to be consistent only before high front vowels (though examples before mid front vowels do occur, e.g. *tsetel* ‘kettle’, *tsīse* ‘cheese’, see 6.5.1 below); *sk is never palatalized in OF.

In non-initial position all velars were palatalized by a following high front vowel (and none later caused diphthongization). Geminate *kk was palatalized like single *k, as the Obligatory Contour Principle predicts. Numerous examples can be found among *ija*-stem, *ī/ijō*-stem, *i*-stem, and *in*-stem nouns, *ija*-stem adjectives, weak verbs of class I, comparatives, superlatives, and the dat. sg. and nom. pl. forms of root-nouns. The following are typical:

- PGmc *lēkijaz ‘physician’ (Goth. *lekeis*) > PWGmc *lākī (OHG *lāhhi*) > *læki > WS OE *læce*, Merc., North. *lēce* (OF *lētsa*);
- PGmc *mēkijaz ‘sword’ (Goth. acc. *meki*) > PNWGmc *mākijaz (Runic Norse acc. *makia*, ON *mækir*) > PWGmc *mākī (OS *māki*) > Angl. OE *mēki > *mēce* (poetic);
- PGmc *rikią ‘kingdom’ (Goth. *reiki* ‘authority’, ON *ríki*) > PWGmc *rikī (OS *rīki*, OHG *rīhhi*) > OE *riçe* (OF *rike*);
- PGmc *stikiz ‘puncture, point’ (Goth. *stiks melis* ‘moment of time’, OS *stiki*, OHG *stih*) > *stiçi > OE *stiçe* (OF *stek*);
- PGmc *frikīn- ‘greed’ (Goth. *faihu-frikei*) > *friçi > OE *friču* ‘usury’;

- PGmc *brūkiz ‘useful’ (Goth. *brūks*) >→ PWGmc *brūkī (OHG *brūhhi*) > *brȳci > OE *brȳce*;
- PGmc *sōkijanaþ ‘to look for, to seek’ (Goth. *sokjan*, ON *sækja*, OS *sōkian*, OHG *suohhen*) > *sōēcjan > Merc. OE *sācan*, North. *sāca*, WS *sēcan* (OF *sēka* ~ *sētsa*);
- PGmc *wurkijanaþ ‘to work, to make’ (Goth. *waúrktan*, ON *yrkja*, OS *wirkian*, OHG *wurken* ~ *wirken*) > *wyrčjan > OE *wyrčan* (OF *werka* ~ *wirtsa*);¹¹
- PGmc *þunkijanaþ ‘to seem’ (Goth. *þugktan*, ON *þykkia*, OS *thunkian*, OHG *dunken*) > *þyncjan > OE *þyncan*;
- PGmc *drankijanaþ ‘to give to drink’ (Goth. *dragktan*, ON *drekka* ‘to drown’, OS *or-drenkian* ‘to drown’, OHG *trenken* ‘to refresh’) > *drañcjan > OE *drenčan* ‘to give to drink, to make drunk, to saturate’, *ā-drenčan* ‘to drown’ (OF *drentsa* ‘to drown’);
- PGmc *balgiz ‘leather bag’ (Goth. *balgs*, ON *belgr* ‘flayed skin, leather bag’, OS, OHG *balg*) > *bælgi > OE *bielg*;
- PGmc *hugiz ‘thought, understanding’ (Goth. *hugs*, ON *hugr*, OS *hugi*; OHG *hugu* with shift into the u-stems) > *huġi > OE *hyġe* (OF *hei*);
- PGmc *slagiz ‘blow, stroke’ (Goth. *slahs* (with analogical *-h-*), ON *slagr*, OS *slegi*, OHG *slag*) > *slægi > OE *sleġe* (OF *slei*);
- PGmc *managin- ‘multitude’ (Goth. *managei*, OS *menigi*, OHG *managi* ~ *menigi*) > *mañægī >→ OE *men(i)ġu* (OF *menie*);
- PGmc *langin- ‘length’ (Goth. *laggei*, OHG *lengi*) > *lañgi > *lænġi >→ OE *lenġu* (OF *lendze*);
- PGmc *burgiz pl. ‘hill-forts’ (Goth. *baúrġs*; OS, OHG *burgi* exhibit shift into the i-stems, ON *borgar* into the ō-stems; all ‘towns’) > *burġi > OE *byrġ* ‘towns’;
- PGmc adv. *langiz ‘longer’ (ON *lengr*, OS *leng*) > *lañgi > OE *lenġ* (OF *leng*);
- PGmc *junhistaz ‘youngest’ (Goth. **jūhists*, cf. cptv. *jūhiza*) → *jungistaz (*-g-levelled in from the basic adj.; ON *yngrstr*, OHG *jungisto* (weak inflection only)) > *jynġist > OE *ġinġest*;
- PNWGmc *gamarkijaþ ‘mark, landmark, boundary’ (ON *merki*) > *ġimearċi > WS OE *ġemierce* (cf. OF *hem-mertse* ~ *hem-merke* ‘village common’);
- PNWGmc *bankiz ‘bench’ (ON *bekkr*, OS, OHG *bank*) > *bañci > OE *benċ* (OF *bank* ~ *benk*);
- PNWGmc *bōkiz ‘inscribed billets’ (vel sim.; ON *bækr*, OHG *buoh*, both ‘books’; OF, OS *bōk* have been remodelled) > *bōēci > North. OE *bāc*, WS *bēc*;
- PNWGmc *brōkiz ‘leggings’ (ON *brækr*, OHG *bruoh*) > *brōēci > OE *brēc* (OF *brēk*);
- PNWGmc *aikiz ‘oaks’ (ON *eikr*) > *āci > *æci > OE *æc*;

¹¹ The OS present, and some corresponding OF and OHG forms, appear to reflect a PWGmc verb **wirkijan*, which could only be a denominative formed to the noun **werk*. But the fact that all have the inherited irregular past and past ptc. (OF *wrochte*, *ewrocht*; OS *warhta*, *giwaraht* with unexpected *a*; OHG *worhta*, *giworaht*) can only mean that either two verbs have been conflated or else native learners reinterpreted the present stem as a denominative, adjusting its shape to fit that hypothesis. The innovation seems to have been centered on the OS area, leaving OE and southern OHG untouched (Braune and Reiffenstein 2004: 300).

- PNWgmc *raukijana ‘to cause smoke, to smoke (meat, etc.)’ (ON *reykja*; OHG *rouhhen* ‘to burn incense’) > *rēacjan > WS OE *riēcan* ‘to fumigate, to burn incense’, North. *rēca*;
- PNWgmc *flikkija ‘side of bacon’ (ON *flikki*) > *flicci > OE *flicce*;
- PNWgmc *stukkija ‘piece’ (ON *stykki*, OS *stukki*, OHG *stucki*) > *stucci > OE *stycce*;
- PNWgmc *fangiz ‘grasp, booty’ (ON *fengr*, OHG *ana-fang* ‘beginning’) > *faŋgi > OE *fenġ* (OF *bās-feng* ‘indecent assault’);
- PNWgmc *strangiz ‘string’ (ON *strengr*, OHG *strang*) > *straŋgi > OE *streng*;
- PNWgmc *gangiz ‘ready to go; passable’ (ON *gengr*) >→ PWgmc *ganġi ‘passable’ (OHG *genġi* ‘customary’) > *ganġi > OE *genġe* ‘appropriate, agreeable’ (OF *gendze*);
- PNWgmc *laugiz ‘flame’ (ON *leygr* (poetic)) > *lēagi > WS OE *lēg*, Merc., North. *lēg*;
- PNWgmc *swōgiz ‘sound’ (ON *sægr* ‘tumult, downpour’) > *swōegi > Merc. OE *swāeg*, WS *swēg*;
- PNWgmc *gafrāgiz ‘known, famous’ (ON *frægr*) >→ PWgmc *gafrāgi (OS *gifrāgi*) > *ġifrāgi > OE *ġefrāġe*;
- PNWgmc *baugijana ‘to bend (it)’ (ON *beygja*, OS *bōgian*, OHG *bougen* ‘to incline’) > *bēagjan > WS OE *bīegan*, North. *bēga* (OF *beia*);
- PNWgmc *balgijana ‘to inflate’ (ON *belgja*) > PWgmc *balgijan ‘to anger’ (OHG *belgen*, OS ptc. *ar-belgid* ‘angry’) > *bælgjan > *bealgjan > OE *ā-bielgan*;
- PNWgmc *hnaigijana ‘to lower, to cause to bow’ (ON *hneigja*, OS *gi-hnēgian*, OHG *neigen*) > *hnāgjan > OE *hnāġan*;
- PWgmc *sprāki or *sprākiju ‘speech’ > *sprāci or *sprācju > WS OE *sprāc*, North. *sprēc* (OF *sprēke* ~ *sprētse* ‘accusation’; OS *sprāka*, OHG *sprāhha* have either been shifted into the *ō*-stems or represent a different derivational type);
- PWgmc *bruki ‘(a) break’ (OS *bruki*, OHG *bruh*) > *bruçi > OE *bryce* (OF *bretse* ~ *breke* ‘breach, fine’);
- PWgmc *flaiski ‘flesh, meat’ (OS *flēsk*, OHG *fleisc*) > *flāski > *flāsci > OE *flāsc* (OF *flēsk*);
- PWgmc *raikijan ‘to reach’ (OHG *reihhen*) > *rācjan > OE *rācan* (OF *rētsa*);
- PWgmc *þrukijian ‘to press, to oppress’ (*kk not the result of PWgmc gemination, Campbell 1962: 321 n. 4; OHG *drucken*) > *þrucjan > OE *þryccan* (OF *thritsa*);
- PWgmc *swangijan ‘to strike in many places, to beat’ (vel sim.; OHG *swengen* ‘to thrash’) > *swaŋgjan > OE *tō-swenġan* ‘to scatter, to destroy’ (OF *swenga* ~ *swendza* ‘to water, to sprinkle’);
- PWgmc *waigi ‘cup’ (OS *wēgi*; cf. OHG *bah-weiga*) > *wāgi > OE *wāġe*.

There are a few examples of nominals with derivational suffixes beginning with *-i- or *-ī-, e.g.:

- PGmc *mikilaz ‘big’ (Goth. *mikils*, ON *mikill*, OS *mikil*, OHG *mihhil*) > OE *micel*;
- PNWgmc *þangilaz ‘prince’ (ON *þengill*) > OE *þenġel*;

PWGmc *hangist ‘stallion’ (OF *hengst* ‘horse’, OHG *hengist*) > OE *hengest* (the exact nature of the relationship to ON *hestr* ‘horse’ < *hanhistaz is unclear);
 PWGmc *tikkin ‘kid’ (OHG *zickin*) > OE *ticcen*;
 PWGmc *angil ‘angel’ (OS, OHG *engil*) > OE *engel* (OF *engel*).

The OF pattern of palatalization in this position is again different from that of OE, and again difficult to judge. It seems clear that velar stops which became word-final (in *stek*, *leng*, *benk*, *bræk*, *-feng*) either were not palatalized or were depalatalized before they could be affricated; it seems possible that some of the doublets arose by levelling of both palatalized and nonpalatalized velars. But there are still unanswered questions; for further discussion see Bremmer 2009: 30–2 with references.

There are fairly few examples of the palatalization of *k(k) word-finally after a high front vowel, or between a high front vowel and *æ or *æ̃:

PGmc *lika ‘body’ (Goth. *leik*, ON *lík*) > PWGmc *lik (OS *lik*, OHG *lih*) > OE *lic* (OF *lik*);
 PNWGmc *sika ‘watercourse’ vel sim. (ON *sík* ‘stagnant watercourse, slough’) > PWGmc *sik > OE *sic* ‘brook’;
 PNWGmc *spika ‘hard fat’ (ON *spik* ‘blubber’) > PWGmc *spi/ek ‘bacon’ (OHG *spek*) > OE *spic*;
 PNWGmc *swika- ‘betrayal’ (ON *svik* (neut.)) >→ PWGmc *āswik ‘offence, deceit’ (masc.; OHG *āswih*) > OE *āswic*;
 PWGmc (?) *wik ‘dwelling’ (borrowed from Lat. *vīcus* ‘village, neighborhood’ at an uncertain date; OS *wik*, OHG *wih*, both masc.) > OE *wic* (neut.);
 PWGmc *kirika ‘church’ (OHG *kirihha*) > *kirikæ > OE *cirice* (OF *tserke*);
 PWGmc *bli/ekkatʰʌn ‘to glitter, to sparkle’ (OHG *blecchezzen*) > *blikkætʰʌn > OE *bliccettan*;
 PWGmc (?)¹² *dik ‘earthwork’ (MHG *tich* ‘dry gully’) > OE *dīc* (OF *dik* ‘dike’);
 pre-OE *pik ‘pitch’ (borrowed from Lat. *pīx*, *pīc*- at an uncertain date; cf. OS *pik*, OHG *peh*, and see 2.3.1 (ii)) > OE *pic*;
 pre-OE *pik ‘pickax’ (? see the *OED* s.v. *pike* sb.¹; of obscure origin, found later also in Old French) > OE *pīc* ((*piic*), *CorpGl* 49; ON *pik* ‘staff with a sharp point’ is probably not cognate, cf. de Vries 1962 s.v.);
 pre-OE *sikætʰʌn ‘to sigh’ (deriv. of *sīcan* ‘to sigh’) > OE *siccettan*;
 pre-OE adv. *lēub(æ)likæ ‘lovingly’ (deriv. of PGmc *leubalikaz, see section 1.2) > OE *lēoflice*.

¹² Both the phonology and the (very divergent) meaning of the MHG form suggest that it is a genuine cognate, not a borrowing of Middle Dutch *dijc*; but the absence of any earlier High German attestation is puzzling. See the discussion of Christmann 1964: 191–3.

We might expect *nk to have been palatalized in similar circumstances, in conformity to the Obligatory Contour Principle, but there is no unambiguous evidence for such a development. OE *finċ*, late ME *finch*, ‘finch’ could reflect a preform *finki, even though its only clear cognate, OHG *fincho*, is an n-stem (which would correspond to *finca* in OE); such imperfect cognations are commonplace among names of economically unimportant animals and plants (cf. OE *wrenna* ‘wren’, OHG *rentilo* ‘wren’, ON *rindill* ‘wagtail’, no two of which reflect exactly the same preform). OE *winċe* ‘winch’, which has no cognates attested early, can likewise reflect a preform *winkijā. Descendants of OE *drincan* ‘to drink’ exhibiting *ch* in the later language can reflect those forms of the present in which the suffix vowel was *i (especially the pivotal pres. indic. 3sg.); the rhyming verbs *scrincan* ‘to wither, to shrink’, *slinċan* ‘to creep, to slink’, and *swincan* ‘to work hard’ always exhibit /k/ in later English. The roots of the verbs *sincan* ‘to sink’ and *stinċan* ‘to smell’ ended in *kw in PWGmc (cf. Goth. *sigqan* ‘to sink’, *stiqqan* ‘to knock’) and so should never have exhibited palatal *ċ* in any forms (see further below). OE *hlinċ* or *hlinċ* ‘raised ridge of ground’, which appears in ModE dialects both as *link* and as *linch*, is of unknown etymology. The pronoun *inc* ‘you two’ (acc. and dat.) appears in 12th- and 13th-century ME as *hinc*, *zunc*, etc., clearly with /k/, though that might conceivably be due to levelling from the possessive adj. *incer* (early ME *inker*, *zunker*, etc.) whose /k/ reflected PWGmc *kw (see below). The noun *rinc* ‘warrior, man’ (PNWGmc *rinkaz, cf. ON *rekkr*, OS *rink*) likewise appears as *rink*, with /k/, in ME. Other OE examples of the sequence *inc* which occur word-finally or before a nonhigh front vowel have left no clear later descendants from whose spelling a judgment about whether the written *c* was velar or palatal can be ventured. The spelling *kync* on the Ruthwell Cross (Sweet and Hoard 1978: 103), in which the rune normally used to render palatal *ċ* is used for the final segment of *cyning* ‘king’, does suggest palatalization, but we do not have enough 8th-century runic material to propose any interpretation with confidence. There is no other clear evidence for the palatalization of *ng* in similar environments; the single example of dat. sg. *hringia* in the early Mercian *EpGl* 410 (see Campbell 1962: 175 n. 1) can be an error (note that *ErfGl* gives *hringæ*, *CorpGl* 874 *hringe*).

The cognates cited above show that OF did not palatalize *k after high front vowels.

Examples of *g palatalized between a front vowel and *æ or *ǣ, or syllable-finally after a front vowel, are very numerous. In a large majority of the examples the preceding vowel was short *æ; I have tried to include all examples preceded by other front vowels that have unproblematic cognates. Note the following:

- PGmc *mēgaz ‘kinsman’ (Goth. *megs* ‘son-in-law’) > PNWGmc *māgaz (ON *mágr* ‘relative by marriage’, OS, OHG *māg*) > *mæg > WS OE *mæġ*, North. *mēġ* (OF *feder-mēch* ‘paternal relative’);
- PGmc *wēgaz ‘wave’ (Goth. *wegs*) > PNWGmc *wāgaz (ON *vágr* ‘sea’ (poetic), OS, OHG *wāg*) > *wæg > WS OE *wæġ*;
- PGmc *mag ‘(s)he can’ (Goth., OS, OHG *mag*, ON *má*) > *mæg > OE *mæġ* (OF *mei*);
- PGmc *dagaz ‘day’, gen. *dagas, dat. *dagai (Goth. *dags*, *dagis* (analogical endg.), *daga*, ON *dagr*, *dags*, *degi*) > PWGmc *dag, *dagas, *dagē (OS *dag*, *dagas*, *dage*, OHG *tag*, *tages* (analogical endg.), *tage*) > *dæg, *dægæs, *dægæ > OE *dæg*, *dægæs*, *dæġe* (OF *dei*, *deies*, *deie*);
- PGmc *managai ‘many’ (Goth. *managai*) > PWGmc *managē (OS, OHG *manage*) > *maṅægæ > OE *man(i)ġe* ~ *mon(i)ġe* (OF *monige*);
- PGmc *magap- ‘girl’ (Goth. *magaps*, OS *magad*, OHG *magad*) > *mægæþ > OE *mæġeþ* (OF *megith* ‘virgin’);
- PGmc *naglaz ‘nail’ (ON *nagl*, OS, OHG *nagal*; cf. Goth. *ganagljan* ‘to nail’) > *nægł > OE *næġł* (OF *neil*);
- PGmc *grēdagaz ‘hungry, greedy’ (Goth. *gredags*) > PNWGmc *grādagaz (ON *gráðugr*, OHG *grātag*) > *grædæg > WS OE *grædiġ*;
- PGmc *lagid(ēd)un ‘they laid’ (ON *logðu*) > PWGmc *lagidun (OHG *legitun*) → *lagdun (OS *lagdun*) > *lægdun > OE *lægdun* (preserved in northern Merc.) → WS *lēgdun* (vowel levelled in from pres. *leicġan*; OF *leiden* is ambiguous on that point but definitely exhibits palatalization);
- PGmc *wegaz ‘way’ (Goth. *wigs*, ON *vegr*) > PWGmc *weg (OS, OHG *weg*) > OE *weg* (OF *wei*);
- PGmc *fregnanā ‘to ask’ (Goth. *fraihnan* with *-h-* levelled in from the past sg., ON *fregna*) > OE *fregnan > North. *fregna* but → WS *frīġnan*;
- PGmc *sweglō ‘flute’ (OHG *swegala*; cf. Goth. *swiglōn* ‘to play the flute’) > OE *swēġl-horn* (name of a musical instrument);
- PGmc *swegrō ‘mother-in-law’ (*swegrū?; cf. Skt *śvaśrús*, Lat. *socrus*) > PWGmc *swegru (OHG *swigar*) > OE *swēġer*;
- PGmc *regna ‘rain’ (Goth. *rign*, ON *regn*) > PWGmc *regn (masc.; OS *regan* ~ *regin*, OHG *regan*) > OE *reġn* (OF *rein*);
- PGmc *rignijana ‘to rain’ (Goth. *rignjan*, ON *rigna*) > OE *riġnan*;
- PGmc *legra- ‘bed, lair’ (Goth. *ligrs*) > PNWGmc *legra (ON *legr* ‘tomb’, OS *legar* ‘sickbed’, OHG *legar*) > *leġr > OE *leġer* ‘bed, lair, sickbed, grave’ (OF *leger*);
- PGmc *galigrija ‘sleeping together, cohabitation’ (Goth. *galigri*) > OE *ġeliġre*;
- PNWGmc *hunagaz ‘honey’ (ON *hunang*, OHG *honag*) > *hunæg > *huneġ > OE *huniġ*;
- PNWGmc *sagaiþi ‘(s)he says’, ptc. *sagdaz ‘said’ (ON ptc. *sagðr*, OS *sagad*, *gisagd*, OHG *sagēt*) > *sægæþ, *sægd > OE *sæġeþ* (preserved in North.), *sæġd* → WS *sæġþ* (with analogical syncope), *sæġd* (OF *seith*, *seid*);

- PNWGMc *bregdaną ‘to brandish’ (ON *bregða*, OHG *brettan*) > OE *bregdan* (OF *breida*);
 PNWGMc *þegnaz ‘retainer, follower’ (ON *þegn*, OS *thegan*, OHG *degan*) > OE *þegn*;
 PNWGMc *segla ‘sail’ (ON *segl*, OS *segel*, OHG *segal*) > OE *segl* (OF *seil*);
 PNWGMc *siglijaną ‘to sail’ (ON *sigla*) > OE *siglan*;
 PNWGMc *siglija ‘jewelry’ (ON *sigli* ‘brooch’ (poetic)) > OE *sigle* ‘necklace’;
 PNWGMc *wīga- ‘battle’ (ON *vīg*, neut.) > PWGMc *wīg (masc.; OS, OHG *wīg*) > OE *wīg* (OF *wīch*);
 PWGMc *swīg-l- ‘silence’ (OHG *swīgalī*) in OE *swīglung*.

There is also an example that reflects repeated translation from one Germanic language to another in the early Middle Ages, yielding a set of pseudo-cognates:

- OHG *stegareif* ‘mount-rope, stirrup’ (masc.) → OE *stīgærāp > OE *stīgrāp* (masc.)
 → ON *stigreip* (neut.).

The OF pattern of palatalization in these cases is very similar to that of OE (note that ⟨g⟩ can spell /j/ before a front vowel in OF); the exceptions (-*mēch*, *wīch*, the adjective-forming suffix *-ich*, *-ig* < PGmc *-aga-) might be attributed to levelling.

As might be expected, the *k^jk^j and *g^jg^j that OE had inherited from WGmc remained palatal and underwent all the subsequent developments of palatal stops. The following examples are typical:

- PGmc *wakjana ‘to waken (trans.)’ (Goth. *us-wakjan*, ON *vekja*) > PWGMc **[wak^jk^jan]* (= */wakjan/; OS *wekkian*, OHG *wecken*) > *wæccan > OE *weccan*;
 PGmc *ligjana ‘to lie’ (ON *liggja*) > PWGMc **[lig^jg^jan]* (= */ligjan/; OS *liggian*, OHG *liggen*) > OE *licgan* (OF *lidza*);
 PGmc *lagjana ‘to lay’ (Goth. *lagjan*; ON *leggja* ‘to throw’) > PWGMc **[lag^jg^jan]* (= */lagjan/; OS *leggian*, OHG *leggen*) > *læccan > OE *leccan* (OF *ledza*);
 PGmc *bugjana ‘to buy’ (Goth. *bugjan*; ON *byggja* ‘to rent out, to lend’) > PWGMc **[bug^jg^jan]* (= */bugjan/; OS *buggian*) > OE *byccan*;
 PGmc *sagjaz, *sagja- ‘retainer, follower’ (ON *seggr*; cf. Lat. *socius* ‘ally’) > PWGMc *sagi, *sag^jg^ja- (OS *segg*) > *sæg^jg^j > OE *secg*;
 PGmc *agjö ‘edge’ (ON *egg*; cf. Lat. *aciēs*) > PWGMc *eg^jg^ju (OS *eggia*, OHG *ecka*) > *æg^jg^ju > OE *ecg* (OF *egg*);
 PNWGMc *þak^jk^jan ‘to cover’ (ON *þekja* ‘to thatch’, OS *bi-thekkian*, OHG *decken*) > *þæccan > OE *þeccan*;
 PNWGMc *hruzjaz ‘back, spine’ (ON *hryggr*) > PWGMc *hruzi, *hruz^jg^ja- (OHG *hrucki*) > OE *hrycg* (OF *hregg*);
 PNWGMc *wigja ‘horse’ (ON *vigg* (poetic)) > PWGMc *wigi, *wig^jg^ja- (OS gen. pl. *wiggeo*) > OE *wicg* (mostly poetic; OF *widze*);

PWGmc *brug^ju ‘bridge’ (OS *bruggia*, OHG *bruckea*) > OE *brycg* (OF *bregge*; ON *bryggja* ‘gangway’, an n-stem, is related but might not be exactly the same word).

The absence of palatalization in several of the OF examples is startling.

Of course the new palatal consonants were at first derived by exceptionless phonological rules. They became surface-contrastive only when i-umlaut created new examples of *æ* following non-palatalized velars (Penzl 1947; see 6.6.2), or possibly by the loss of *w after non-initial velars (see the following section).

For the most part OE spelling distinguishes palatals from velars neither in the Latin alphabet nor in the runic, but in northwestern England the inherited *c*- and *g*-runes were used only for palatals, while new runes were devised for velar /k/ and /g/ (Page 1999: 43, 46–7).

From the examples adduced above it can be seen that, while OF also underwent a palatalization of velars, the OE and OF outcomes are often different. The two sound changes must have been parallel developments; it seems very unlikely (at best) that there was a historically shared change (Stiles 1995: 195–6, Bremmer 2009: 30–2, both with references).

6.4.2 Loss of *w after non-initial velars

After the palatalization of velars had become phonologized (by the ITH, see above), *w was lost when immediately preceded by a non-word-initial velar. This relative chronology is the only way to explain why OE *þicce* ‘thick’, apparently with *kk between two high front vowels at the time of palatalization, always exhibits *cc* (ME *kk*, *ck*), never *çç* (ME *cch*, *ch*; Luick 1914–40: 840, Anm. 4):

pre-PGmc *tegu^s, fem. *tegwī ‘thick’ (cf. OIr. *tiug*) > PGmc *þekuz, *þik^wī (cf. Heidermanns 1993: 617–18, vol. i 3.2.3 (ii), pp. 90–1; 4.3.5 (i), pp. 282–3) > *þekuz, *þikkwī (see 3.1.3; cf. ON *þjokkr* ~ *þykkkr*) >→ PWGmc *þikkwī (masc. ja-stem, fem. jō-stem, OS *thikki*, OHG *dick(i)*; cf. also OF *thiukke* ‘extent’) > OE *þicce*.

Other examples with gemination of *k can be found in 3.1.3. A parallel loss of *w is complete in most WGmc languages, but in OF its rounding was transferred to the *i of a preceding syllable, yielding a segment or sequence written *iu* (as in the example just adduced). The following examples are typical:

PGmc *ah^wō ‘river, stream’ (Goth. *ahva*) > PWGmc *ahu, acc. *ahwā (OHG *aha*) > *eahu, *eahæ > OE *ēa*;

- PGmc *seh^waną ‘to see’ (Goth. *sailvan*) > PWGmc *sehwan (OF *siā*, OS, OHG *sehan*) > *seohān > OE *sēon*;
 PGmc *lih^waną ‘to lend’ (Goth. *leilvan*) > PWGmc *lihwan (OS, OHG *lihan*) > *liohān > OE *līon*;
 PGmc *nēh^w- ‘near’ (Goth. *nehva*) > PWGmc *nāhw- (OS, OHG *nāh*) > *nāh > OE *nēah*;
 PNWGmc *mirk^waz ‘dark’ (ON *myrkr*) >→ PWGmc *mirkwī (OS *mirki* ‘sinister’) > OE *mirce*;
 PGmc *sing^waną ‘to sing’ (Goth. *siggwan*, ON *syngva*) > PWGmc *singwan (OF *siunga*, OS, OHG *singan*) > OE *singan*;
 PGmc *stink^waną ‘to knock into’ (Goth. *stigqan* ‘to collide’, ON *stökkva* ‘to leap, to plunge’) > PWGmc *stinkwan ‘to smell’ (ModWF *stjonke* ‘to stink’, OHG *stinkan*) > OE *stincan*;
 PGmc *ink^wiz ‘you two (dat.)’ (Goth. *igqis*) > PWGmc *inkwi (?; ModNF *junk*) ?→ *ink (possibly by analogy with other non-sg. acc. pronouns, ultimately with *uns > *ūs ‘us’; OS *ink*) > OE *inc*.

A further example is OF *diunk* ‘dark’, which must reflect a preform *dinkwa-; ON *dokkr* ~ *dokkr*, which reflects *dank^waz, might represent a different ablaut grade of the same root (Heidermanns 1993: 146, 152).¹³ Bremmer 2009: 36 presents an exhaustive list of Frisian words exhibiting this phenomenon.

6.5 Palatal diphthongization and the Mercian second fronting

6.5.1 West Saxon diphthongization by initial palatals

After initial velars and *sk had been palatalized, any following stressed non-high front vowel was diphthongized in WS; the outcomes were *æ > *ea*, *ǣ > *ēa*, *e > *ie*, *ē > *īe* (Luick 1914–40: 157–64, Campbell 1962: 64–71, Hogg 1992: 106–21 [2011: 104–19]). About forty lexemes were affected by the diphthongization of nonhigh front vowels triggered by initial palatals in WS. The triggers included not only the new palatals discussed above, but also inherited *j. The following examples are typical:

- PGmc *gebaną ‘to give’, *gab ‘(s)he gave’, *gēbun ‘they gave’ (Goth. *giban*, *gaf*, *gebun*, ON *gefa*, *gaf*, *gáfu*, OS *geban*, *gaf*, *gābun*, OHG *geban*, *gab*, *gābun*) > *gēban, *gǣb, *gǣbun (cf. OF *jeva*, *jef*, *jēvon*) > WS OE *giefan*, *gēaf*, *gēafon* (North. *gēafa*, *ā-gǣf*, *ā-gēfon*, Merc. *for-geofan*, past 2sg. *for-gēfe*, both with back umlaut in the pres.);

¹³ The survival of rounding in Frisian in these environments is so consistent that it seems advisable to regard ModWF *sinke* ‘to sink’ as a loanword and to reconstruct PWGmc *swingan ‘to brandish, to thrash’ as the preform of OE, OHG *swingan*, OF *swinga*, rejecting the possible (but hardly compelling) connection with the Gothic weak participle *afswaggwidai* pl. ‘confused, confounded (?)’ (see Feist 1939 s.v. *afswaggwan*, Seebold 1970: 493).

- PGmc *geldanaþ ‘to pay (for)’ (Goth. *fra-gildan*, ON *gjalda*, OS *geldan*, OHG *geltan*)
 > *geldan (cf. OF *jelda*) > WS OE *gielðan* (Merc. *gieldan*, North. *gelda*);
- PGmc *gestra- ‘yesterday’ (Goth. *gistradagis* ‘tomorrow’ (!), OHG *gesteron*) > WS
 OE *giestran* (Merc. *geostran* with back umlaut);
- PGmc *skal ‘(s)he shall’ (Goth., ON, OS, OHG *skal*) > *skæl (OF *skel*) > *scæl >
 WS OE *sceal*;
- PGmc *skattaz ‘coin, money’ (Goth. *skatts*, ON *skattr*, OS *skatt*, OHG *skaz*) >
 *skætt (OF *skett*) > *scætt > WS OE *sceatt*;
- PGmc *skelduz ‘shield’ (Goth. *skildus*, ON *skjǫldr*) > PWGmc *skeldu (OF *skeld*,
 OS *skild*, OHG *skilt*) > *sceldu > WS OE *sciold* (Merc. *sceld*);
- PGmc *ja ‘yes’ (Goth. *ja*) > PWGmc *jā (OS, OHG *jā*) > *jæ (OF *jē*) > WS OE *gēa*;
 PGmc *jēraþ ‘year’ (Goth. *jer*, ON *ár*) > PWGmc *jār (OHG *jār*, OS *jār* (ms. C of
 the *Heliand*)) > *jær (OF *jēr*, OS *gēr* (ms. M of the *Heliand*)) > WS OE *gēar*
 (Merc., North., Kent. *gēr*);
- PGmc *katilaz ‘kettle’ (Goth. gen. pl. *katile*, ON *ketill*) > PWGmc *katil (OHG
keʒʒil) > *kætil (OF *tsetel*) > *cætil > *ceatil > early WS *cietil > late WS *cytel*
 (Angl. *çetel*);
- PGmc *gastiz ‘guest’ (Goth. *gasts*, ON *gestr*, OS, OHG *gast*) > *gæsti > (OF *jest*) >
 *gæsti > *gæsti > WS OE *giest* (North. *gest*, cf. Merc. dat. pl. *gēsthūsum* ‘guest-
 houses’);
- PGmc *skapjanaþ ‘to make, to create’ (Goth. *ga-skapjan*, ON *skepja*) > PWGmc
 *skapjʰan (OS *skeppian*, OHG *skepfen*) > *skæpʰan (OF *skeppa*) > *scæpʰan >
 *sceaþʰan > WS OE *sciēppan* (cf. Merc. *sceppend* ‘creator’);
- PNWGmc *skeraþaþ ‘to cut, to shear’, *skar ‘(s)he cut’, *skārun ‘they cut’ (ON *skera*,
skar, *skāru*, OHG *skeran*, *skārun*) > *skeran, *skær, *skærun (OF *skera*, *sker*) >
 WS OE *scieran*, *scear*, *scearon*;
- PNWGmc *gatawōz pl. ‘weapons, gear’ (ON *gǫtvar*) > *gætawā > *gætawā > WS
 OE *geatwa*;
- PNWGmc *skafta- ‘shaft’ (ON *skapt* (neut.)) > PWGmc *skaft (masc.; OS, OHG
skaft) > *skæft (OF *skeft*) > *scæft > WS OE *sceaft*;
- PWGmc *skāp ‘sheep’ (OS *skāp*, OHG *skāf*) > *skæp (OF *skēp*) > *scæp > WS OE
scēap (Merc., Kent. *scēp*);
- PWGmc *skākāri ‘robber’ (OHG *skāhhāri*) > *skækāri > *scækāri > WS OE
scēacere;
- PWGmc *kāsi ‘cheese’ (OHG *kāsi*) > *kæsi (OF *tsise*) > *cæsi > *cēasi > early WS
 *cīese > late WS *cyse* (Angl., Kent. *cēse*);
- PWGmc *kabisi ‘concubine’ (OHG *kebis(a)*) > *kæbisi > *cæbisi > *cēabisi > WS
 OE *ciefes* (early Merc. *cebis*, North. pl. *cefissa*);
- PWGmc *jiz ‘you (nom. pl.)’ (OHG *ir*, OS *gī*, OF *jī*) > *jē (see 3.3.1) > WS OE *gīe* →
gē, the latter either originally unaccented (cf. Campbell 1962: 69) or by lexical
 analogy with *wē* ‘we’ (Merc. *gē*);
- northern WGmc *jēta ‘still, yet’ (OF *jēta*) > OE *gīeta* (poetic), shortened allegro
 form (?) *gīet* in WS prose (Merc., North. *gēt*);
- northern WGmc *kafl ‘jaw’ (OS dat. pl. *kaflun*) > *kæfl > *cæfl > WS OE *ceafl*.

It has sometimes been denied that this was a real sound change, or that its outcomes merged with diphthongs of other sources; but the arguments of Hogg 1992: 107–8 [2011: 105] (with numerous references) in favor of genuine diphthongs which did merge with diphthongs of other sources (though not necessarily immediately) seem conclusive. Especially persuasive are the observation that these diphthongs subsequently developed exactly like other diphthongs and the phonological history of ‘cheese’ (on which see 6.6.3). It seems likely that nonhigh front vowels following palatal consonants were actually raised and developed schwa-like offglides (Hogg 1992: 108 [2011: 105–6], Koivuniemi 2009: 18–20, 68–72 with references; so already Child 1903: 14). If that is true, the diphthongs that developed from *æ and *ǣ must at first have been approximately [e²] and [e:²], but at some subsequent time they merged with (lower) *ea* and *ēa* respectively (Hogg 1992: 108 [2011: 105–6], Koivuniemi 2009: 18–20, 68–72 with references; Child 1903: 14); the diphthongs that developed from *e and *ē must have been (and probably remained) [i²] and [i:²]. For further discussion of the phonetics of *ie*, *īe* see 6.6.3.

Apparently a similar change occurred independently in Northumbrian (Campbell 1962: 69–70); thus we find *forġeaf*, *sċeal*, etc. beside *forġæf*, *sċæl*, etc., and *ġīe* beside *ġē*. However, Child 1903: 23ff. argues that the late 10th-century Northumbrian documents exhibit genuine linguistic variation, and Koivuniemi 2009 argues persuasively that in *Li* the variation is of the kind typical of a sound change spreading through the speech community; it thus appears that Northumbrian palatal diphthongization was a 10th-century change, historically unconnected with the similar but much earlier change in WS.

In the paradigms of two nouns an alternation between *ea* and *a* arose by retraction of *æ in some forms and palatal diphthongization in the others. As expected, the alternation remains undisturbed in the neut. a-stem ‘gate’:

PNWGmc *gata ‘opening’, pl. *gatu (ON *gat*, *gøt*) > PWGmc *gat, *gatu (OS *gat*) > *gæt, *gætu (OF *jet*) > *gæt, *gatu > *ġæt, *gatu > WS OE *ġeat* ‘gate’, pl. *gatu* (North. *ġæt* ~ *ġeat* (see above), no pl. attested; Merc. *ġet*, pl. *gætu > *geatu*, with the ‘second fronting’, on which see the following section, and back umlaut).

The stem alternants of the fem. *ō*-stem ‘care, worry’ have been redistributed in both directions, as can be seen from a table of the singular forms:

	PGmc	Goth.	PWGmc	OHG	OE
nom.	*karō	<i>kara</i>	*karu	<i>kara</i> (= acc.)	<i>caru</i> → <i>ċearu</i>
acc.	*karq̄	* <i>kara</i>	*karā	<i>kara</i>	<i>ċeare</i> → <i>care</i>
gen.	*karōz	* <i>karos</i>	*karā	<i>kara</i>	<i>ċeare</i> → <i>care</i>
dat.	*karōi (?)	* <i>karai</i>	*karē	<i>karu</i> (= inst.)	<i>ċeare</i> → <i>care</i>
inst.	*karō	—	*karu	<i>karu</i>	<i>ċeare</i> → <i>care</i> (= dat.)

6.5.2 *The Mercian second fronting*

Palatal diphthongization did not occur in Kentish and seems also to have been foreign to Mercian. But in a part of the Mercian-speaking area, including the area in which the glosses to the Vespasian Psalter were written (apparently the southwest), there occurred a second fronting of low vowels (Luick 1914–40: 164–6, Campbell 1962: 62–4, Hogg 1992: 138–42 [2011: 135–9]): surviving stressed *æ > e; surviving stressed *a > *æ unless *l* followed immediately. These two shifts are usually assumed to be part of a single sound change, but there is some evidence that they were independent changes (see the discussion at the end of this section). A large proportion of surviving stressed *a before the fronting occurred were followed by back vowels in the following syllable; in those words the new *æ subsequently underwent back umlaut to *ea* (see 6.9.4) unless a velar followed immediately. The results of the second fronting can be seen most easily by comparing words attested in the Vespasian Psalter glosses with their WS counterparts. In every case WS preserves the older state of the language, unless palatal diphthongization has occurred. Examples of *æ > e:

	West Saxon	Mercian (Vespasian Psalter)
‘what?’	<i>hwæt</i>	<i>hwet</i>
‘container’	<i>fæt</i>	<i>fet</i>
‘water’	<i>wæter</i>	<i>weter</i>
‘father’	<i>fæder</i>	<i>feder</i>
‘back’	<i>bæc</i>	<i>bec</i>
‘after’	<i>æfter</i>	<i>efter</i>
‘(s)he had’	<i>hæfde</i>	<i>hefde</i>
‘swift’	<i>hræp</i>	<i>hred</i>
‘ashes’	<i>æsc̄e</i>	<i>esc̄e</i>
‘produce’	<i>wæstm</i>	<i>westem</i>
‘day’	<i>dæg</i>	<i>deg</i>
‘(s)he can’	<i>mæg</i>	<i>meg</i>
‘(s)he said’	<i>sægde</i>	<i>segde</i>
‘I endured’	<i>ābær</i>	<i>āber</i>
‘gate’	*gæt > <i>geat</i>	<i>get</i>
‘town’	*cæster > <i>ceaster</i>	<i>ċester</i>

Examples of *a > æ before velars:

	West Saxon	Mercian (Vespasian Psalter)
‘to quake’	<i>cwacian</i>	<i>cwæcian</i>
‘vengeance’	<i>wracu</i>	<i>wræcu</i>
‘days’	<i>dagas</i>	<i>dægas</i>
‘to be able’	<i>magan</i>	<i>mægan</i>

Examples of *a > *æ > ea:

	West Saxon	Mercian (Vespasian Psalter)
‘edge, border’	<i>lappa</i>	<i>leappa</i>
‘containers’	<i>fatu</i>	<i>featu</i>
‘gates’	<i>gatu</i>	<i>geatu</i>
‘to gladden’	<i>gladian</i>	<i>gleadian</i> (*-ōjan at the time of the change)
‘hawk’	<i>hafoc</i>	<i>heafuc</i>
‘footstep’	<i>swaþu</i>	<i>sweaðu</i>
‘to spare’	<i>sparian</i>	<i>spearian</i> (")

But *hwalas* ‘whales’ remained identical with the WS form; and *ald* ‘old’, *all* ‘all’, *fallan* ‘to fall’, *haldan* ‘to keep’, *halm* ‘straw’, *salt* ‘salt’, etc. (with retraction rather than WS breaking, see 6.2.3) remained identical with the Northumbrian forms (except for the loss of *-n* in North.), while *salh* ‘willow’ (not attested in Northumbrian?) is the expected cognate of WS *sealh*.

We need to ask whether the second fronting preceded palatalization (in which case we should find palatal consonants in place of velars before the new *æ*, *ea*) or not. Luick seems to have arrived at the opinion that palatalization occurred first by a process of dead reckoning, to judge from his chronological charts (Luick 1914–40: 266, 931). Of course the OE spellings do not reveal the relative chronology, since there was no palatal diphthongization in this dialect (so Campbell 1962: 108). To settle the question definitively we need to (1) find a dialect of ME that is (at least probably) the descendant of a Mercian subdialect in which the second fronting occurred, and (2) determine whether words with the new *æ*, *ea* are spelled with initial *c* ~ *k*, *g* (i.e., as velars) or *ch*, *γ*~*ʒ* (i.e., as the eventual reflexes of palatals). The early ME dialect of the *Ancrene Riwe* and related texts (the ‘Katherine group’) appears to be a dialect in whose ancestor the second fronting occurred (d’Ardenne 1936: 181–6), and a relevant lexeme is **gadurōjan* ‘to gather’ (WS *gaderian*, Campbell 1962: 61). The history of that verb in the relevant dialects must have been **gadurōjan* > **gædurōjan* (second fronting) > **gædurœjan* (i-umlaut) > **geadurœjan* (back

umlaut) > Mercian OE *geadurian.¹⁴ Since the form attested in the *Ancrene Riwe* is *gederīn* ‘to gather’, spelled with *g* (indicating a stop) rather than *ȝ* (cf. d’Ardenne 1936: 174), we have to conclude that the second fronting followed, and thus counterfed, palatalization (Hogg 1992: 141 [2011: 138]).

Luick thought that the *e* produced by the second fronting was for some time distinct from inherited *e* (Luick 1914–40: 165), on the grounds that the *i*-umlaut of the new *e* is spelled *e*, whereas the *i*-umlaut of inherited *e* is *i* (Luick 1914–40: 176). But the latter was a PGmc sound change (see vol. i 3.2.5 (iv), pp. 126–8) that occurred hundreds of years before, as Luick admits (1914–40: 165, cf. also Hogg 1992: 132 [2011: 129]); examples of a later development **e*...*i* > *i*...*i* are rare and doubtful (see 6.6.1, 6.6.3). Moreover, Luick is clearly assuming that *i*-umlaut occurred later than the second fronting. Campbell is more noncommittal: he points out that the Kentish change of **æ*, **ǣ* to *e*, *ē* clearly followed *i*-umlaut, but says that ‘sounds produced by *i*-umlaut are unaffected by second fronting,’ and suggests that the second fronting was earlier than the Kentish change.

But Campbell’s remark about the immunity of *i*-umlaut products to the second fronting is not entirely correct, and even to the extent that it is correct, the distribution of outcomes does not permit us to date the second fronting and *i*-umlaut relative to one another. The relevant facts are as follows. Two words in *Ps(A)*, *festen* ‘(a) fast’ < **fastun*¹*n*¹- and *efestiġ* ‘envious’, derived from **efest* < **abūsti*, exhibit the effects both of the second fronting and of *i*-umlaut; but the result would be the same regardless of the order in which those two sound changes occurred, because whichever occurred first would front **a* to **æ*, and the second would then raise **æ* to *e* (Kuhn 1939: 17). It is true that the sequence *æ**lC* that arose in the Anglian dialects by *i*-umlaut (see 6.6.1) was not raised to *elC* by the second fronting; but since the sequence *al* was clearly not affected by that change (see above), we might not expect *æ**l* to be affected either (Kuhn 1939: 17). In consequence there is no internal evidence for the relative chronology of these two sound changes. Kuhn argued that the *Corpus Glossary* records both the second fronting and the back umlaut of *a* in progress, and that both changes must therefore be dated to the 8th century, well after *i*-umlaut (Kuhn 1939: 11–19; cf. also Toon 1983: 141–5). It seems clear that back umlaut followed the second fronting, but not necessarily by much time; thus the second fronting must have occurred around the same

¹⁴ The only attestation of this verb in *Ps(A)*, *ġegadrades* ‘you gathered’, appears to be a defective spelling, since stressed *a* did not normally survive in such a phonological environment. However, a West Saxon substrate is also possible; see 7.1.5 below for further discussion.

time as i-umlaut, or not long after. (See also Hogg 1992: 141–2 [2011: 138–9] with numerous references and discussion.)

Dresher 1980 suggests that while the raising of *æ to *e* was a new sound change of the usual type, the shift of *a to æ was effected by the loss of a persistent phonological rule retracting /æ/ to *a* before a single consonant plus a back vowel (reflecting the old sound change discussed in 6.3.1 above); he also suggests that the *a* of *hwalas* survived because it had been reinterpreted as the output of the different (and still older) retraction rule yielding *a* in *ald*, etc. The strongest evidence for Dresher's hypothesis is the fact that *CorpGl* includes examples of *a* before a single consonant plus back vowel and examples of *ea* (by back umlaut, see 6.9.4) in the same environment, but no examples of æ in such an environment (except when the consonant is velar, since back umlaut did not occur before velar consonants). The intermediate stage, in which æ occurred before all consonants except *l* which were followed by a back vowel, is not attested in *CorpGl*. Dresher's rule loss hypothesis gives an elegant explanation for this gap in the subdialect of Mercian attested in *CorpGl* (Dresher 1980: 61–8). Nevertheless there are two reasons to doubt it. One is that the very early disruption of the *a ~ *æ alternation in strong verbs of class VI (see 6.3.2) casts serious doubt on the continued existence of retraction as a living phonological rule. The other is that rule loss is generally prompted by opaque alternations and usually leaves non-alternating relics that preserve the outputs of the lost rule (see e.g. Gress-Wright 2010 with references), whereas the Mercian fronting of *a > æ was exceptionless, occurring also in non-alternating environments. Apparently we must seek another explanation for the odd gap in *CorpGl*. One possibility is that the archetype exhibited *a* in all relevant words, and that the scribe of *CorpGl* either left them unaltered or modernized them fully, i.e. to æ before velars and *ea* everywhere else; that probably entails that the intermediate stage, with æ in all relevant words, was unknown to him.

However, Dresher's suggestion that the 'second fronting' was actually two sound changes seems to be correct. While it is true that the most extensive Mercian documents either failed to undergo either change (*Ru*¹) or underwent both (*EpGl*, *CorpGl*, *Ps(A)*), a couple of minor documents exhibit different patterns. The dialect of the *Royal Glosses*, dating to about 1000, shifted *æ to *e* but left inherited *a* untouched, at least before the velar consonants of *dagas* 'days' and *nacodnisse* 'nakedness' (Zupitza 1889: 49–51; gen. sg. *fædor* 'father's' does seem to exhibit fronting, however). One might suppose that the change of *a to æ simply lagged behind the raising of inherited *æ in that subdialect of Mercian. But no such scenario will account for the data of the 9th-century (?) Omont Leaf, in which inherited æ is not raised (Dresher 1984:

46) but inherited *a > *æ > ea in *eapul* ‘apple’ (Schauman and Cameron 1977: 306; Dresher 1984: 46). Though the evidence is admittedly meager, it looks as though the two parts of the ‘second fronting’ were in fact two different sound changes (see also Dresher 1990).

6.6 I-umlaut

After all the sound changes discussed in earlier sections had occurred—with the probable exception of the second fronting—all the OE dialects underwent a conditioned sound change called ‘i-umlaut’. Any back vowel followed by a palatalized geminate, or followed by a high front vocalic with or without consonants intervening, was fronted, provided the high front vocalic was within the same stress-based ‘foot’ (containing a stressed syllable and the unstressed syllables following it, but not subsequent syllables with secondary stress); in addition, the short low front vowel *æ was raised to *e* in the same environments, though WS *æ* remained unaffected. Diphthongs were also affected by i-umlaut; the outputs were rather different in the different dialects. Finally, i-umlaut iterated from right to left: an *y or *ȳ which was the output of i-umlaut caused fronting of a back vowel in a preceding syllable, since *y and *ȳ are high front vowels too. Examples of i-umlaut are very numerous overall, though some of the inputs were rare. In the following sections I first discuss cases in which only one vowel was umlauted, treating the phonologically definable classes of forms one by one; I then discuss ‘double umlaut’ in sequences in which a syllable containing *ū was preceded by another syllable and followed by an umlaut trigger. A short discussion of the process and its structural consequences concludes this section. (See further Luick 1914–40: 166–86, 278, Campbell 1962: 71–85, Hogg 1992: 121–38, 224 [2011: 118–35, 219].)

6.6.1 Fronting of back vowels

Stressed *u and *ū were umlauted to *y* and *ȳ* respectively. Examples of the short vowel are very numerous. Examples of short *u umlauted to *y* by a following high front vocalic adduced in earlier sections include *byre* ‘young man’, *fylġan* ‘to follow’, *fyllan* ‘to fill’, *ġehygd* ‘thought’, *gylden* ‘golden’, *hype* ‘hip’, *sćyld* ‘debt’, *sćylen* ‘they may owe’, *þynćan* ‘to seem’, *wyrćan* ‘to work’, *yfel* ‘evil’, *ymbe* ‘around’ (section 2.3.1 (i)); *byrg* ‘city’s, cities’ (section 3.1.1); *cyning* ‘king’ (section 3.1.2); *þyrre* ‘dried up’ (section 3.3.1); *cyćene* ‘kitchen’, *mynet* ‘coin’, (section 4.3.4); *bryće* ‘(a) break’, *hyġe* ‘thought’, *styćće* ‘piece’, *þryććan* ‘to press, to oppress’ (section 6.4.1). Additional straightforward examples are not hard to find:

- PGmc *burjana ‘to be begotten,¹⁵ to begin; to be fitting’ (ON *byrja*, OS *giburian* ‘to happen’, OHG *giburen* ‘to arrive, to happen’) > OE (*ge*)*byrian* ‘to happen, to be fitting’;
- PGmc *druhtiz ‘war band’ (ON *drótt*, OF *drecht* ‘wedding party’, OS *druht-folk* ‘multitude, throng’, OHG *truht*; cf. Goth. *gadraúhts* ‘soldier’) > OE *dryht*;
- PGmc *furhtijana ‘to frighten’ (Goth. *faúrhtjan sik* ‘to be afraid’, OHG *furihten*) > OE *fyrhtan*;
- PGmc *gamundiz ‘memory’ (Goth. *gamunds* ‘commemoration’, ON *mynd* ‘shape, form’, OHG *gimunt*) > OE *gemynd*;
- PGmc *hungrijana ‘to be hungry’ (Goth. *huggrian*, OS *gihungrian*, OHG *hungiren*) > OE *hyngian*;
- PGmc *hurdis ‘(wickerwork) door’ (Goth. *haúrds*, ON *hurð*, OHG *hurd* ‘hurdle’) > OE *hyrd* (poetic);
- PGmc *rugiz ‘rye’ (ON *rugr*; cf. OCS *rŭži*) > OE *ryge*;
- PGmc *wurmiz ‘worm, snake’ (Goth. *waúrms*, ON *ormr*, OF *wirm*, OS, OHG *wurm*) > OE *wyrm*;
- PNWGmc *kussijana ‘to kiss’ (ON *kyssa*, OF *kessa*, OS *kussian*, OHG *kussen*) > OE *cyssan*.

The palatalized geminates inherited from PWGmc also induced i-umlaut. Examples with *y* adduced in earlier chapters include *cynn* ‘lineage’, *hyċgan* ‘to think’ (section 2.3.1 (i)); *byċgan* ‘to buy’, *byrne* ‘mailshirt’ < **brynne* (section 3.1.3); *mydd* ‘bushel’, *pytt* ‘well, pit’ (section 4.3.4); *bryċg* ‘bridge’, *hryċg* ‘back’ (section 6.4.1). Other examples include:

- PGmc *huljana ‘to cover’ (Goth. *huljan*, ON *hylja*) > PWGmc *(bi)hul^jian (OF *bihella*, OS *bihullean*, OHG *hullen*, *bihullen*) > OE *behyllan*;
- PGmc *lubja ‘herbal medicine, poison, magic potion’ (ON *lyf*; cf. Goth. *lubja-leis* ‘sorcerer’) > PWGmc *lubi, *lub^jia- (OS *lubbi*, OHG *luppi*) > OE *lybb*;
- PNWGmc *brutjan- ‘divider, dispenser’ (ON *bryti* ‘steward’, gen. *brytja*) > PWGmc *brut^jō > OE *brytta* (poetic);
- PNWGmc *dunjana ‘to make a loud noise’ (ON *dynja* ‘to deluge’) > PWGmc *dun^jian (OS *dunnian* ‘to rumble’) > OE *dynnan*;
- PWGmc *wun^jiu ‘joy’ (OS, OHG *wunnia*) > OE *wynn*;
- PWGmc *tus^jā ‘coarse cloth’ (OHG *zussa*) > OE *tysse*.

There are also some examples with more complex histories, especially lengthening by subsequent sound changes:

¹⁵ This is apparently the original meaning; the verb is perhaps most plausibly analyzed as an intransitive derived from **berana* ‘to carry; to bear (a child)’, like **þunkijana* ‘to seem’ from **þankijana* ‘to perceive’ (vol. i 3.2.5 (ii), p. 120).

PGmc *wrōt- ~ *wurt- ‘root’ (ON *rót*; cf. Lat. *rādīx*) → *wurtiz ‘root, plant’ (Goth. *waurts*, ON *urt*, OS *wurt*, OHG *wurz*) > OE *wyrtri > *wyrt*;
 PGmc *ubiswō ~ *upswō → *ubzwō- ‘forecourt’ (?; Goth. dat. sg. *ubizwai* ‘court’, ON *ups* ‘vestibule’) > PWGmc *ubisu, gen. sg. *obzwā (?; >→ OHG *obasa* ~ *obisa* ‘entrance hall’) > OE *ybisu > *yfes* ‘eaves’;
 PWGmc *þurhil ‘perforated’ (OHG *durhil*; deriv. of *þurh ‘through’) > OE *þyrhil > *þýrel*;
 pre-OE *furihjan ‘to plow a furrow’ (cf. *furh* ‘furrow’, sect. 2.3.1) > OE *fyrhjan > *fýran*.

There are more than thirty lexemes with good etymologies exhibiting the long vowel, in addition to pres. indic. 2sg., 3sg. forms of strong verbs and caseforms of consonant-stem nouns; the following examples are typical:

PGmc *brūdiz ‘bride’ (ON *brúðr*, OF *breid*, OS *brūd* ‘wife’, OHG *brūt*; cf. Goth. *brūþ-faþs* ‘bridegroom’) > OE *brýd*;
 PGmc *brūkiz ‘useful’ (Goth. *brūks*) >→ PWGmc *brūkī (OHG *brūhhi*) > OE *brýce*; PGmc *būsniþ ‘thing offered’ (Goth. *ana-būsns* ‘command’, ON *býsn* ‘wonder, portent’, OS pl. *ambūsni* ‘commands’) > OE *býsen* ‘example’;
 PGmc *garūniþā ‘(secret) meeting, conspiracy’ (Goth. *garūni*) > PWGmc *garūni ‘secret, mystery’ (OS, OHG *girūni*) > OE *geryne*;
 PGmc *hūdiz ‘skin’ (ON *húð* ‘hide’, OF *hēd*, OS *hūd*, OHG *hūt*; cf. Lat. *cutis*) > OE *hýd*;
 PGmc *mūsiz ‘mice’ (ON *mýss*; cf. Gk *μῦες* /mú:es/) > OE *mýs*;
 PNWGmc *dūbijanaþ ‘to dip, to immerse’ (ON *dýfa*) > *dūbjan > OE *dýfan*;
 PNWGmc *rūmijanaþ ‘to make room, to clear out’ (ON *rýma*, OF *rēma*, OS *rūmian*, OHG *rūmen*) > *rūmjān > OE *rýman*;
 PNWGmc *snūtijanaþ ‘to blow one’s nose’ (ON *snýta*, OHG *snūzen*) > *snūtjan > OE *snýtan*;
 PNWGmc *sūliz ‘pillar’ (ON *súl*, OF *sēle*, OS, OHG *sūl*) > OE *sýl* (Goth. *sauls* is apparently related but exhibits a different ablaut grade);
 PNWGmc *þrūþiz ‘power’ (ON *þrýð-rikr*, *Gunn-þrúðr*, etc. (names), OHG *drūd-* in names) > OE *þrýþ* (poetic);
 PWGmc *fūliþu ‘rotteness’ (OS *fūlitha*, OHG *fūlida*) > OE *fýliþu > *fýlp*;
 PWGmc *fūsti ‘fist’ (OF *fēst*, OS, OHG *fūst*) > OE *fýst*;
 PWGmc *hlūdijan ‘to make a loud noise’ (OS *ahlūdian* ‘to proclaim’, OHG *lūten*) > *hlūdjan > OE *hlýdan* (deriv. of PWGmc *hlūd ‘loud’; but ON *hlýða* ‘to listen’ must be a deriv. of *hljóð* ‘sound, hearing’);
 PWGmc *sūbri ‘sober, chaste, clean’ (OS *sūbri* ‘clean’, OHG *sūbiri* ‘clean’) > OE *sýfre*;
 PWGmc *tūnijan ‘to enclose’ (OF *tēna*, OHG *zūnen*) > *tūnjan > OE *týnan*;
 PWGmc *þūhiþi ‘(s)he presses, (s)he crushes’ (cf. OHG *gi-dūhit*) > OE *þýhiþi >→ *þýþ*; northern WGmc *lūti (noun) ‘a little, a few’ (OS *lūt*) > OE *lýt*.

A number of examples reflect *ū < *un before a fricative (see 5.1):

- PGmc *kunþijana ‘to make known’ (Goth. *ga-swi-kunþjan* ‘to reveal’, OHG *kunden*) > *kūþijan (OF *kētha*, OS *kūðian*) > *kūþjan > OE *cýþan*;
 PNWGmc *funsijana ‘to make ready to go’ (ON *fýsa* ‘to exhort’) > *fūsijan (OS ptc. *fúsid* ‘tending towards’) > *fúsjan > OE *fýsan* ‘to impel, to drive off; to hasten’;
 PNWGmc *(ga)munþija ‘opening, mouth’ (ON *mynni*) > PWGmc *gamunþi ‘mouth (of a river)’ (OHG *gimundi*) > *gamūþi (OS *gimūthi*) > *gæmūþi > OE *gemyþe*;
 PNWGmc *unþiz ‘wave’ (ON *unnr* ~ *uðr*, OHG *unda*) > *ūþi (OS *ūdea*) > *ūþi > OE *ýþ*;
 PNWGmc *wunskijana ‘to wish’ (ON *æskja*, OHG *wunscen*) > *wūskijan > *wūsčjan > OE *wýscan*;
 PWGmc *hunþijan ‘to plunder, to take captive’ (OHG ptc. *ver-hundet* ‘captive’) > *hūþijan > *hūþjan > OE *hýþan* ‘to plunder, to despoil’;
 PWGmc *unsti ‘storm’ (OHG *unst* in glosses) > *ūsti (OS *ūst*) > *ūsti > OE *ýst*.

Two special cases should also be noted. In one inherited word it appears that a disyllabic sequence *ui has become *ý*:

- PWGmc *fuir ‘fire’ (OHG *vugir*, *fuir*, *fiur*, OF, OS *fiur*; see section 4.2.2) > OE *fýr*; the intermediate stages cannot be reconstructed with certainty, though a development *fuir > *fyir > *fýr* is plausible. A similar development occurred in OIr. *druí* ‘druid’ → OE *drý* ‘sorcerer’ (Förster 1921: 28).

Finally, the umlaut product *y was unrounded to *i* between *j and a palatal consonant or cluster. There are two examples:

- PGmc *junhizō ‘younger’, *junhistaz ‘youngest’ (Goth. *jūhiza*, ON *æri* ~ *yngrī*, *æstr* ~ *yngrstr*) >→ PWGmc *jūhizō ~ *jungizō, *jungist (OHG *jūgiro* ~ *jungiro*, *jungisto*) > OE *jyngrīrā, *jyngrist > *gingra*, *gingest*;
 PWGmc *jukl’an ‘to itch’ (OHG *jucken*) > OE *jycčan > *giccān*.

The unrounding must have occurred before the medial *g* of *gingra* lost its palatal quality as a result of syncope—unless the vowel of its root syllable has been levelled in from the superlative, which is possible.

Stressed *o and *ō were umlauted to the front round mid vowels *æ* and *ǣ* respectively. In WS and Kentish those vowels were unrounded and merged with *e* and *ē* by about AD 900. In the Anglian dialects the long vowel remained round beyond the time period covered by this volume; the short vowel appears to have been variably unrounded much earlier, certainly by the 9th century, though *æ* continues to occur even in the late Northumbrian glosses. (On the early spelling of these vowels see especially Campbell 1962: 78.) The short vowel *o could occur in i-umlauting environments only by reason of levelling

and in loanwords; its umlaut product is therefore rare. The following are the most straightforward examples (Campbell 1962: 76–7):

- PGmc *duhtri dat. sg. ‘daughter’ (Goth. *daúhtr*) → PWGmc *dohtri (with *o from the nom. sg.; OS *dohter*, OHG *tohter*) > OE *dœhtri > Merc., North. *dæhter*, WS *dehter*;
 PGmc *uhsiniz nom. pl. ‘oxen’ (ON *yxn*) > PWGmc *ohsini (with *o from the nom. sg.) > OE *œksini > Merc. (*Ps(A)*) *æxen*, late North. *exin*, → WS *oxan*; pre-OE *þrohtīg ‘persevering’ (deriv. of *þroht* ‘affliction’; cf. ON *þróttr* ‘might, valor, fortitude’) > early Merc. *þræhtīg* (*CorpGl* 1556);
 pre-OE *rokittʰan ‘to belch’ (byform of *rokattʰan > OE *rocettan*), derived noun *rokittʰungu > Merc. *reçetung* (*Ps(A)*);
 pre-OE *obisu (byform of *ubisu ‘eaves’ (see above) with different levelling) > *œbisu > WS *efes*;
 pre-OE *obisōjan ‘to clip (hair)’ (apparently a deriv. of the preceding), derived noun *obisungu ‘clipping’ > early Merc. *æfsung* (*CorpGl* 474), WS *efesian*, *efesung*;
 Lat. *oleum* ‘oil’ → pre-OE *oli or *oli > late North. *æle*, early WS *æle* ~ *ele*, later *ele*, Merc. (*Ps(A)*) *ele*;
 pre-OE *lorǵi ‘forked poles’ (?; the sg. is *lorg*, apparently ← OIr. *lorg* ‘staff’) > early Merc. *lærǵe* (*EpGl* 1).

To these can be added (Campbell 1962: 76–7) the late North. past participles *gibræcen* ‘broken’, *gecnæden* ‘kneaded’, *gesuæren* ‘sworn’, *gewærden* ‘(having) become’, *āwærpen* ‘thrown’, with suffix *-in- (see section 2.1.2) in place of the *-æn- of WS *gebrocen*, *cneden*,¹⁶ *gesworen*, *geworden*, *āworpen*, and the loanword *cellendre* (early Merc. (*CorpGl* 569), < *kolʰʰandræ ← Lat. pl. *coriandra*).¹⁷

On the other hand, there are perhaps twice as many etymologizable examples of the long vowel *ǣ* (> *ē*) as there are of *ȳ*; the following are representative:

- PGmc *sōkijanā ‘to look for, to seek’ (Goth. *sokjan*, ON *sækja*, OF *sēka* ~ *sētsa*, OS *sōkian*, OHG *suohhen*) > OE *sōcjan > Merc. *sācan*, North. *sāca*, WS *sēcan*;
 PGmc *fōdijanā ‘to feed’ (Goth. *fodjan*, ON *fæða*, OF *fēda*, OS *fōdian*, OHG *fuoten*) > OE *fōedjan > Merc. *fādan*, North. *fāda*, WS *fēdan*;
 PGmc *drōbijanā ‘to make turbid or cloudy’ (Goth. *drobjan* ‘to disturb, to incite’, OS *gidrōbian* ‘to distress’, OHG *truoben*) > OE *(ǵæ)drōebjan ‘to disturb, to trouble’ > Merc. *gedrāfan*, North. *gedrāfa*, WS *(ǵe)drēfan*;
 PGmc *wōpijanā ‘to call’ (Goth. *wopjan*, ON *æpa* ‘to yell’) > PWGmc *wōpjan ‘to weep’ (OS *wōpian*, OHG *wuofen*) > OE *wōepjan > Merc. *wāpan*, North. *wāpa*, WS *wēpan*;

¹⁶ The Northumbrian form actually reflects *gæknodin, with a probably archaic zero-grade root; see vol. i 4.3.3 (i.e), pp. 246–7.

¹⁷ Whether the loanword *čerfelle* reflects Lat. pl. *chaerephylla* (a close transliteration of the Greek) or a half-nativized *chaerefolia* is unclear. OE *-eht(e)* probably reflects *-æht, pace Campbell 1962: 142; see Meid 1967: 193–4.

- PGmc *mōtijanā ‘to meet’ (Goth. *ga-motjan*, ON *mæta*, OF *mēta*, OS *mōtian*) > OE *mōetjan > North. *gemæta*, WS *mētan*;
- PGmc *grōtijanā ‘to cause to weep’ (ON *græta*) > PWGmc *grōtijan ‘to address, to greet’ (OF *grēta* ‘to accuse’, OS *grōtian* ‘to hail, to address’, OHG *gruozen*) > OE *grōetjan > North. *græta*, WS *grētan*;
- PGmc *dōmīsi ‘you judge’, *dōmīþi ‘(s)he judges’ (Goth. **domeis*, *domeiþ*; cf. ON *dæmir*) > PWGmc *dōmīsi, *dōmīþi (OS (2sg.) *giduomis*, OHG *tuomis*, *tuomit*) > OE *dōemīsi, *dōemīþi > Merc. *dāemes*, *dāemeð*, North. (3sg.) *dāemeð*, WS *dēmst*, *dēmþ*;
- PGmc *fōtiz ‘feet’ (ON *fætr*, OF *fēt*; cf. Gk πόδες /pódes/) > OE *fōeti > Merc., North. *fæt*, WS *fēt*;
- PGmc *swōtuz ‘sweet, pleasant’ (ON *sætr*; cf. Skt *svādús*) → PWGmc *swōti (OF *swēte*, OS *swōti*, OHG *suozī*) > OE *swōeti > North. *swāete*, WS *swēte*;
- PGmc *wōstaz ‘uninhabited’ (OF *wōst*; cf. Lat. *vāstus*) → WGmc (but not Frisian?) *wōsti (OS *wōsti*, OHG *wuosti*) > OE *wōesti > Merc. *wāeste*, WS *wēste*;
- P(NW)Gmc *kōlijana ‘to cool’ (ON *kæla*, OHG *kuolen*) > OE *kōeljan > Merc. *cāelan*, North. *gēcæla*, WS *cēlan*;
- P(NW)Gmc *fōrijana ‘to lead, to bring’ (ON *færa*, OF *fēra*, OS *fōrian*, OHG *fuoren*) > OE *fōerjan ‘to go, to travel’ > North. *fāera*, WS *fēran*;
- PNWGmc *bōniz ‘prayer, request’ (ON *bón* ~ *bæn*) > OE *bōeni > Merc. *bāen*, WS *bēn*;
- PNWGmc *glōdiz ‘hot coals, embers’ (ON *glōð*, OF *glēd*, OHG *gluot*) > OE *glōedi > North. *glāed*, WS *glēd*;
- PNWGmc *swōgiz ‘sound’ (ON *sægr* ‘uproar, downpour’) > OE *swōegi > Merc. *swāeg*, WS *swēg*;
- PNWGmc *grōniz ‘green’ (ON *grænn*) → PWGmc *grōni (OF *grēne*, OS *grōni*, OHG *gruoni*) > OE *grōeni > North. *grāene*, WS *grēne*;
- PNWGmc *bōkiz ‘inscribed billets’ (vel sim.; ON *bækr*, OHG *buoh*, both ‘books’) > OE *bōeci ‘books’ > North. *bāec*, WS *bēc*;
- PNWGmc *brōkiz ‘leggings’ (ON *brækr*, OF *brēk*, OHG *bruoh*) > OE *brōeci > WS *brēc*;
- PNWGmc *mōþaz ‘tired’ (ON *móðr*) → PWGmc *mōþi (OS *mōði*, OHG *muodi*) > OE *mōeþi > WS *mēþe*;
- PWGmc *fōgijan ‘to fit together’ (OS *fōgian*, OHG *fuogen*) > OE *fōegjan > WS *fēgan*;
- PWGmc *brōgijan ‘to terrify’ (OHG *bruogen*) > OE *brōegjan > WS *brēgan* (deriv. of PWGmc *brōgō ‘terror’ > OHG *bruogo*, OE *brōga*);
- PWGmc *mōsijan ‘to eat’ (OHG *muosen*) > OE *mōesjan > WS *mēsan*, *Rid* 40.62 (deriv. of PWGmc *mōs ‘food’ > OHG *muos*, OS, OE *mōs*, OF *piper-mōs* ‘peppered food’).

The sequence *-ōj- in the present stems of class II weak verbs also became *-ōej- by i-umlaut, the *j of the suffix umlauting the immediately preceding

vowel. But unlike the stressed examples, this * \bar{e} was unrounded before the period of our earliest documents. It was also shortened, and constraints on the date of shortening can be inferred as follows. It could not have been shortened before general syncope (see 6.7.2), because in most environments shortened *-ej- did not syncopate. At a later date *-ej- became /-ij-/ (spelled -i- or -iġ-); subsequently it was syncopated to /-j-/ (typically spelled -ġ-) only when a heavy syllable followed (namely in the pres. ptc. and the inflected inf.). All those developments had occurred by the 8th century, since they are reflected in the earliest glosses (see further section 6.7.1). Since the endings of all class II weak verbs are identical, there is really only one example of *-ōj-, attested thousands of times. Here is the default development (without syncope):

PWGmc *makōn ‘to make’ (OS *makon*, OHG *mahhōn*) → *makōjan (OF *makia*) >
 OW *makējan > *makejan > *maci(ġ)an*; so also in pres. indic. pl. *maci(ġ)ap*, etc.

A couple of examples of stressed * \bar{e} were also shortened by later phonological processes. One underwent only regular sound changes:

pre-OE *blōdisōjan ‘to consecrate with blood’ > *blēdisējan > *blēdsejan (by
 syncope, see 6.7.3) > North. *blædsīga*, Merc. *bledsian*, WS *bletsian*, all ‘to bless’.

The other is puzzling:

PWGmc *rōkijan ‘worry about, care for, take care of’ (OS *rōkian*, OHG *ruohhen*) >
 OE *rōcġan > *rōcān > *reccān* (cf. already early Merc. *reccilēas* ‘careless’, *CorpGl*
 1646).

Though a few other similar cases of shortening with compensatory lengthening of the following consonant can be cited (Campbell 1962: 121–2), it clearly was not a regular sound change, and its trigger(s) are not recoverable.

At the time i-umlaut occurred the long nasalized vowel * \bar{a} had not yet merged with * \bar{o} ; we know that because when it was shortened by later sound changes the result was *a* ~ *o*, not *o* (see the discussion below and in 6.7.5). The i-umlaut products of both short * \bar{a} and long * \bar{a} were distinctive; they might still have been nasalized. There are even more examples of the umlaut of * \bar{a} than of * \bar{o} , but because * \bar{a} could occur only before nasals most of the examples are very similar. The outcome is written *æ* in the most archaic sources, but *e* already predominates in the *Corpus Glossary*. The following examples are typical:

PGmc *landī ‘flank, loin’ (ON *lend*; cf. Lat. *lumbus*) >→ PWGmc. *landīn (OHG
lentī(n) ‘loin, kidney’) > *lāndīn in OE pl. *lændinu* > *lendenu*;
 PGmc adv. *langiz ‘longer’ (ON *lengr*) > PWGmc. *langi (OS, OF *leng*) > *lāngi >
 OE *læng > *leng*;

- PGmc *sandijanaǵ ‘to send’ (Goth. *sandjan*, ON, OF *senda*, OS *sendian*, OHG *senten*) > *sǫndjan > OE *sǣndan > *sendan*;
- PGmc *banjō ‘(a) wound’ (Goth. *banja*, ON *ben*) > PWGmc *ban^jn^ju > *bǫn^jn^ju > OE *bǣnnu > *benn*;
- PGmc *manniz nom. pl. ‘human beings’ (Goth. *mans*, ON *meðr*, OF *men*, OS, OHG *man*) > *mañni > OE *mǣnn > *menn*;
- PNWGmc *gaframjanaǵ ‘to advance, to further, to promote’ (ON *fremja*), pres. 3sg. *gafram^jiþi > PWGmc *gafram^jm^jan, *gafram^jiþi (OHG *gifremmen*, *gifremit*) > *gifra^mmjan, *gifra^miþi > OE *gifræmman, *gifræmith* > *gefremman*, *gefremeþ*;
- PNWGmc *fangiz ‘grasp, booty’ (ON *fengr*, OF *bās-feng* ‘indecent assault’, OHG *ana-fang* ‘beginning’) > *faŋgi > OE *fæng, dat. sg. *fængæ* > *feng*, *fenge*;
- PNWGmc *bankiz ‘bench’ (ON *bekkr*, OS, OHG *bank*, OF *bank*, *benk*) > *baŋci > OE *bǣnc > *benç*;
- PNWGmc *kanipaz ‘moustache’ (ON *kampr*) > *kaŋip > OE *cænip > *cenep*;
- PWGmc *kampijan ‘warriors’ (OHG *kempfon*) > *ka^mpjan > OE *cæmpan* > *cempan*;
- PWGmc *hangist ‘stallion’ (OF *hengst* ‘horse’, OHG *hengist*) > OE *hængist > *henġest*;
- PWGmc *angil (OS, OHG *engil*) > OE *ængil > *enġel*; PWGmc *hamiþi ‘shirt’ (OF *hemethe*, OS *hemidi*, OHG *hemidi*) > *ha^miþi > OE *hæmiþi > *hemeþe*;
- pre-OE *kaⁿnijan ‘to beget’, past 3sg. *kaⁿnidǣ > *kænnjan, *kænnidǣ > OE *cænnan, *cændǣ* > *cennan*, *cende*.

The shift from *æ* to *e* is not merely orthographic; there are two indications that it represents a second sound change subsequent to i-umlaut. First, ME developments show that there was a fairly small area north of the Thames, including Essex (and thus London), in which the raising of *æ* to *e* before nasals did not occur (Luick 1914–40: 349–50). Secondly, in two verbs containing the sequence *(-)raⁿni- metathesis of *r* and the following vowel occurred after i-umlaut but before the raising:

- PGmc *brannijanaǵ ‘to burn (trans.)’ (Goth. *ga-brannjan*, ON *brenna*) > PWGmc *brannijan (OHG *brennen*) > *braⁿnjan > OE *brænnan > *bærnan*;
- PGmc *rannijanaǵ ‘to cause to run’ (Goth. *ur-rannjan* ‘to cause (the sun) to rise’, ON *renna*) > PWGmc *rannijan (OHG *zesamine-rennen* ‘to melt together, to fuse’) > *raⁿnjan > OE *rænnan > *ærnan* ‘to make (a horse) gallop’.

Campbell 1962: 74 suggests that the nasals following *æ* remained palatalized, in effect causing a further umlaut of *æ* (see below). But that is not necessary. The subsequent raising can have been caused by nasal consonants even if they were not palatalized (so Kuhn 1939: 9); since the only regular source of *æ* before nasals was the i-umlaut of *a, there are no counterexamples. Finally, two inflectional suffixes containing *a underwent i-umlaut:

PWGmc pres. ptc. *-andī (3.2.2) > *-ǫndī > *-ǣndī > -*ændi* (attested in early Merc.)
 > -*ende*, e.g. in **farandī* ‘travelling, going’ (OS *farandi*, OHG *faranti*) > **færǫndī*
 > **farǫndī* > **farǣndī* > *farende*;

PWGmc dat. inf. *-anⁱnⁱē (3.2.2) > *-ǫnⁱnⁱǣ > *-ǣnⁱnⁱǣ > -*enne*, e.g. in **faranⁱnⁱē*
 (OS, OHG *faranne*) > **farǫnⁱnⁱǣ* > **farǣnⁱnⁱǣ* > *farenne*.

The reflex of long nasalized *ā must have been somewhat rounded when i-umlaut occurred, because it had merged with *ǣ by the time our earliest examples are recorded. There are more than a dozen examples:

PGmc *k^wēniz ‘woman, wife’ (Goth. *qens*) > PWGmc *kwāni (OS *quān*) > *kwāni >
 OE *cwān* > *cwēn*;

PGmc *wēniz ‘hope, expectation’, *wēnijana ‘to expect, to hope’ (Goth. *wens*, *wen-*
jan) > PNWGmc *wāniz, *wānijana (ON *ván*, *væna*, OS *wān*, *wānian*, OHG *wān*,
wānen) > *wāni, *wānjan > OE *wān*, *wānan (North. *wāna*) > *wēn*, *wēnan*;

PGmc *nanþijana ‘to be bold’ (Goth. *ana-nanþjan* ‘to take courage’, ON *nenna* ‘to
 have a mind to, to intend to’, OHG *nenden* ‘to apply oneself, to have courage’) >
 *nāþjan (OF *binētha* ‘to venture’, OS *nāðian* ‘to strive’) > OE *nāþan > *nēþan* ‘to
 venture, to risk’;

PGmc *tanþiz nom. pl. ‘teeth’ (ON *teðr*, OF *tēth*; cf. Gk ὀδόντες /*odóntes*/) > *tāþi >
 OE *tāþ* > *tēþ*;

PGmc *gansiz ‘geese’ (ON *gæss*, OF *gēs*; cf. Gk γῆνες /*k^hē:nes*/ < *k^hánhes) > *gāsi >
 OE *gāes* > *gēs*;

PGmc *anstiz ‘favor’ (Goth. *ansts*, ON *ást* ‘love’, OS, OHG *anst*) > *āsti > OE *ǣst > *ēst*;

PGmc *hanhizi *[hā:xi:zi] ‘you hang (it)’ (Goth. *hāhis* ‘you suspend’) → *hāhisi
 (OHG *hāhis*) > OE *hāhs > *hēhst*;

PGmc *fanhidi *[fā:xiði] ‘(s)he grasps’ (Goth. *ga-fāhiþ*, OS, OHG *fāhit*) → *fāhiþi
 (OF *fēth*) > OE *fāhþ > *fēhþ*;

PNWGmc *k^wāmiz ‘coming readily’ (cf. ON *haldkvæmr* ‘convenient’, *hugkvæmr*
 ‘ingenious’, OHG *biquāmi* ‘acceptable’) > *gækwāmī > OE *gēcwōeme* > *gēc-*
wēme ‘pleasant’;

PNWGmc *hanhil- *[hā:xil-] ‘heel’ (ON *hæll*) > *hāhilā > OE *hōela > *hēla*;

PNWGmc *sanþijana ‘to declare true’ (ON *senna* ‘to quarrel’) > *sāþjan > OE
 *sāþan > *sēþan* ‘to affirm, to testify’;

PWGmc *brām- (name of a prickly plant; OHG *brāma* ‘thornbush’) > *brām > OE
brōm ‘broom’ (the plant); dimin. *brāmīl > OE *brōemel > *brēmel* ‘briar, bramble’;

PWGmc *anhtijan *[ā:xtijan] ‘to persecute’ (OS *āhtian*, OHG *āhten*) > OE *cēhtan* >
ēhtan;

PWGmc *samfti ‘soft, gentle’ (OHG *semfti* ‘easy’) > *sāfti > OE *scōfti > *sēfte*;

PWGmc *fanþijō ‘traveller on foot’ (OHG *fuozfendo*) > *fāþjā > OE *fōþa* > *fēþa*
 ‘footsoldier’;

northern WGmc *fāþi ‘walking, pace’ (OS *fāði*, *fōði*) > OE *fōþi (North. *fōðe-*
menn ‘pedestrians’) > *fēþe*;

northern WGmc *smāþi ‘smooth’ (OS *smōthi* ‘docile’; cf. Heeroma 1968) > OE
smōþe > *smēþe*.

At least one example of this vowel failed to undergo i-umlaut, probably because the *-i- of the following syllable was replaced by *-a- by lexical analogy (Bammesberger 1994b: 7–8):

PGmc *sēmi- ‘half’ (cf. Lat. *sēmi-*) > PWGmc *sāmi-, e.g. in *sāmikwiku ‘half- dead’ (lit. ‘half-alive’; OS *sāmquik*, OHG *sāmiqiek*) > OE *sāmikwiku → *sāmakwiku on the model of *halba- ‘half’; > *sāmkwiku >→ *samcwic* ~ *samcucu*.

(On the shortening of the first vowel in this word see 6.7.1, 6.7.5.)

Non-nasalized *a could occur by regular sound change in i-umlaut environments only as a result of the Anglian retraction of *ælc to *alC* (see 6.2); thus all the regular examples of umlauted *a occur in Anglian dialects. The umlaut product was *æ*. Since *alC* was a fairly common phonotactic sequence, there are more than a dozen examples of umlauted *ælc*, notably:

PGmc *balgiz ‘leather bag’ (Goth. *balgs*, ON *belgr* ‘flayed skin, leather bag’, OS, OHG *balg*) > *bælgi > Angl. OE *balgi > North. *met-bælig* ‘knapsack’ (cf. WS *bielġ*, see below);

PGmc *gamaltijanā ‘to melt (it)’ (ON *melta*; cf. Goth. derived nn. *gamalteins* ‘dissolution’) > *mæltjan > Angl. OE *maltjan > Merc. *gemæltan* (cf. WS *gemieltan*);

PGmc *waltijanā ‘to roll (it)’ (Goth. *waltjan*, ON *velta*, OHG *welzen*) > *wæltjan > Angl. OE *waltjan > North. *ā-wælta*, *ġe-wælta* (cf. WS *wieltan > late WS *wyltan*);

PGmc *kalbaz, *kalbiz- ‘calf’ (neut.; cf. Goth. *kalbo*, ON *kalfr* (masc.)) > PWGmc *kalb, *kalbiz- (OHG *kalb*) > *kælb ~ *kælbi-; the latter >→ Angl. nom.-acc. *kalbi (by retraction in place of breaking) > *kælbi > Merc., North. *cælf*;

PNWGmc *fallijanā ‘to make fall, to fell’ (ON *fella*, OS *bi-fellian*, OHG *fellen*) > *fælljan (OF *fella*) > Angl. OE *falljan > Merc. *ġefællan* (cf. WS *fiellan > late WS *fyllan*);

PNWGmc *halþijanā ‘to tilt, to incline’ (ON *hella* ‘to pour out’, OHG *helden*) > northern WGmc *hældjan (OS ptc. *afheldit* ‘at an end’) > Angl. OE *haldjan ‘to avert’ > Merc. *ā-hældan*, North. *ā-hælda* (cf. WS *hieldan*);

PNWGmc *albiz ‘elf’ (ON *alfr*, pl. *alfar*, but names *Þór-elfr*, etc.) > PWGmc *albi > *ælbī > Angl. OE *albi > *ælf-* in names, e.g. *Ælfrēd*¹⁸ ‘Elfcounsel’ (cf. WS pl. *ielfe* < *ealbī < *ælbī);

PNWGmc *aldijanā ‘to make old’ (ON *elda*) > PWGmc *aldijan ‘to delay, to postpone’ (OHG *elten*) > *ældjan > Angl. OE *aldjan > Merc. *ældan* (cf. WS *ieldan*);

¹⁸ It is striking that the most famous king of Wessex consistently used the Mercian form of his name; the native WS form would have been *Ielfræd. WS *ielfe* seems to be attested only in the plural; Anglian *ælf* appears as the normal singular in the late WS collections of herbal remedies and charms, and it seems possible that it was borrowed into WS without effective competition from the WS plural.

PWGMc *aldizō ‘older’, *aldist ‘oldest’ (OS sup. *eldista*, OHG *altiro*, *altisto*) > *ældirā, *ældist (OF *eldra*, *eldest*) > Angl. OE *aldirā, *aldist > Merc. *ældra*, Merc., North. *ældest* (cf. WS *ieldra*, *ieldest*);
 PWGMc *aldin- ‘age, old age’ (OS *eldi*, OHG *altī*, *eltī*) > *ældin- (OF *elde*) > Angl. OE *aldī > *ældī → Merc. *ældu*, North. *ældo* (cf. WS *ieldo*);
 northern WGMc *kwælmjan ‘to kill’ (OS *quelmian*) > Angl. OE *kwalmjan > Merc. *cwæلمان* (cf. WS *cwielman*);
 northern WGMc *fælli ‘(a) fall, collapse’ (OF *erth-fel* ‘fall to the ground’) > Angl. OE *falli > Merc., North. *fæll* (cf. WS *fiell*);
 pre-OE *gæwældjan ‘to control, to rule’ > Angl. OE *gæwaldjan > North. *gewælde* (cf. WS *giewieldan*); deriv. of PGmc *waldana ‘to control, to rule’ > WS *wealdan*, Merc. *waldan*;
 pre-OE *wælljæ ‘well, spring’ > Angl. OE *walljæ > Merc., North. *wælle* (cf. WS *wiell* < *wealli < pre-OE *wælli, with a different suffix); deriv. of PWGMc *wallan ‘to well up, to seethe’ > *wællan > WS *weallan*, Merc. *wallan*.

This new *æ*, like the *æ* resulting from the umlaut of **ą* (see above), eventually became *e* in most dialects, but in this case the raising to *e* was much later, well beyond the chronological limit of this volume (Campbell 1962: 73). There are at least two instances of the Northumbrian sequence **warC* (see 6.2.2 above) umlauted to *wærC*:

PGmc *warmijan ‘to warm’ (Goth. *warmjan*, ON *verma*, OS *wermian*, OHG *wermen*) > *wærmjan > *wearmjan > North. *warmjan > *wærma*;
 PNWGMc *warkiz ‘pain’ (ON *verkr*) > *wærki > *wearki > North. *warci > *wærç*.

Otherwise **a* occurred in i-umlauting environments only by paradigmatic levelling, replacing the **æ* that had developed by sound change. There are scattered examples in every dialect (see Campbell 1962: 74), but the most important cases are the WS present stems of class VI strong verbs, in which **a* was generalized at the expense of **æ* at an early date (see 6.3.2).¹⁹ Note the following examples:²⁰

PGmc *faraną ‘to go, to travel’, pres. indic. 2sg. *farizi, 3sg. *faridi (Goth. **faran*, **faris*, **farip*; OHG *faran*, 3sg. *ferit*) >→ *farąn, *færisi, *færiþi → *farąn, *farisi, *fariþi >→ OE *faran*, *færst*, *færþ*;
 PGmc *sakaną ‘to contend, to fight’, pres. indic. 2sg. *sakizi, 3sg. *sakidi (Goth. *ga-sakan*, **ga-sakis*, *ga-sakip*; OHG *sahhan*, 3sg. *sahhit*) >→ *sakań, *sækisi, *sækipi → *sakań, *sakisi, *sakiþi >→ OE *wiþ-sacan* ‘to oppose; to renounce’, *wiþ-sæcst*, *wiþ-sæcþ*;

¹⁹ This can be determined only from the syncopated WS 2sg., 3sg. pres. indic. forms, which preserve the unumlauted vowels; in the Anglian dialects the unumlauted vowels were usually eliminated by levelling. See 7.1.2 for further discussion.

²⁰ No relevant forms of class VI strong verbs not discussed here occur.

- PGmc *hlaþanā ‘to load’, pres. indic. 2sg. *hlaþizi, 3sg. *hlaþidi (OHG *ladan*, 3sg. *ledit*; cf. Goth. past ptc. *af-hlaþans*) >→ *hladañ, *hlædisi, *hlæðiþi (*-d- levelled in from the default past stem) → *hladañ, *hladisi, *hladiþi >→ OE *hladan* ‘to load; to draw (water)’, *hlætst*, *ā-hlætt* ‘it draws (it) off’;
- PGmc *draganā ‘to haul’, pres. indic. 3sg. *dragidi (Goth. **dragan* ‘to attract’, **dragīþ*; OHG *tragan* ‘to carry, to bring’, *tregit*) >→ *dragañ, *drægiþi → *dragañ, *dragīþi > OE *dragan*, *drægb*;
- PGmc *skabanā ‘to shave’, pres. indic. 3sg. *skabidi (Goth. *skaban*, **skabiþ*; OHG *skaban*, *skebit*) >→ *skabañ, *skæbiþi → *skabañ, *skabiþi > OE *scāfan*, *scæfþ*;
- PGmc *akanā ‘to drive’, pres. indic. 3sg. *akidi (ON *aka*; cf. Lat. *agere*, etc.) >→ (?) *akañ ‘to ache’, *ækīþi → *akañ, *akiþi > OE *acan*, *æcþ*; on the shift in meaning see Seebold 1970: 75;
- PGmc *kalanā ‘to become cold’, pres. 3sg. *kalidi (ON *kala*; cf. PGmc adj. **kaldaz* ‘cold’) >→ *kalañ, *kæliþi → *kalañ, *kaliþi > OE *calan*, *cælfþ*; PNWGMc **skakana* ‘to shake’, pres. indic. 3sg. **skakidi* (ON *skaka*) >→ **skakagañ*, **skækīþi* → **skakagañ*, **skakīþi* > OE *scacan*, *scæcþ*;
- PNWGMc **gnaganā* ‘to gnaw’, pres. indic. 3sg. **gnagidi* (ON *gnaga*; OHG *gnagan*, *gnegit*) >→ **gnagañ*, **gnægīþi* → **gnagañ*, **gnagiþi* > OE *gnagan*, *gnægþ* (spelled *gnæhð* in a late gloss);
- PWGMc **bakan* ‘to bake’, pres. indic. 2sg. **bakisi* (OHG *bahhan*) > **bakañ*, **bækisi* → **bakañ*, **bakisi* >→ OE *bacan*, *bæcst*.

Also possibly relevant is 3sg. *wæscēþ* to *wascan* ‘to wash’ (OHG *waskan*, *weskit*), though the text in which it occurs is late and not strictly WS (Hedberg 1945: 145). Class VI strong presents with suffixal consonants mostly did not introduce *a into the root syllable in place of *æ, simply because there was no alternation between *a and *æ to begin with. Thus ‘lift’ and ‘swear’, for example, developed as follows:

- PGmc **habjana* ‘to lift’, pres. indic. 2sg. **habisi*, 3sg. **habiþi* (Goth. *and-hafjan* ‘to answer’, *and-haffis*, *and-haffiþ* with various analogical levellings) > **hæbʰān*, **hæbisi*, **hæbiþi* >→ OE *hebban*, *hefest*, *hefeþ*;
- PGmc **swarjana*, **swarisi*, **swariþi* ‘to swear’ (Goth. *swaran* (with *-j- eliminated by levelling), **swaris*, **swariþ*) > **swærjañ*, **swærisi*, **swæriþi* >→ OE *swerian*, *swerest*, *swereþ*.

However, the present of the WGMc verb **stapʰian* (OF *steppa*; OHG *stepfen*, which has become weak), which should have become pre-OE **stæpʰian* with *æ throughout the paradigm, somehow acquired an *a in its root in WS, presumably by lexical analogy with derived nouns; the result is *stæppan*, pres. indic. 2sg. *stæpst*, 3sg. *stæpþ*. In at least some other dialects that did not happen; for instance, Northumbrian has *gisteppa* (in the *Durham Ritual*), and most ME dialects have *steppen*.

Non-nasalized long *ā developed from PWGmc *ai in all positions (see 6.1.2), and its umlaut product *ǣ* is accordingly common. The following examples are typical:

- PGmc *saiwiz ‘sea’ (Goth. *saiws*, ON *sær* ~ *sjór*, OF *sē*, OS, OHG *sēo*) > *sāwi > *sæi (Campbell 1962: 166–7) > OE *sǣ*;
- PGmc *airiz adv. ‘earlier’ (Goth. *airis*, ON *ær*, OF *ēr* ‘earlier, before’, OS *ēr*, OHG *ēr* ‘before’) > *āri > OE *ǣr* ‘before’;
- PGmc *dailiz ‘part’ (Goth. *dails*, OS, OF *dēl*, OHG *teil*) > *dāli > OE *dǣl*;
- PGmc *hailijanaǵ ‘to heal, to cure’ (Goth. *hailjan*, ON *heila*, OF *hēla*, OS *hēlian*, OHG *heilen*) > *hāljan > OE *hǣlan*;
- PGmc *laibijanaǵ ‘to leave (over)’ (Goth. *bi-laibjan*, ON *leifa* ‘to leave behind’, OF *lēva*, OS *far-lēbian*, OHG *leiben*) > *lābjan > OE *lǣfan* ‘to leave over / behind’;
- PGmc *laidijanaǵ ‘to make go’ (ON *leiða* ‘to accompany’; causative of *liþanaǵ ‘to go (away)’) > PWGmc *laidijan ‘to lead’ (OF *lēda*, OS *lēdian*, OHG *leiten*) > *lādjan > OE *lǣdan*;
- PGmc *laizijanaǵ ‘to teach’ (Goth. *laisjan* with *-s-* levelled in from *lais* ‘I know’; OF *lēra*, OS *lērian*, OHG *lēren*) > *lārjan > OE *lǣran*;
- PGmc *laistijanaǵ ‘to follow’ (Goth. *laistjan*, OS *lēstian* ‘to follow, to perform, to carry out’, OHG *leisten* ‘to perform, to carry out, to prove’) > *lāstjan > OE *lǣstan* ‘to serve, to perform, to carry out’;
- PGmc *gamainiz ‘(in) common’ (Goth. *gamains*) → PWGmc *gamaini (OF *mēne*, OS *gimēni*, OHG *gimeini*) > *gæmāni > OE *gemǣne*;
- PGmc *staininaz ‘(made) of stone’ (Goth. *staineins*, OHG *steinin*) > *stānin > OE *stǣnen*;
- PGmc *aihtiz ‘property, possessions’ (Goth. *aihts*, OHG *ēht*) > *āhti > OE *ǣht*; PGmc *h^waitijaz ‘wheat’ (Goth. *hwaiteis*, ON *hveiti* (neut.), OF *hwēte*, OHG *weizī*) > *hwātī > OE *hwǣte*;
- PGmc *haiþi ‘open country’ (Goth. *haiþi* ‘field’, ON *heiðr* ‘barren land, heath’, OHG *heida* ‘uncultivated land’) > *hāþi > OE *hǣþ* ‘uncultivated land, wasteland’;
- PGmc inst.(-dat.) pl. *þaimiz ‘those’ (Goth. *þaim*, ON *þeim*) > PWGmc *þaimi (OS *thēm*, OHG *dēm*) > *þāmi > OE *þǣm*;
- PGmc (?) *faimnijōn- ‘girl’ (ON *feima* ‘shy girl?’; cf. Gk *ποιμήν* /poimē:n/ ‘shepherd?’) > PWGmc *faimnijā (OF *fāmne* ~ *fēmne*, OS *fēmia* ‘woman’) > *fāmnjǣ > OE *fǣmne*;
- P(NW)Gmc *ajjaz ~ *ajjiz- ‘egg’ (ON *egg*, shifted into the *a-*stems; cf. Gk *ᾠόν* /o:ión/?) > PWGmc *aij ~ *ajjiz- (OHG *ei*, pl. *eigir*) > *āj ~ *ājir- > OE *ǣg*, pl. *ǣgru*;
- PNWGmc *hnaigijanaǵ ‘to lower, to cause to bow’ (ON *hneigja*, OS *gi-hnēgian*, OHG *neigen*) > *hnāgjan > OE *hnǣgan*;
- PNWGmc *aikiz ‘oaks’ (ON *eikr*) > *āci > OE *ǣc*;
- PWGmc *raikijan ‘to reach’ (OF *rētsa*, OHG *reihhen*) > *rācjan > OE *rǣcan*;
- PWGmc *flaiski ‘flesh, meat’ (OF, OS *flēsk*, OHG *fleisc*) > *flāsći > OE *flǣsc*;

PWGMc *waigī ‘cup’ (OS *wēgi*; cf. OHG *bah-weiga*) > *wāgī > OE *wāge*;
 PWGMc *skuldihaitijō ‘deputy, bailiff’ (OF *skeltāta*, OHG *sculdhei3o*) >
 *skyldihātjā > OE *scýldhæta*;
 PWGMc *þaisimō ‘yeast’ (OHG *deismo*) > *þāsimā > OE *þæsma*;
 northern WGMc *kaij- ‘key’ (OF *kēi*, masc.) > *kāju (fem.) > OE *cæg*.

The cluster *sc*, the only palatal which could occur before this umlaut product, subsequently diphthongized *æ* to *ēa* in WS; but the change apparently did not go to completion, since non-diphthongized examples also occur. Note the following:

PGmc *skaiþidi (OHG *sceidit*) ~ *skaididi (Goth. *skaidiþ*, OS *skēdid*) ‘it separates’
 >→ *skaidiþi > *skādiþi > *scādiþi > OE *scætt > early WS *tō-scēat* (1x CP) but
 late WS *tō-scæt* (several times in Ælfric’s homilies);
 PNWGMc *skaiþiz ‘split billet’ (ON *skeið* ‘weaver’s shuttle’, pl. *skeiðir* ‘sheath’) →
 PWGMc *skaiþiju ‘sheath’ (OF *skēthe*, OS *skēðia*, OHG *sceida*) > *skāþju > OE *scāþ*
 ~ *scēaþ* (both spellings late WS, also in verse);
 PNWGMc *skainijanā ‘to break’ (ON *skeina* ‘to scratch, to wound slightly’, OHG
irsceinen) > *skānjan > *scānjan > OE *scāenan* (apparently always with *æ*; also in
 verse, and three Merc. examples in *Ps(A)*).

There are a few isolated examples of other i-umlauted vowels which developed into diphthongs variably after *sc*; see Campbell 1962: 68–9, Hogg 1992: 112–13 [2011: 109–10] for discussion.

Whether *ā reflecting PWGMc *ā before *w* was ever affected by i-umlaut is doubtful. PWGMc *ā before *w failed to be fronted in OE only when a high front vocalic did *not* follow (see 5.1.2); thus *āwi, *āwī should have become (pre-WS) *āwi, *āwī and (pre-Angl. and Kent.) *ēwi, *ēwī by regular sound change before the separate development of OE became discernible (see 5.1), and WS strong verb alternations such as *crāwan* ‘to crow’: *crēwþ* ‘it crows’, *oncnāwan* ‘to recognize’: 2sg. *oncnāwst* ‘you recognize’, *wāwan* ‘to blow’: *wāwep* ‘it blows’ can reflect that older conditioned change (cf. Campbell 1962: 77). In principle the Anglian dialects could provide evidence for the levelling of *ā into those positions and its subsequent umlaut, since they should exhibit *ē* in pres. indic. 2sg., 3sg. forms if the alternation was old but *æ* if it was the result of i-umlaut; but unfortunately they have levelled the vowel of the infinitive through the paradigms of virtually all relevant strong verbs, presenting forms like *oncnāwep* ‘knows, recognizes’ for expected **oncnēwþ* or **oncnāwþ*.

A particular puzzle is posed by *sāemra* ‘inferior, worse’, *sāemest* ‘worst’. The similar family of words including *nāem*, *nāeming* ‘acceptance’, *nāemel* ‘receptive’, *dugup-nāemere* ‘one who accepts a benefit’, *be-nāeman* ‘to deprive’,

ge-nāman ‘to take (by force)’, *for-nāman* ‘to consume’, *nīed-nāem* ‘rape’ and its derived verb *nīed-nāman* is clearly derived from the stem of *nāmon* ‘they took’ (Campbell 1962: 77–8 n. 4 with references); see 6.3.3 for discussion, where both an analogical and a phonological source for its *ā* are considered. What makes the case of *sēmra* perplexing is that neither of the explanations advanced for *nām-* seems plausible: though the Old Swedish cognate *sæmbre* guarantees an etymon with PNWGmc **ā* (Heidermanns 1993: 477–8), there is no plausible analogical source for pre-OE non-nasalized **ā* in this isolated word, and no obvious reason why **ā̄* should have been reinterpreted as **ā* between **s* and a nasal.

6.6.2 Raising of **æ*

In addition to the back vowels treated above, one front vowel was affected by i-umlaut: low front **æ* was raised to *e*. There are fifty-odd examples of raising by **i*, **ī*, or **j* in the following syllable with good cognates, e.g.:

- PGmc **batizō*, adv. **batiz* ‘better’, **batistaz* ‘best’ (Goth. *batiza*, sup. *batists*, ON *betri*, *betr*, *baztr* ~ *beztr*, OF *betera*, *bet*, *best*, OS *betara*, *bet* ~ *bat*, *bezt* ~ *best*, OHG *beʒʒiro*, *baʒ*, *beʒʒisto*) > **bætirā*, **bæti*, **bætist* > OE **betirā*, **beti*, **betist* > *betera*, *bet*, *betst*;
- PGmc **stadiz* ‘place’ (Goth. *staþs*, ON *staðr*, OF *stede*, OS *stedi*, OHG *stat* ‘place, town’) > **stædi* > OE *stedi* > *stede*;
- PGmc **matiz* ‘food’ (Goth. *mats*, ON *matr*, OF *mete*, OS *meti*, OHG *maʒ*) > **mæti* > OE **meti* > *mete*;
- PGmc **raginā* ‘decision’ (Goth. *ragin*, ON pl. *regin* ~ *rōgn* ‘the powers that be, the gods’) > PWGmc **ragina-* ‘power-’ in cpds. (OS *regino-giskapu* ‘fate’, OHG *Regin-wald* and similar names) > **rægin-* > OE **rēgin-* > *reġn-* ‘thoroughly’ (poetic) in *reġnheard* ‘extremely hard’, *reġnpēof* ‘utter thief’;
- PGmc **satiniz* ‘setting, seating’ (Goth. *ga-sateins* ‘establishment’) > **sætīn* > OE **setīn* > *seten* ‘shoot (of a plant), slip (for grafting)’;
- PGmc **aglijanā* ‘to treat badly, to harm’ (Goth. *agljan*) > **ægljan* > OE **egljān* > *eglan* ‘to harrass, to afflict’;
- PGmc **asnijaz* ‘harvest-worker, hired man’ (Goth. *asneis*, OHG *asni*) > **æsnī* > OE **esnī* > *esne*;
- PGmc **alinō* ‘forearm, ell’ (ON *ǫln*, OF *elne*, OS, OHG *elina*; the long vowel in Goth. *aleina* is puzzling) > **ælinu* > OE **elinu* > **elnu* > *eln*;
- PGmc **twalif-* or **twalib-* (Goth. *twalif*, dat. *twalibim* with **b*, OHG *zwelif* with **f*; either in ON *tolf*, OF *twelf*, OS *twelif*) > **twælifi* or **twælibi* > OE **twelifi* or **twelibi* > *twelf*;
- PGmc **salīpwō* ‘dwelling, hall’ (Goth. pl. *salīpwos*) > PWGmc **salīpu* (OS *selida*, OHG *selida*) > **sæliþu* > OE **seliþu* > *seld* (poetic; *d* is unexpected: lexical analogy with *seld* ‘seat’ < *setl?*);

- PGmc *agaz, *agiz- ‘fear’ (neut., Goth. *agis*; see vol. i 4.3.4 (i), p. 278) >→ PWGmc *agiz (masc.) > *ægi > OE *ēgi > *eġe*; extended in PWGmc *agisō ‘terror’ (OS, OHG *egiso*) > *ægisā > OE *ēgisā > *eġesa*;
- PGmc *slagiz ‘blow, stroke’ (Goth. *slahs* (with analogical *-h-*), ON *slagr*, OF *slei*, OS *slegi*, OHG *slag*) > *slægi > OE *sleġi > *sleġe*;
- PGmc *hataz, *hatiz- ‘hatred’ (neut., Goth. *hatis*, ON *hatr*) >→ PWGmc *hatiz (masc., OS *heti*, OHG *haʒ*) > *hæti > OE *heti > *hete*;
- PGmc *hnaskuz ‘soft’, fem. *hnaskwī (Goth. fem. dat. pl. *hnasqjaim*) >→ PWGmc *hnaskwī > *hnæskwī > OE *hneskī > *hnescē*;
- PGmc *awiz ‘sheep’ (cf. Goth. *awistr* ‘sheepfold’, Lat. *ovis*) → PNWGmc ‘ewe’ (ON *ær*, OHG *ou*) > *æwi > OE *ewi → *ewu > *eowu* (see 6.9.4);
- PGmc *mari ‘sea’ (Goth. *mari-saiws* ‘lake’) → PNWGmc *mariz (ON *marr*, OS, OHG *meri*) > *mæri > OE *meri* > *mere* ‘pond, pool’, poetic ‘sea’;
- PGmc *harjaz ‘army’ (Goth. *harjis*, ON *herr*) > PWGmc *hari (OF *here*, OS, OHG *heri*) > *hæri > OE *heri* > *here*;
- PGmc *arjanā ‘to plow’ (Goth. *arjan*, ON *erja*, OF *era*, OHG *erien*) > *ærjan > OE *erian*;
- PGmc *hazjanā ‘to praise’ (Goth. *hazjan*) > *hærjan > OE *herian*;
- PNWGmc *klawipō ‘itch’ (ON *kláði*; OHG *klouwida* with shift of gender) > *klæwipā > OE *klewipā > *cleweþa*;
- PNWGmc *fatilaz ‘strap’ (ON *fetill* ‘shoulder-strap’, OHG *feʒʒil* ‘fetter’) > *fættil > OE *fetil > *fetel* ‘belt’;
- PNWGmc *hadinaz ‘hooded jacket’ vel sim. (ON *heðinn* ‘hooded fur vest’) > *hædin > OE *hedin > *heden* ‘hood’;
- PNWGmc *abnijanā ‘to perform, to carry out’ (ON *efna*) > *æbnjan > OE *ebnjan > *efnan*;
- PNWGmc *hrappijanā ‘to grasp’ (ON *hreppa* ‘to catch’, OF *hreppa* ‘to move, to touch’) > *hræppjan > OE *hreppjan > *hreppan* ‘to touch’;
- PNWGmc *bakjaz ‘brook’ (ON *bekkr*) >→ PWGmc *baki ‘brook’ (i-stem; OS *beki*, OHG *bah*) > *bæci > OE *beci > *bece*;
- PWGmc *habīg ‘heavy’ (OS *hebig*, OHG *hebīg*) > *hæbīg > OE *hebīg > *hefig* (but ON *hofugr* is a parallel formation in *-uga-);
- PWGmc *agiþā ‘rake, harrow’ (OHG *egida*) > *ægiþā > OE *eġiþā > *eġeþe*;
- PWGmc *rafsijan ‘to reproach, to blame’ (OHG *refsen*) > *ræfsjan > OE *refsjan > *refsan* > *repsan* (cf. OF *bi-respa*, with a parallel change and metathesis);
- PWGmc *rastijan ‘to rest’ (OF *resta*, OS *restian*, OHG *resten*) > *ræstjan > OE *restjan > *restan*;
- northern WGmc *marisk ‘marsh’ > *mærisk (OF *mersk*) > OE *merisc* > *mersc*.

It can be seen that consonant clusters did not impede this raising; thus OE words with *æ* for expected i-umlauted *e* (e.g. *fæstan* ‘to fix, to fasten’, ostensibly < *fæstjan) must exhibit levelling of *æ* from related forms (in this case the adj. *fæst* from which the verb was derived).

As expected, there are also numerous examples—more than forty—triggered by palatalized geminates. Those that have been adduced in earlier sections include *ellen* ‘zeal, courage’, *fremman* ‘to accomplish’, *hebban* ‘to lift’, *hell* ‘hell’, *leccan* ‘to lay’, Mercian *sceþþan* ‘to harm’, *settan* ‘to set’, *þennan* ‘to extend’, *weccan* ‘to waken (someone)’ (section 3.1.3); *eċġ* ‘edge’, *seċġ* ‘retainer, follower’, *þeccan* ‘to cover’ (section 6.4.1). The present stems of a few more of the verbs whose past stems were discussed in section 3.3.2 can also be adduced:

PGmc *rakjana ‘to stretch out’ (Goth. *uf-rakjan*, ON *rekja* ‘to spread out, to unwind’) > PWGmc *rak^lk’an (OS *rekkian* ‘to explain, to relate’, OHG *recken* ‘to stretch out, to unfold’ etc.) > *ræccan > OE *reccan*;
 PWGmc *lak^lk’an ‘to moisten’ (OHG *lecken*) > *læccan > OE *leccan*;
 PWGmc *strak^lk’an ‘to stretch out’ (OHG *strecken*) > *stræccan > OE *streccan*.

Other examples include:

PGmc *saljana ‘to hand over, to give’ (Goth. *saljan* ‘to offer’, ON *selja*) > PWGmc *sal^ljan ‘to give, to sell’ (OF *sella*, OS *sellian*, OHG *sellen*) > *sæl^ljan > OE *sellan*;
 PGmc *badja ‘bed’ (Goth. *badi*) > PWGmc *badi, *bad^ld^l- (OF *bed(d-)*, OS *bed(di-)*, OHG *beti* ~ *betti*) > *bæd^ld^l > OE *bedd*;
 PGmc *natja ‘net’ (Goth. *nati*, ON *net*) > PWGmc *nati, *nat^lt^l- (OF *net*, OS *netti*, *fisk-net*, OHG *nezzi*) > *næt^lt^l > OE *nett*;
 PGmc *sagjana ‘to say’ (ON *segja* ~ *seggja*; cf. Lith. *sakýti*) > PWGmc *sag^lg^ljan (OF *sedza*, OS *seggian*; implied by Bavarian OHG pres. indic. 2sg. *segis*, 3sg. *segit*, West Franconian (?) past *saghida* (Isidor), etc.) > *sæggan > OE *secgan*;
 P(NW)Gmc *swabjana ‘to put to sleep’ (ON *svefja*) > PWGmc *swab^lb^ljan (OS *answebbian*, OHG *in-swebben*) > *swæb^lb^ljan > OE *swebban* ‘to put to sleep’, poetic ‘to slay’;
 PNWGmc *taljana ‘to count; to narrate’ (ON *telja*) > PWGmc *tal^ljan (OF *tella*, OS *tellian*, OHG *zellen*) > *tæl^ljan > OE *tellan*;
 PWGmc *hrad^ld^ljan ‘to save’ (OF *hredda*, OHG *retten*) > *hræd^ld^ljan > OE *hreddan*;
 PWGmc *lap^lp^ljan ‘to provide (food)’ vel sim. (OHG *gi-lepfen* ‘to draw (water)’) > *læp^lp^ljan > OE *leppan* ‘to feed (hawks)’.

The corresponding WS long vowel **ǣ* was not affected by i-umlaut; neither was **ē*, the cognate vowel in other dialects. (None of the pan-OE examples of **ē* occurred in i-umlauting environments—not surprisingly, as the vowel was rare. The *ē* of (non-Angl.) class VII strong past stems was in an i-umlaut environment in the subjunctive, but i-umlaut was levelled out of the past subjunctive in any case.) There are more than two dozen examples (pace Campbell 1962: 72). Note the following pairs, with and without i-umlaut environments, all with WS *ǣ*, non-WS *ē*:

- PNWGmc *garādiją ‘advice, provision (for)’ (ON *ræði* ‘rule, management’, OS *girādi* ‘advantage’, OHG *girāti* ‘advice, decision’) > OE *gærædi > *geræde* ‘equipment, outfit, trappings’;
- PGmc *rēdaną ‘to advise’ (Goth. *ga-redan* ‘to take thought for’) > PNWGmc *rādaną (ON *rāða*, OF *rēda*, OS *rādan*, OHG *rātan*) > WS OE *rædan*, Kent. *rēdan*, North. *rēda*;
- PGmc *dēdiz ‘deed’ (Goth. *missa-ded-* ‘misdeed, sin’) > PNWGmc *dādiz (ON *dáð*, OF *dēde*, OS *dād*, OHG *tāt*) > OE *dædi, Angl. *dēdi > WS *dēd*, Angl. *dēd*;
- PNWGmc *sāđą ‘seed, crop’ (ON *sáð*) > PWGmc *sād (OF *sēd*, OS *sād*) > WS OE *sēd*, Angl. *sēd*;
- PGmc *fētijaną ‘to adorn’ (Goth. *fetjan*) > PNWGmc *fātijaną (ON *fæta* ‘to deal with’) > *fætjān > OE *fētan* ‘to load, to adorn’;
- PGmc *lētaną ‘to let go, to allow’ (Goth. *letan*) > PNWGmc *lātanaą (ON *láta*, OF *lēta*, OS *lātan*, OHG *lāzan*) > WS OE *lētan*, Merc. *lētan*, North. *lēta*;
- PGmc *lēkijaz ‘physician’ (Goth. *lekeis*) > PWGmc *lākijaz (OF *lētsa*, OHG *lāhhi*) > OE *læci, Angl. *lēci > WS *læce*, Merc. *lēce*;
- PGmc *wrēkun ‘they drove (out)’ (Goth. *wrekun* ‘they persecuted’) > PNWGmc *wrākun (ON *ráku*, OS *wrākun* ‘they punished’, OHG *rāhhun* ‘they punished’) > OE *wræcon* ‘they drove (out), they took revenge on’;
- PGmc *gafrēgijaz ‘known, famous’ (lit. *‘asked after’, deriv. of *fregnaną ‘to ask’) > PNWGmc *gafrāgijaz (ON *frægr*, OS *gifrāgi*) > OE *gæfrægi > *gēfræge*;
- PGmc *mēgaz ‘kinsman’ (Goth. *megs* ‘son-in-law’) > PNWGmc *māgaz (ON *mágr* ‘kinsman by marriage’, OF *feder-mēch* ‘paternal relative’, OS, OHG *māg*) > WS OE *mæg*, North., Kent. *mēg*;
- PGmc *mērijaz ‘famous’ (Goth. neut. *waila-meri* ‘praiseworthy’) > PNWGmc *mārijaz (ON *mærr*, OS, OHG *māri*) > OE *mæri, Angl. *mēri > WS *mære*, Angl. *mēre*;
- PGmc *swēraz ‘heavy’ (Goth. *swers* ‘respected’) > PNWGmc *swāraz (ON *svárr*) > PWGmc *swār (OF *swēr*, OS, OHG *swār*) > WS OE *swær*, North. *swēr*;
- PGmc *mēlijanaą ‘to make marks’ (Goth. *meljan* ‘to write’) > PWGmc *mālijān > *gæ-mæljān > OE *gemælan* ‘to mark, to stain’;
- PGmc *mēlaą ‘(a) time’ (Goth. *mel*) > PNWGmc *mālaą (ON *mál*) > PWGmc *māl (OF *etmēl* ‘period of 24 hours’, OHG *māl*) > WS OE *mæl*, early Merc. *stycci-mēlum* ‘piecemeal’ (*CorpGl* 1473).

It has sometimes been suggested that, just as *a was levelled through the pres. stem of class VI strong verbs and was later umlauted to *æ* in the indic. 2, 3sg. (see above), *e might have been levelled through the pres. stem of class IV and V strong verbs and have later been umlauted to *i* in the indic. 2, 3sg. (Luick 1914–40: 176–7, Campbell 1962: 76). There is no evidence for such a development, and in the absence of such evidence we ought to prefer the simpler hypothesis that the *i* of OE *birst* ‘you carry’, *birþ* ‘(s)he carries’, etc. directly reflects the *i of PGmc *birizi, *biridi, etc. I can find no secure examples of a

sequence *e...i being umlauted to i...i in the separate prehistory of OE. On a possible example of *e...u...i > *i...y...i see 6.6.4.²¹

6.6.3 I-umlaut of diphthongs

The diphthongs of OE also underwent i-umlaut, but the results were different in different dialects. Short *ea was umlauted to *ie* in WS, but to *e* in the other dialects; long *ēa was likewise umlauted to *īe* in WS, but to *ē* in the other dialects. Whereas most examples of the long diphthong reflected PWGmc *au, the short diphthong had several etymological sources which must be treated separately.

Some forty-odd examples of *ea in umlauting environments were inherited by all the dialects; they had arisen by breaking (see 6.2.1, 6.2.2). In about ten of these examples the consonant that triggered breaking was *h. A few WS examples are attested in shapes not affected by subsequent sound changes, though attestations with later palatal umlaut to *i* (see 6.9.7) are much more common:

- PGmc *hlahjanaǵ ‘to laugh’ (Goth. *hlahjan*, ON *hlæja*) > PWGmc *hlahʰjan > *hlæhʰjan > *hleahʰjan > OE *hliehhan*, Angl. (poetic) *hlehhan*;²²
- PGmc *slahidi ‘(s)he strikes, (s)he kills’ (Goth. *slahīþ*, OS, OHG *slehit*) → *slahīþ > *slæhīþ > *sleahīþ > WS *sliehīþ >→ *sliehp* > *slihþ*, Kent. *slehīþ >→ *slehð*;
- PGmc *þwahidi ‘(s)he washes’ (Goth. *þwahīþ, OHG *dwehit*) → *þwahīþ > *þwæhīþ > *þweahīþ > WS *þwiehīþ >→ *þwiehp*, Angl. *þwehīþ > *þwehīþ > Merc. (*Ps(A)*) *þwēð*;
- PGmc *mahtiz ‘power’ (Goth. *mahts*, OF *meht*, OS, OHG *maht*) > *mæhti > *meahti > WS *miehti > *mieht* (in *un-mieht* ‘weakness’) > *miht*, Kent. *mehti > *meht* in *allmehtgum* ‘to the almighty’; but Angl. *mehti >→ *meaht (by lexical analogy with the past stem of *magan*?) > Merc., North. *mæht* (by Anglian monophthongization, see 6.9.2);
- PGmc gen. sg. *nahtiz, dat. sg. *nahti, nom. pl. *nahtiz ‘night’ (Goth. *nahts*, *naht*, —, ON *nætr*, (*nátt*,) *nætr*) > PWGmc *nahti (all three forms: OHG *naht*) > *næhti > *neahti > WS *niehti > *nieht* > *niht*, whence by levelling nom. sg., etc. also *nieht* > *niht*, Angl. *nehti > late Merc. *neht* > *niht* (but most Anglian (sub)dialects

²¹ The pair of loanwords *peru* ‘pear’ : *pirige* ‘pear tree’ cited by Luick (1914–40: 176–7) is not probative, since loanwords are often adjusted to fit the phonotactic patterns of the borrowing language (cf. Campbell 1962: 201–2)—and it should be remembered that the relevant Latin words all exhibited *i* (*pirus*, later *pirea* ‘pear tree’, *pirum* ‘pear’, pl. *pira*). On *firgen*- ‘mountain-’ see 6.6.4.

²² North. *hlæhha* and Merc. (*Ps(A)*) 3pl. *hlæhað* could have acquired the vowel of *hleahtor* ‘laughter’ and have later been affected by Anglian monophthongization (Campbell 1962: 80 n. 1). But it also seems possible that the stem *hlæhh-* was backformed to 3sg. indic. *hlehp < *hleahþi < *hleahþi before the Anglian dialects levelled out umlaut and syncope in strong presents (see the following section); the innovative *æ* would then naturally have been levelled into the 2, 3sg. indic.

levelled in the opposite direction: nom. sg. *næht > *neahht > *næht* (by monophthongization, see 6.9.2), whence Merc. (*Ps(A)*), North. dat. sg. *næht*, Merc. (*Ps(A)*) nom. pl. *næht*; cf. early Merc. *næcte-gale* ‘nightingale’ (*CorpGl* 1746));
 PGmc *wahsidi ‘(s)he grows’ (stem *wahsija-; Goth. *wahseip*) >→ PWGmc *wahsidi (stem *wahsa-; OS *wahsid*, OHG *wahsit*) → *wahsiþi > *wæhsiþi > *weahsiþi > WS *wiehsiþi > *wiexp* > *wixþ* (cf. early Merc. *wæxit* (*CorpGl* 1955) with un-umlauted vowel levelled in from other forms);
 PWGmc *slahti ‘killing, slaughter’ (OHG *man-slaht* ‘murder’) > *slæhti > *slehti > WS *sliehti > *sliht* (in *man-slieht* ‘murder’) > *sliht*, Angl. *slehti > *sleht* in (poetic) *morþor-sleht* ‘murder, assassination’ (but North. *lēgeð-slæht* ‘bolt of lightning’ by lexical analogy with forms of *slaha > *slaa*).

In two cases the *h was subsequently lost with compensatory lengthening (see 6.9.1):

PGmc (?)²³ *tahrijaną ‘to shed tears, to weep’ (Goth. *tagrjan* with voiced Verner’s Law alternant) > *tæhrijąn > *teahrjān > WS *tiehrjan > *tieran > late WS *týran*;
 northern WGmc *stahlī ‘steel weapon’ (OS *stehli* ‘ax’) > *stæhlī > *steahlī > WS *stiehlī > *stiele > late WS *stýle*, Angl. *stehli > early Merc. *stēli* (*CorpGl* 55), both ‘steel’.

Most of the examples widely shared by the dialects reflect PWGmc *arC > *ærC > *earC, e.g.:

PGmc *arbiją ‘inheritance’ (Goth. *arbi*, ON *erfi* ‘wake’, OS *erbi*, OHG *erbi*) > *ærbi > *earbi > WS *ierbī > *ierfe*, Angl., Kent. *erbi > Merc., North., Kent. *erfe*;
 PGmc *marzijaną ‘to offend’ (Goth. *marzjan*, OS *merrian*, OHG *merren* ‘to obstruct, to offend’) > *mærrijąn > *ā-mearrjān > WS *ā-mierrjan > *ā-mierran*, Angl. *ā-merrjan > Merc. *ā-merran*, both ‘to obstruct, to spoil, to destroy’;
 PGmc *warmijaną ‘to warm’ (Goth. *warmjan*, ON *verma*, OS *wermian*, OHG *wermen*) > *wærmijąn > *wearmjān > WS *wiermjān > *wierman*, Angl. *wermjan > northern Merc. *werman* (but North. *wærma* shows i-umlaut of *warmjan, see 6.6.1 above);
 PGmc *wargijaną ‘to condemn’, *wargiþō ‘condemnation’ (Goth. *ga-wargjan*, *wargiþa*, OS *gi-waragian* ‘to punish’, OHG *far-wergen* ‘to curse’) > *wærgjān, *wærgiþu > *weargjān, *weargiþu > WS *wiergjan, *wiergiþu > *wiergan* ‘to curse’, >→ *wiergþu* ‘(a) curse’, Angl. *(ā-)wergjan, *wergiþu > North. *wærga*, *ā-wærga* ‘to curse’, Merc. past ptc. *ā-werged* ‘cursed’, >→ Angl. (poetic) *wergþu* ‘(a) curse’, Kent. *wergjan in past ptc. *wereged* ‘cursed’;

²³ Of course the Gothic verb could be a parallel innovation, so that the OE verb would only be of PWGmc date (cf. MHG *zecheren* ‘to weep’), but the phonological prehistory of the OE verb must still have been as described.

- PNWGmc *fardiz ‘journey’ (ON *ferð*, OF *ferd*, OS *fard*, OHG *fart*) > *færði > *feardi > WS *fierdi > *fierd* ‘military campaign; militia’, Angl. *ferdi > *ferd-wīc* ‘encampment’;
- PNWGmc *garwijaŋ ‘to get ready, to prepare’ (ON *gøra* ‘to make’, OS *gerwian*, OHG *garawen*) > *gærwjaŋ > *gearwjaŋ > WS *gierwjaŋ > *gierwan* ‘to prepare, to cook, to clothe’, Angl. *gerwjaŋ > *gerwan* ‘to clothe’;
- PNWGmc *hwarbijaŋ ‘to turn (it), to change’ (ON *hverfa*, OS *gi-hwerbian* ‘to roll back; to convert’, OHG *werben* ‘to turn (back/around)’) > *hwærbjaŋ > *hwearbjaŋ > WS *hwierbjaŋ > *hwierfan*, Angl. *hwerbjaŋ > Merc. *ge-hwerfan* ‘to overturn’, North. *ge-hwerfa* ‘to put back; to convert’, Kent. *hwerbjaŋ in *ge-hwerf [ð]* ‘(s)he ruins’, past ptc. *for-hwerfed* ‘perverse’;
- PNWGmc *bargijaŋ ‘to taste’ (ON *bergja*) > *bærgjaŋ > *beargjaŋ > WS *biergjaŋ > *biergan*, Angl. *bergjaŋ > Merc. *bergan* (but North. *ge-birga* must reflect a form with *i in the root (?));
- PNWGmc *sarkiz ‘shirt’ (ON *serkr*) > *særki > *searki > WS *sierci > *sierc > late WS *syr(i)ć*, >→ Angl. *sercijæ (?by lexical analogy with *brynⁱnⁱæ, see 6.6.1) > early Merc. *sercæ* (*EpGl* 18), Angl. (poetic) *beadu-*, *hioru-*, *hilde-serce* ‘mailshirt’;
- PWGmc *harstijaŋ ‘to roast’ (OHG *hersten*) > *hærstjaŋ > *hearstjaŋ > WS *hierstjaŋ > *hierstan*, Angl. *herstjaŋ > Merc. *herstan*;
- PWGmc *armiþu ‘poverty, misery’ (OHG *armida*) > *æarmiþu > *earmiþu > WS *iermiþu > *iermþ*, Kent. *ermiþu > *ermð*, Angl. *ermiþu in Merc. dat. sg. *ermðe*;
- PWGmc *skarpjaŋ ‘to sharpen’ (OS *gi-skerpian*) > *skærpjaŋ > *skearpjaŋ > WS *scierpjaŋ > *scierpan*, Angl. *sçerpjaŋ > Merc. *sçerpan*, Kent. *sçerpjaŋ in pres. 3sg. *sçerpð*, past ptc. *sçerped*;
- PWGmc *warnijaŋ ‘to refuse, to deny’ (OF *werna*, OS *wernian*) > *wærnjaŋ > *wearnjaŋ > WS *wiernjaŋ > *wiernan*, Kent. *wernjaŋ in iptv. *for-wern* ‘deny’ (deriv. of *wearn* < *warnu ‘refusal’; ON *verna* ‘to defend’ is probably a parallel deriv. of *vorn*, cognate with *wearn* but meaning ‘defense’ (de Vries 1962: 656));
- PWGmc *darni ‘secret’ (OF *dern-fiā* ‘concealed property’, OS *derni* ‘malicious’, OHG *tarni* ‘hidden’) > *dærni > *dearni > WS *dierni > *dierne*, Angl. *dærni > Merc. *dern-liçgan*, North. *derne-liçga*, both ‘to have illicit sex’;
- PWGmc *gazdi ‘rod’ (deriv. of *gazd ‘goad’ < PGmc *gazdaz, see 3.3.1; OF *jerde* ‘yard’, OS *gerdia*, OHG *gertia*) > *gærdi > *geardi > WS *gierdi > *gierd*, Angl. *gerdi > Merc., North. *gerd*;
- PWGmc *ardi- ~ *arþi- ‘plowing’ (OF *rāf-erd* ‘unauthorized plowing’, OHG *art*) >→ *ærþi > *earþi > WS *ierþi > *ierþ > late WS *yrþ*, Kent. *erþi > *erð* in *erðelond* ‘plowland’.

Not surprisingly, some examples that were certainly inherited happen to be attested only in WS:

- PGmc *hardijaŋ ‘to harden’ (Goth. *ga-hardjan*, ON *herða*, OF *herda* ‘to strengthen’, OS *herdian* ‘to strengthen’, OHG *herten* ‘to harden, to strengthen’) > *hærdjaŋ > *heardjaŋ > WS *hierdjaŋ > *hierdan*;
- PGmc *(fra)wardijaŋ ‘to corrupt, to spoil’ (Goth. *frawardjan*, OHG (*far-*, *gi-*, *ar-*) *werten*) > *-wærdjaŋ > *-weardjaŋ > WS *-wierdjaŋ > (*for-*, *ge-*, *ā-*)*wierdan*;

PNWGmc *gamarkiją ‘mark, landmark, boundary’ (ON *merki*) > *gæmærkī > *gæmearcī > WS *gæmiercī > *gemierce*.

A frequently occurring example which does not have good non-English cognates is

pre-OE *čearrjan ‘to turn’ > WS *čierrian > *cierran*, Kent. and Angl. *čerrjan > Kent.,²⁴ Merc. *čerran*, North. *čerra*.

In one example the *h of *rh was subsequently lost with compensatory lengthening:

PNWGmc *marhi ‘mare’ (ON *merr* with innovative nom. sg. ending) → PWGmc *marhijā (OF *merie*, OHG *meriha*) > *mærhjæ > *mearhjæ > WS *mierhjæ > *mierhæ > *miere*.

A second group of more than forty examples reflects PWGmc *alC > *ælC > *ealC in i-umlauting environments. This sequence could occur only in Kentish and WS, since in the Anglian dialects *ælC was retracted to *alC (see 6.2), which was umlauted to ælC (on which see 6.6.1 above). I give examples which are cognate with the Anglian examples of ælC above in the same order:

PGmc *balgiz ‘leather bag’ (Goth. *balgs*, ON *belgr* ‘flayed skin, leather bag’, OS, OHG *balg*) > *bælgī > *bealgī > WS *bielgi > *bielg* (North. *met-bælig* ‘knapsack’);
 PGmc *gamaltijaną ‘to melt (it)’ (ON *melta*; cf. Goth. derived nn. *gamalteins* ‘dissolution’) > *mæltjan > *mealtjan > WS *mieltjan > (*ge-*)*mieltan* (Merc. *gemæltan*);
 PGmc *waltijaną ‘to roll (it)’, 3sg. *waltīpi (Goth. **waltjan*, **walteip*, ON *velta*) > → PWGmc *waltijan, *waltīpi (OHG *welzen*, *welzit*) > *wæltjan, *wæltīpi > *wealtjan, *wealtīpi > WS *wieltjan, *wieltīpi > *wielten, *wielt > late WS *wyltan*, *wylt*, Kent. 3sg. **weltīpi* > *welt* (North. *ā-*, *ge-wæлта*);
 PNWGmc *fallijaną ‘to make fall, to fell’ (ON *fella*, OS *bi-fellian*, OHG *fellen*) > *fælljan (OF *fella*) > *fealljan > WS *fielljan > *fiellan > late WS *fyllan* (Merc. *ge-fællan*);
 PNWGmc *halþijaną ‘to tilt, to incline’ (ON *hella* ‘to pour out’, OHG *helden*) > northern WGmc *hældjan (OS ptc. *afheldit* ‘at an end’) > *healdjan > WS *hieldjan > *hieldan*, Kent. **heldjan*, past ptc. **heldid* > *ā-held* (Merc. *ā-hældan*, North. *ā-hælda* ‘to avert’);
 PNWGmc *albiz ‘elf’ (ON *alfr*, pl. *alfar*, but names *Þór-elfr*, etc.) > PWGmc *albi > *ælbī > *ealbi > WS *ielbi, pl. *ielbī > *ielfe* (Merc. *Ælf-* in names);
 PNWGmc *aldijaną ‘to make old’ (ON *elda*) > PWGmc *aldijan ‘to delay, to postpone’ (OHG *elten*) > *ældjan > *ealdjan > WS *ieldjan > *ieldan*, Kent. **eldjan*, past ptc. **eldid* > *ge-eld* (Merc. *ældan*);

²⁴ Actual Kentish spellings include *ončærrende* ‘changing’ (from an early 9th-century charter) and *čyrð* ‘(s)he turns’ (from a 10th-century gloss), because both *æ and *y merged with *e* in Kentish; see 6.9.7 below for discussion.

PWGmc *aldizō ‘older’, *aldist ‘oldest’ (OS sup. *eldista*, OHG *altiro*, *altisto*) > *ældirā, *ældist (OF *eldra*, *eldest*) > *ealdirā, *ealdist > WS *ieldirā, *ieldist > *ieldra*, *ieldest*, Kent. *eldirā > *eldra* (glossing Lat. gen. pl. *senum*, thus apparently an error for *ealdra or *elderra; Merc. *ældra*, Merc., North. *ældest*);
 PWGmc *aldin- ‘age, old age’ (OS *eldi*, OHG *altī*, *eltī*) > *ældin- (OF *elde*) > *ealdi > WS *ieldi > *ieldo* (Merc. *ældu*, North. *ældo*);
 northern WGmc *kwælmjan ‘to kill’ (OS *quelmian*) > *kwealmjan > WS *kwielmjan > *cwielman*, Kent. *kwelmjan, past ptc. *kwelmid > *cwelmed* (Merc. *cwæلمان*);
 northern WGmc *fælli ‘(a) fall, collapse’ (OF *erth-fel* ‘fall to the ground’) > *fealli > WS *fielli > *fiell* (Merc., North. *fæll*);
 pre-OE *gæwældjan ‘to control, to rule’ > *gæwealdjan > WS *gæwieldjan* > *gewieldan*, Kent. *gæweldjan > *geweldan* (North. *gæwælda*);
 pre-OE *wælli ‘well, spring’ > *wealli > WS *wielli > *wiell* (Merd., North. *wælle* exhibit a different suffix).

There are several further examples which illustrate the different developments of WS and Kentish:

PGmc *haldidi ‘(s)he keeps’ (Goth. *haldip*, OS *haldid*, OHG *heltit*) > **hældipi* ‘(s)he holds, (s)he keeps’ > *healdipi > WS *hieldipi > *hielt*, Kent. *heldipi > *helt*;
 PNWGmc *wallijana ‘to boil’ (ON *vella*) > pre-OE *wælljan, pres. indic. 3sg. *wællipi > *weallipi > WS *wiellipi > *wielþ*, Kent. *wellipi > *welð*;
 PWGmc *bifallidi ‘(s)he falls’ (OHG *bifellit*) > **bifællipi* > *bifeallipi > WS *bifiellipi > *befielþ*, Kent. *bifellipi > *befelð*;
 PWGmc *bifalþan ‘to envelop’ (OHG *befaldan*) > *bifaldan (see 5.1.3) > *bifældan > *bifealdan, 3sg. *bifealdipi > WS *bifieldipi > *befielt*, Kent. *bifeldipi > *befelt*;
 pre-OE *fōtwealmi ‘instep’ > Kent. *fōtwelm*, WS *fōtwielm > *fōtwylm*.

In one example the *h of *lh was subsequently lost with compensatory lengthening:

PNWGmc *walhiskaz ‘foreign, Latin- or Celtic-speaking’ (ON *valskr*, OHG *walahisc*) > *wælhisk > *wealhisk > WS *wielhisc > *wielisc > late WS *wylisc*, Kent. *welhisc > *wēlesc* (describing a variety of ale).

A third group of words exhibiting i-umlaut of *ea is those affected by palatal diphthongization (see 6.5). The examples are WS only, and I can find only ten. Eight are familiar items:

PGmc *katilaz ‘kettle’ (Goth. gen. pl. *katile*, ON *ketill*) > PWGmc *katil (OHG *ke33il*) > *kætil > *cætil > WS *cætil > *cietil > late WS *cytel* (Angl. *çetel*);
 PGmc *gastiz ‘guest’ (Goth. *gasts*, ON *gestr*, OS, OHG *gast*) > *gæsti (OF *jest*) > *gæsti > WS *gæsti > *giest* (North. *gest*, Merc. dat. pl. *gest-hūsum* ‘guesthouses’);
 PGmc *skapjana ‘to make, to create’ (Goth. *ga-skapjan*, ON *skepja*) > PWGmc *skapjʰan (OS *skeppian*, OHG *skepfen*) > *skæpʰjan (OF *skeppa*) > *scæpʰjan > WS *sceaþjʰan > *scieppan* (Merc. *sceppend* ‘creator’);

PNWGmc *-skapiz ‘shape, form’ → ‘-ship’, e.g. in *winiskapiz ‘friendship’ (ON *viniskapr*, OHG *winiscapf*), *frijōndskapiz ‘friendship’ (OF *frundskep*, OS *frundskepi*, OHG *friuntscaf*) > *winiscæpi, *frīundscaepi > WS *winisceapi, *frīundscaepi > *winisciepi, *frīundsctiepi > *winescipe*, *frīondscipe* (with monophthongization in an unstressed syllable);
 PWGmc *kabisi ‘concubine’ (OHG *kebis(a)*) > *kæbisi > *cæbisi > WS *ceabisi > *ciefes* (early Merc. *cebis*, North. pl. *cefissa*);
 PWGmc *skarjan ‘to delimit’ (OS *skerian* ‘to divide, to distribute’, OHG *scerien* ‘to allot’) > *skærjan > *scaerjan > WS *scaerjan > *scierian > late WS *scyrian* ‘to distribute, to allot’ (Merc. *bi-scergan* ‘to deprive of’, Kent. past ptc. *tō-scered* ‘separated’); pre-OE *kæli ‘cold(ness)’ > *cæli > WS *ceali > *cieli > *ciele* (Merc. *cele*); the two late WS forms of *scyððan* ‘to harm’ cited in 6.4.1 also belong here.

The remaining two examples are attested only once each and are not entirely secure:

PGmc *gabigaz ‘rich’ (Goth. *gabeigs*) > *gæbiḡ > *gæbiḡ > *geabiḡ > WS *giefiḡ > *gifiḡ*; pre-OE *gægnijān ‘to drive back’ (deriv. of *gægn- ‘back, again’) > *gægnjan > WS *geagnjan > *giegnjan > *giegnan > late WS *gignan > *gīnan* (cognation with ON *gegna* ‘to fit’, OHG *gaganen* ‘to meet’ is not likely given the wide difference in meaning).

Most of the more than fifty examples of i-umlauted *ēa with good cognates reflect PWGmc *au. The following are representative:

PGmc *daupijanaḡ ‘to dip’ (Goth. *daupjan* ‘to baptize’, ON *deypa*, OF *dēpa* ‘to baptize’, OS *dōpian* ‘to baptize’, OHG *toufen* ‘to baptize’) > *dēapjan > WS *diepjan > *diepan > late WS *dýpan* ‘to dip, to baptize’, Angl. *dēpjan > North. *dēpa*;
 PGmc *gaumijanaḡ ‘to observe’ (Goth. *gaumjan*, ON *geyma* ‘to heed, to take care of’, OS *gōmian* ‘to heed, to keep’, OHG *goumen* ‘to take care of’) > *gēamjan > WS *giemjan > *gieman*, Kent. and Angl. *gēmjan > Kent. *gēman*, North. *gēma*;
 PGmc *hauhijanaḡ ‘to raise’ (Goth. *us-hauhjan*, OF *hēia*, OHG *hōhen*) > *hēahjan > WS *hiehjan > *hien > late WS *hȳn*, Angl. *hēhjan > Merc. (*)hēan in pres. indic. 2sg. *ge-hēst*, *up-hēst*;
 PGmc *hauhiþō ‘height’ (Goth. *hauhiþa*, ON *hæð*, OHG *hōhida*) > *hēahiþu > WS *hiehiþu > *hieþ*;
 PGmc *hauzijanaḡ ‘to hear’ (Goth. *hausjan* with voiceless Verner’s Law alternant by lexical analogy; ON *heyra*, OF *hēra*, OS *hōrian*, OHG *hōren*) > *hēarjan > WS *hierjan > *hieran*, Kent., Angl. *hērjan > Kent., Merc. *hēran*, North. *hēra*;
 PGmc *galaubijanaḡ ‘to believe’ (Goth. *galaubjan*, OS *gilōbian*, OHG *gilouben*) > *gæleabjan > WS *gæliebjan > *geliefan*, Angl. *gæleþjan > Merc. *gelēfan*, North. *gelēfa*;

- PGmc *lausijaną ‘to release, to set free’ (Goth. *lausjan* ‘to save’, ON *leysa*, OF *lēsa*, OS *lōsian*, OHG *lōsen*) > *lēasjan > WS *liesjan > *liesan*, Kent. and Angl. *lēsjan > Kent. *lēsan* (in *ðū ā-lēst* ‘you will liberate’), Merc. *ā-lēsan*, North. *ā-lēsa*;
- PGmc *skauniz ‘beautiful’ (Goth. *skauns*) >→ PWGmc *skaunī (OF *skēne*, OS, OHG *skōni*) > *scēanī > WS *sciēne*;
- PGmc *hlautiz ‘lot’ (Goth. *hlauts*, OS *hlōt*, OHG *lōz* ‘lot, share, fortune’) > *hlēati > WS *hlīeti > *hlīet*, Angl. *hlēti > Merc. *hlēt*;
- PGmc *naupiz, *naudi- ‘force, compulsion, necessity’ (Goth. *nauþs*, ON *nauð(r)*) >→ PWGmc *naudi (OF *nēd* ‘violence, distress’, OS *nōd* ‘distress’, OHG *nōt* ‘compulsion, distress’) > *nēadi > WS *nīedi > *nīed* ‘compulsion, necessity, distress, violence’, Angl. *nēdi > Merc., North. *nēd* ‘compulsion, necessity’;
- PNWGmc *laugiz ‘flame’ (ON *leygr* (poetic)) > *lēagi > WS *lēg*, Merc., North. *lēg*;
- PNWGmc *baugijaną ‘to bend (it)’ (ON *beygja*, OF *beia*, OS *bōgian*, OHG *bougen* ‘to incline’) > *bēagjan > WS *bīegan*, Kent. *bēgan* (in *gē-bēgð* ‘(s)he bends’), North. *bēga*;
- PNWGmc *raukijaną ‘to cause smoke, to smoke (meat, etc.)’ (ON *reykja*; OHG *rouhhen* ‘to burn incense’) > *rēakjan > WS *rīecan* ‘to fumigate, to burn incense’, North. *rēca*;
- PWGmc *auþī ‘easy’ (OS *ōði*, OHG *ōdi*) > *ēaþī > WS *īeþī > *īeþe*, Angl. *ēþī > North. *ēðe* in *ēð-mōd* ‘humble’;
- pre-OE *rauric ‘reed-bed’ (cf. OHG *rōrah(i)*, apparently with a different suffix) > *rēarić > WS *rīerīć > late WS *sē-rȳrić*.

Of course the sequence *auj reflecting PWGmc *[aw^jw^j] (see 6.1) also underwent i-umlaut:

- PGmc *awjō ‘island’ > PNWGmc *awju (ON *ey*) > PWGmc *aw^jw^ju (OHG *ouwa*, with gemination) > *auju > *ēaju > WS *īeju > *īeg*, Angl. *ēju > *ēg* (in names and poetic compounds);
- PGmc *hawjā ‘grass, hay’ (Goth. *hawi*, ON *hey*) > PWGmc *hawi, *haw^jw^j- (OHG *hewi* ~ *houwi*) > *hawi, *hauj- > *hæwi, *hēaj- >→ *hēaj > WS *hīeg*, Merc., North. *hēg*;
- PGmc *strawjaną ‘to spread out’ (Goth. *straujan*) > PWGmc *straw^jw^jan (OHG *gistrouwen* ‘to bestrew’) > *straujan > *strēajan > Angl. *strēgan* ‘to strew’ (*Sea* 97);
- PWGmc *kaw^jw^jan ‘to call’ (OHG *gikewen*) > *kaujan > *cēajan > WS *čīegan*, Kent., Merc. *čēgan*, North. *čēga*.

There is only one example of i-umlauted *ēa that arose in WS by palatal diphthongization:

- PWGmc *kāsi ‘cheese’ (OHG *kāsi*) > pre-WS *kæsi > *cæsi > *cēasi > *cīesi > WS *cīese > late WS *čyse*, but pre-Kent. *kēsi > Kent. *cēse*.

The word meaning ‘hard to get’, occurring only in a book of traditional medicine and cited in vol. i (3.2.4 (ii), p. 103) in normalized early WS form as *torbeġiete*, actually appears in its Mercian form *torbeġēte*; the same is true of its antonym *ēðbeġēte* ‘easy to get’ (*Beo* 2861).

There is also effectively only one case of the i-umlaut of the WS **ēa* that was produced by breaking, namely various forms of ‘near’ (see 6.2.1):

PGmc adv. **nēh*^w*istą* ‘nearest’ > PNWGMc **nāh*^w*istą* (ON *næst*) > PWGMc **nāhwist* (OHG *nāhist*) > WS **næhist* > **nēahist* > **nīehist* > *nīehst*.

Since Anglian and Kentish **ē* apparently was not broken by **h* when a high vowel followed immediately (see 6.2.1), the development in those dialects was **nēhist* > northern Merc. *nēhst* (with loss of **i*, as in WS), other Angl. *nēst* (with loss of intervocalic **h* and contraction of the vowels).

The diphthongs *eo* and *ēo* could not have occurred in direct i-umlauting environments by regular sound change, but they might have been introduced into such environments by levelling. Following up a suggestion of Eduard Sievers, Campbell suggests that there are a few examples of that development, and that **eo*, **ēo* were umlauted to *io*, *īo*, which in WS and Mercian subsequently merged with *eo*, *ēo* again (Campbell 1962: 81–2 with references). Unfortunately most of his examples are not convincing. As I noted above (in 3.3.1), there is no evidence that *reord* ‘speech’, (*ġe*)*reord* ‘food’, *-heord* ‘hair’ ever underwent i-umlaut. No form of the verb *liornian* ‘to learn’ contained an i-umlauting environment at the time the change occurred (see 3.3.1, 6.2.2). The only possible examples are *lēode* ‘people’ (an i-stem plural originally ending in **-i*), *ġepēode* ‘language’ (an ija-stem), and class I weak verbs like *ġepēodan* ‘to associate with, to subject oneself to’ (a byform of *ġepīedan*); *lēode* can be a Mercianism (like *sceþpan* ‘to harm’, see 6.4.1) with *ēo* < **io* as Campbell suggests (see below), but the others can all have acquired *ēo* by levelling or lexical analogy. In indirect ‘double umlaut’ environments there seem to be at least two cases of **eo*; see 6.6.4 for discussion.

On the other hand, most examples of **io* and **īo* occurred in i-umlauting environments. In WS they were umlauted to *ie* and *īe* respectively, but in the other dialects they underwent no change. (In all the dialects surviving *io*, *īo* merged with *eo*, *ēo* at dates long after i-umlaut occurred.) The i-umlaut of **io* is attested in the pres. indic. 2sg., 3sg. of fourteen strong verbs and perhaps an equal number of other words (and families of closely related words) with exact cognates in other Gmc languages or reconstructable derivational morphology. The following examples are typical:

PGmc **sih*^w*idi* ‘(s)he sees’ (Goth. *saīhvīþ*, OF *siucht*, OS *gi-sihit*, OHG *sihit*) >→ **sihwīþi* > **siohīþi* > WS **siehīþi* >→ *siehþ*, Kent. **siohīþi* >→ *for-siohð* ‘(s)he rejects’;

PGmc **wirpidi* ‘(s)he throws’ (Goth. *wairpīþ*, OF *werpþ*, OS *wirpīþ*, OHG *wirfīþ*) >→ **wiorpīþi* > WS **wierpīþi* > *wierpþ*;

- PGmc *wīrþidi ‘it becomes’ (Goth. *wairþiþ*, OF *werth*, OS *wirdid*, OHG *wirdit*) >→ *wiorþiþi > WS *wierþiþi > *wierþ*, Angl. *wiorþiþi >→ early North. *wiurthit*; Kent. *wiorþiþi > *wiorþ > *for-weorð* ‘(s)he will perish’ (with *eo* for *io* because the two diphthongs had merged);
- PGmc *hirdijaz ‘herdsman’ (Goth. *hairdeis*, ON *hirðir*, OS *hirdi*, OHG *hirti*) > *hiordī > WS *hierdī > *hierde*, Angl. *hiordī > North. *hiorde*, Merc. *heorde*; PGmc *irzijaz ‘mistaken, wrong’ (Goth. *airzeis*, OS *irri* ‘angry’, OHG *irri*) > *iorrī ‘angry’ > WS *ierri > *ierre* ‘angry’, Angl. *iorrī > Merc. *eorre*; cf. Kent. *iorsian* ‘to get angry’;
- PGmc *birhtin- ‘brightness’ (Goth. *baírhtei*, ON *birti*, OHG *berahtī*) > *biorhtī > WS *bierhtī >→ *bierhtu*;
- PGmc *girnijanā ‘to be eager for, to desire’ (Goth. *gairnjan*, ON *girna*, OS *girnian*) > *giornjan > WS *giernjan > *giernan*, Angl., Kent. *giornjan > North. *giorna*, Kent. 3sg. *geornð* (with *eo* for *io* because the two diphthongs had merged);
- PGmc *wirsizan- ~ *wirzizan- ‘worse’, *wirsistaz ~ *wirzistaz ‘worst’ (Goth. *wairsa*, —, ON *verri*, *verstr*, OF *wirra*, *wirsta*, OS *wirsa*, *wirsisto* ~ *wirristo*, OHG *wirsiro*, *wirsisto*) >→ *wiorsā, *wiorrist >→ WS *wiersā, *wierrist > *wiersa*, *wierrest*, Angl. *wiorsā, *wiorrist > North. *wyrsa*, Merc., North. *wyrrest*;
- PNWGmc adv. *firriz ‘further’, *firrijana ‘to put at a distance, to remove’ (ON *firr*, *firra* ‘to take away’, OHG *firren*) > *fiorri, *fiorrijan > WS *fierri, *fierrian > *fierr*, *ā-fierran*;
- PNWGmc *smirwijana ‘to smear, to anoint’, *smirwisla ‘ointment’ (ON *smyrva* ~ *smyrja*, *smyrsl*, OHG *smirwen*) > *smiorwjan, *smiorwisl > WS *smierwjan, *smierisl > *smierwan*, *smierels (see 6.7.1) > late WS *smyrwan*, *smyrels*;
- PNWGmc *mirk^wiz or *mirk^wijaz ‘dark’ (ON *myrkr*) >(→) PWGmc *mirkwī (OS *mirkī*) > *miorkī > WS *mierkī > late WS *myrce*;
- PNWGmc *hwirbilaz ‘rotating thing’ (ON *hvirfill* ‘whirlpool, whorl (of hair)’, OHG *wirbil* ‘whirlpool’) > *hwiorbil > WS *hwierfil > late WS *hwyrfel* ‘circuit’;
- PWGmc *fihtidi ‘(s)he fights’ (OHG *fihtit*) >→ *fiohtīþi > WS *fiehtīþi > *fieht*;
- PWGmc *hirtijan ‘to put heart in (someone)’ (OHG *gi-hirzen* ‘to agree’) > *hiortjan > WS *hiertjan > *hiertan*;
- PWGmc *fristī ‘ridgepole’ (OHG *frist*) > *fiorsti > WS *fiersti > *fierst > late WS *fyrst*;
- pre-OE *wiorþi ‘worth, worthy’ (deriv. of *weorþ* ‘worth’ < PGmc *werþaz, cf. Goth. *wairþs*, etc.) > WS *wierþi > *wierþe*, Angl. *wiorþi > North. *wyrðe*.

In a few cases an *h in a fully voiced environment was subsequently lost with compensatory lengthening:

- PNWGmc *swirhijan- ‘neck’ (ON *sviri*) > *swiorhjā > WS *swierhjā > *swierhā > *swiera > late WS *swyra*;
- PWGmc *skilhijan ‘to squint, to look askance at’ (OHG *skilihen*) > *sčiolhjan > WS *sčielhjan > *sčielhan > *sčielan > late WS *be-sčylan*.

In many of these words the Anglian dialects do not exhibit breaking of *i; see 6.2.2 ad fin. for discussion.

The i-umlaut of *iō is attested in the pres. indic. 2sg., 3sg. of more than two dozen strong verbs; there are twenty or so other examples with good external cognates. The following are typical:

- PGmc *biudidi ‘(s)he offers’ (Goth. *ana-biudiþ* ‘(s)he commands’, OS *bi-biudid* ‘(s)he commands’, OHG *biutit*) → *biudiþi > *bīodiþi > WS *bīediþi > *be-bīett*, Kent. *bīodiþi > *be-bīot*, both ‘(s)he commands’;
- PGmc *giutidi ‘(s)he pours’ (Goth. *giutiþ*, OHG *giuzit*) → *giutiþi > *gīotiþi > WS *gīetiþi > *gīett*, Kent. *gīotiþi > *tō-gīot* ‘(s)he pours out’;
- PGmc *fraliusidi ‘(s)he loses’ (Goth. *fraliusiþ*, OHG *firliusit*) → *fraliusiþi > *forliosiþi > WS *forliesiþi > *forliest*;
- PGmc *tiuhidi ‘(s)he pulls’ (Goth. *tiuhiþ*, OS *tiuhid*, OHG *ziuhit*) → *tiuhiþi > *tīohiþi > WS *tīehiþi > *of-tīehþ* ‘(s)he takes away, (s)he withdraws’, Kent. *tīohiþi > *ā-tīohþ*;
- PGmc *þiubijā ‘theft’ (Goth. *þiubi*, ON *þýfi* ‘stolen goods (poetic), theft’; with fem. suffix in OHG *diuba*) > *þiōbi > WS *þiebī > *þiefe-feoh* ‘stolen goods’;
- PGmc *siuniz ‘sight’ (Goth. *siuns*, ON *sýn*, OF *siune*, OS *siun*) > *sīoni > WS *sīeni > *sīen*, Angl. *sīon > North. *on-sīon* ‘appearance’ (but *onsīen* in *Ps(A)* appears to be a WS substrate form (or loan?));²⁵
- PGmc *niwjaz ‘new’ (Goth. *niujis*, ON *nýr*) > PWGmc *niwi, *niw^jw^ja- (OF *nī*, OS, OHG *niuwi*) > *niōwi > WS *nīewī > *nīewe*, Angl. *nīowī > North. *nīwe*, Merc. *nīowe* > *nēowe*;
- PGmc *trewwaz ‘reliable’ (Goth. *triggws*, ON *tryggr*) > PWGmc *triuwī (OF *triūwe*, OHG *gi-triuwi*; cf. OS sup. *triuwist*) > *gæ-triōwī > WS *gætriēwī > *gætriēwe*, Angl. *gætriōwī > Merc. *gætrēowe*;
- PGmc *liuhtjanaþ ‘to shine, to illuminate’ (Goth. *liuhtjan*, OS *liuhtian*, OHG *liuhten*) > *liōhtjan > WS *liēhtjan > *liēhtan*, Angl. *liōhtjan > Merc. *lihtan*, North. *lihta* (by monophthongization, see 6.9.2);
- PNWGmc *linhtijanaþ ‘to lighten, to relieve; to alight’ (ON *létta*, OF *lichta*, OHG *lihten* ‘to make easier’) > *liōhtjan > WS *liēhtjan > *liēhtan > late WS (*ā-*, *ge-*) *lȳhtan*;
- PNWGmc *diurijaz ‘valuable’ (ON *dýrr*, OF *diure*, OS *diuri*, OHG *tiuri*) > *dīori > WS *dīeri > *dīere*, Angl., Kent. *dīori > North. *dīore* ‘beloved’, Kent. *dīore* ‘valuable’;
- PNWGmc *hiurijaz ‘gentle, pleasant’ (ON *hýrr*, OS *un-hiuri* ‘horrible’, OHG *hiuri* ‘sincere’) > *hīori ‘gentle, pleasant’, *un-hīori ‘horrible, deadly’ (both poetic) > WS *hīeri, *unhīeri > *hīere, *unhīere* > late WS *hýre*, *unhýre*, Angl. *hīori, *unhīori > *hīore, *unhīore* > *hēore*, *unhēore* (nearly all attestations in verse);

²⁵ This strikes me as simpler and more plausible than the involved explanation of Flasdieck 1930: 37–9.

PNWGmc *stiurijana ‘to steer, to direct’ (ON *stýra*, OF *stiura*, OHG *stiuren*) > *stiorjan > WS *stierjan > *stieran*, Angl. *stiorjan > Merc. *stēoran*;
 PNWGmc *tiunijana ‘to injure’ (ON *týna* ‘to destroy, to lose’, OS *gi-tiunian*) > *tionjan > WS *tīenjan > *tīenan > late WS *tynan* ‘to irritate, to insult’;
 PWGmc *stiupijana ‘to bereave’ (OHG (*ar-*, *bi-*)*stiufen*) > *stioþjan > WS *stieþjan > *stiepan > late WS *ā-*, *be-stýpan*;
 PWGmc *niudi ‘desire, eagerness’ (OF *niōd* ‘(personal) need, convenience’, OS *niud*) > *niōdi > WS *nīedi > *nīed*; the byform *nēod* (freq. in verse) might be a Mercian form, but it might also reflect early transfer into another stem class, like OHG *niot*;
 PWGmc *kliuwīn ‘little ball’ (OS *kliuwin* ‘lump’; cf. OHG *kliuwa* ‘ball’, dimin. *kliuwīli(n)*) > *klīowīn > WS *klīewīn > *clīewen* ‘ball’;
 PWGmc *striunijan ‘to acquire, to gain’ (OHG *gi-striunen*) > *strīonjan > WS *strīenjan > *strienan*;
 northern WGmc *þiustri ‘dark, gloomy’ (OF *thiūstere*, OS *thiustri*) > *þiōstri > WS *þiēstri > *þiēstre*, Angl. *þiōstri > Merc. *þēostre*; derived noun WS *þiēstru*, Merc. *þēostru*, North. *þiōstru*.

Somewhat surprising is the development of two words:

PGmc *hiwja ‘form, appearance’ (Goth. *hiwi*; ON *hý* ‘fluff, down; complexion’) > PWGmc *hiwi, *hiwⁱwⁱa- > *hiwi, *hiōwⁱ- (?) ‘appearance, beauty, color’ > WS *hiwi, *hiēwⁱ- > *hī (see 6.7.1), *hiēw- > *hiew* > *hīw*, Angl. *hiwi, *hiōw- > *hiow* (? in *hiow-beorht* ‘bright of hue’ *GenB* 266) > Merc. *hēow*, North. *hīw*;
 PNWGmc *gliwja ‘pleasure, joy’ (ON *glý*) > PWGmc *gliwi, *gliwⁱwⁱa- > WS *glī, *gliew- (as in the prec. example) > *glī*, *glīg-*, Angl. *gliwi, *gliow- > early Merc. *glīow* (*EpGl* 398 *gliu*, *CorpGl* 825 *glio*; dat. *EpGl* 550 *gliuuæ*, *CorpGl* 1112 *glīowe*) > *glēow* (freq. in verse); the alternative *glīw* could reflect any of several dialect sources.

To judge from early WS *hīew* it appears that PWGmc *iwⁱwⁱ became *iuwⁱ, which in turn became pre-OE *iōwⁱ with a fronted semivowel that was still capable of palatalizing the preceding diphthong. How such a sequence should be analyzed phonemically is not at all clear.

Lass and Anderson have proposed a rule of ‘diphthong height harmony’, according to which the two parts of an OE diphthong agree in height (Lass and Anderson 1975: 124–9). So far as I can see, the evidence does not support their proposal. The spellings of the diphthongs *ea* and *ēa*, known to be simplified from *æa* and *āa* respectively (cf. e.g. Campbell 1962: 53), and of *eo* and *ēo* do ostensibly reflect beginnings and endpoints of the same height, but it does not follow that all OE diphthongs must be similar in exactly that way. The late WS development of *ie*, *īe* to *y*, *ȳ* is not a cogent argument that the second element of the diphthongs had been [y]; given that *i* in weakly stressed or unstressed words also became *y* in late WS (e.g. in *ys*, *hys*, *byð* for *is*, *his*, *bið*; see Brunner

1965: 20, §22 Anm. 2), a development to [i], [i:] is at least equally likely, and that suggests that *ie*, *īe* had actually been [i²], [i:²] with centering offglides, as suggested in 6.5.1 above.

6.6.4 Double umlaut; the scope of i-umlaut

All the examples cited above are ‘direct’ cases of i-umlaut; that is, the umlaut was triggered by a palatalized geminate or *j immediately following the vowel or by *j or *ī in the following syllable. There are also about twenty cases of indirect or ‘double’ umlaut, in which the first two vowels of the sequences *V...*ũ*...*ī*, *V...*urj*, and *V...*uC^jC^j* underwent i-umlaut. I list them here in groups defined by the identity of the first vowel.

*u...u...i:

PGmc *uhumistaz ‘highest’ (Goth. *aúhumists*) > *yhymist > OE *ymest*;
 pre-OE *ubumist ‘highest’ (constructed by lexical analogy with the preceding?) > *ybymist > OE *yfemest*.

*ū...u...i:

pre-OE *ūtumist ‘furthest out’ > *ýtymist > *ytmet* (and *ytmetest* by analogy with *yfemest*, etc.).

*o...ũ...i:

northern WGmc *obūsti ‘haste’ (?; cf. OS *obastliko* ‘quickly’) > *œbÿsti > North. *æfest* (cf. Merc. *æfestan* ‘to hasten’), WS *efest*; an un-umlauted form *ofost* (reflecting a shift into the *ō*-stems before the date of i-umlaut) also occurs, which at least shows that the second vowel was **ũ*, though the etymology of the word remains obscure.

*ą...u...i:

PGmc *anud- ‘duck’ (ON *ǫnd*; cf. Lat. *anas*, *anat-*) → PWGmc *anudiz (OHG *anut*) > *ąnudi > *ąnydi > *ænid* (*EpGl* 17) > *ened*.

*a...ũ...ī, *a...uC^jC^j (and *æ...u...ī?; see below):

PGmc *ak^wisi, *akuzjō- ‘ax’ (cf. Goth. *aqizi*; vol. i 4.3.4 (i), pp. 269–70) >→ PNWGmc *ak^wisi (ON *ǫx* ~ *ǫx*) > PWGmc *ak(k)wisi (OHG *accus*) > *akusi > *ækysi > WS OE *æces >→ *æx*; but southwest Merc. *æces* in dat. pl. *ęcesum* (*Ps(A)*) cannot have been affected both by i-umlaut and the second fronting (see 6.5.2) and must reflect remodelling or a WS substrate; North. *acas* apparently reflects a shift into the *ō*-stems before the date of i-umlaut;
 PNWGmc *aþulingaz ‘prince’ (ON *ǫðlingr*; OHG *adalung* ~ *ediling* with different assimilations of the unstressed vowels) > *aþuling > *æþyling > OE *æpeling*;

- PWGmc *gaduling ‘kinsman’ (OS *gaduling*, OHG *gataling*; Goth. *gadiliggs* ‘cousin’ is clearly the same word but does not quite match) > *gædyling > OE *gædeling* ‘kinsman, comrade’ (poetic);
- PWGmc *abunsti ‘envy’ (OS, OHG *abunst*) > *abūsti > *æbȳsti > OE *æfest*, southwest Merc. *æbūsti (by the second fronting) > *ebȳsti > *efest* in *efestig* ‘envious’ (or else i-umlaut occurred first and the second fronting subsequently, see 6.5.2);
- northern WGmc *fastunⁱn^j- ‘(a) fast’ (OS *fastunnia*) > *fæstynⁱn^j > OE *fæsten*, southwest Merc. *fæstunⁱn^j (by the second fronting) > *festynⁱn^j > *festen* (or the two sound changes could have occurred in the reverse order, see 6.5.2); the nature of the relationship to Goth. *fastubni* is not clear;
- northern WGmc *tō / *at gadurī ‘together’ (OF *tōgadere*) > *tō / *æt gædyrī > OE *tōgædere*, *ætgædere* (deriv. of *gadur ‘together’ > OF *gadur*, OE *gador-wist* ‘companionship’);
- pre-OE *latumist ‘slowest, tardiest’ > *lætymist > OE *lættemest* (irreg. superlative of *læt* < PGmc *lataz, cf. Goth. *lats*, etc.);
- Lat. *Sāturnī diēs* ‘day of Saturn, Saturday’ → *Saturnidæg > *Sætyrnidæg > *Sæterndæg*.

Two potential examples of this group raise difficulties. Since the *æ*’s of *hærfest* ‘harvest’ and *hælfter* ‘halter’ clearly have not undergone breaking, it has been suggested that in each word there was originally a vowel between the two consonants that follow, and preforms *harubist and *haluftriju have been reconstructed (cf. Campbell 1962: 82). Unfortunately OF *herfst*, OHG *herbist* show no trace of a medial *u; neither does OHG *halftra*. Bammesberger 1997 argues persuasively that *hærfest* (occasionally also *herfest*) is an Anglian form that has been borrowed into WS, which would account for the lack of breaking of the stressed vowel (real if the word was Northumbrian, apparent if Mercian), and a similar scenario can account at least as well for *hælfter*. Thus neither of these words is probably an example of double umlaut.

A possibly similar case is *ēce* ‘perpetual, eternal’. If we suppose that PWGmc stressed *a was fronted (see 5.1.2) before *j even if the latter was followed by *u, we can propose the following development:

- PWGmc *ajukī ‘perpetual, eternal’ (cf. Goth. *ajuk-dūps* ‘eternity’) > *æjučī > *ejyčī > *ejičī > *eičī? (so Seebold 1968: 431–2); or *ejyčī > *eyčī?; either immediate preform would almost certainly yield *ēce*.

If this suggestion is correct, *ēce* would be our only example of the double umlaut of *æ. But there is another, simpler possible scenario:

- PWGmc *ajukī > *aukī (Cowgill 1973: 296 n. 51) > *ēaci > Anglian *ēci* > *ēce*, which was then subsequently borrowed into WS (Bammesberger 1999: 27). Since the word’s shape is unique, all scenarios involve at least one hypothesis that cannot be corroborated by parallels, and certainty is consequently unattainable.

*ā...urj, *ā...u...ī:

PNWGmc *aimurjōn- ‘embers, live coals’ (ON *eimyrja*, OHG *eimuria*) > *āmurjǣ
 > *ǣmyrjǣ > *ǣmyrie* > *ǣmerǵe*;
 PWGmc *ārundi ‘message’ (OF *ērende*, OS *ārundi*, OHG *ārunti*) > pre-WS *ǣrundi
 > *ārundi > *ǣryndi > *ǣrende*, but pre-Angl. *ērundi > *ēryndi > *ērende* in
 Merc., North. *ērend-wreca* ‘messenger’.

(In the non-WS dialects double umlaut was not possible in the second example, since the first syllable did not contain a vowel affected by i-umlaut.)

*eo...u...i, *eo...uC^jC^j:

PWGmc (?) *tehuni- ‘ten’ (with i-stem inflection, cf. Stiles 1985–6, *NOWELE* 7:
 13–18; cf. OS *-tein* ‘-teen’) > *teohuni- > WS *tiehyni- > *tīen*, Kent., Angl. *tehyni
 > Kent., Merc. *tēn*, North. *tēno* (with innovative pl. ending);
 PGmc *fergunjǫ ‘mountain’ (Goth. *fairguni*) > *feorgun^jn^j- > WS *fiergyn^jn^j- >
 *fiergen- > late WS *firgen-* in compounds (poetic), Angl. *fergyn^jn^j- > early
 North. *fergen-berig* ‘mountain’ (on the Franks casket).

Note that *tēn* cannot reflect later monophthongization either in Kentish (where no such change occurred) or in the Anglian dialects (in which intervocalic *h was lost before monophthongization could occur). It thus appears that *eo* was umlauted to *ie* in WS but to *e* in the other dialects, exactly like *ea* (see the preceding section).

There is one form that might exhibit double umlaut of *e. The usual WS form of ‘milk’ is *meolc* < *meoluc* < *meluk (cf. Goth. *miluks*, ON *mjolk*, etc.). However, in Anglian dialects we find Merc., North. *milc* ‘milk’ and various derivatives. It would seem reasonable to suggest that the form with *i* was generalized from the gen., dat. sg., and that the latter was *milc < *milyci < *meluci with double umlaut. Of course it is conceivable that the medial vowel was syncopated even before i-umlaut occurred (see the following section); but in that case the prehistory will have been *milc < *milci < *melci < *meluci, still with i-umlaut of *e to *i*. Otherwise the *i* in the root syllable is difficult to explain; in particular, the suggestion of Campbell 1962: 138 n. 3 that the PGmc i-umlaut of *e (vol. i 3.2.5 (iv), pp. 126–8) operated through an intervening *u is contradicted by the Anglian development of ‘ten’ and ‘mountain’ outlined above. But certainty seems unattainable in the case of such an isolated form.

This is also the appropriate context in which to discuss an odd phenomenon that at first appears to be a kind of double umlaut. A number of examples show clearly that unstressed *æ was umlauted to *e, not to *i, and did not trigger umlaut in a syllable further ‘to the left’ (i.e., closer to the beginning of the word):

- PWGMc *magadin ‘little girl’ (OF *meiden*, OHG *magatīn*) > *mægædīn > *mægædīn > *mægēdīn > *mægdīn > OE *mægdēn*;
 PNWGMc *laiwazika/ōn- ‘lark’ (ON *lævirki*; see Kluge and Seebold 1995 s.v. *Lerche*) > PWGMc *laiwazikā (OHG *lērihha*, Mod. North Frisian *lāsk*) > *lāwærikæ > *lāwericæ > OE *lāwricæ* (early Merc. *lāuricæ*, *CorpGl* 142, 2026) > *lāwricē* ~ *lāwerce* (early Merc. *lāwerce*, *EpGl* 1012);
 PWGMc *hagatusi, *hagatus^js^jā- ‘witch’ (OHG *hagazussa*) > *hægætusi, *hægætus^js^jā (see 6.4.1) > *hægetysi, *hægetys^js^jā (see 6.6.4) > *hægtys(s), *hægtys^s (see 6.7.3) > early Merc. OE *hægtis* (*EpGl* 913, *CorpGl* 1913), late WS *hægtesse* (the majority form) ~ *hætse* (remodelled as an n-stem).

Weak class I derived verbs in *-ettan* < *-æt^tī^han < PWGMc *-at^tī^han, e.g. *hālettan* ‘to greet’, *lāpettan* ‘to curse’, *floettan* ‘to flutter’, *droppettan* ‘to drip’ also exhibit no umlaut in the syllable preceding an umlauted *æ. Nevertheless there are a few words which appear to exhibit double umlaut with an intermediate *æ. Two are fairly straightforward:

- PGmc *managīn- ‘multitude’ (Goth. *managei*, ON *menigi*) > PWGMc *managī (OF *menie*, OS *menigi*, OHG *managī* ~ *menigī*) > *maⁿigī > OE *menigū*;
 PGmc *hanapiz ‘hemp’ (ON *hampr*; cf. Gk κά^νναβίς /*kánnabis*/) > PWGMc *hanapi (OHG *hanaf* ~ *hanif*) > *haⁿipi > OE *hænep* > *henep*.

It appears that unstressed *a preceded by a nasal and followed in the next syllable by a high front vowel was variably raised to *i in various parts of the WGmc speech area. It seems unlikely that this was a historically shared change, both because of the variation in OHG outcomes (see the examples above) and because there appears to be a somewhat different example that can only have arisen within the separate history of OE:

- PWGMc *fu/ollalaistjan ‘to help’ (OS *follēstian*, OHG *folleisten*) > *fullæ^lästjan > *fullæstjan (apparently by haplology) > *fullistjan > *fyllistjan > early WS *fylstan*.

(For further discussion of this example see 6.7.4 below.) A few other possible examples are given in Brunner 1965: 70, Anm. 3.

A few comments on the nature and scope of i-umlaut seem apposite. As many of the cognates cited above demonstrate, a similar sound change occurred in all the Gmc languages except Gothic; but it has long been known that it occurred in the individual prehistories of the languages, because in each language numerous changes peculiar to that language preceded it, and the details differ substantially from language to language. It is possible that it spread through a diversified NWGMc dialect continuum in which ON, at least, was very divergent from the other dialects, but parallel development is no less plausible (cf. the discussion of Nielsen 1985: 89–93 with references). It remains to be seen whether the relative chronology of changes in the NWGMc

languages can be synchronized so as to demonstrate that i-umlaut did or did not spread throughout the speech area as a single historical phenomenon.

As Campbell 1962: 83 observes, only unstressed high front vowels trigger umlaut. That might seem counterintuitive, since unstressed vowels are less salient. But the observation makes sense when recast in more modern terminology: i-umlaut occurred only within the stress-group, or ‘metrical foot’ (cf. Kiparsky 2009 on the loss of *i in OHG in the same environment). In other words, the feature [+front] spread one syllable to the left within the foot, but not beyond it.²⁶ This explains why the second members of compounds with a high front vowel in the root do not normally trigger i-umlaut. As might be expected, there is some variability in the case of suffixes containing a high front vowel, probably because of varying stress patterns; that seems a more plausible explanation than the very early date of i-umlaut favored by Coates 1984. More study of this problem would be welcome.

The outputs of i-umlaut must at first have been allophones of their input phonemes. The i-umlaut allophones of diphthongs might have become surface-contrastive very early by merger (since in WS the i-umlaut allophones of *ea, *ēa and of *io, *īo merged as *ie*, *īe*, while in the other dialects the i-umlaut allophones of *ea, *ēa merged with *e*, *ē*); in WS the i-umlaut of *ā merged with a preexisting, and contrastive, *ǣ*, and in all dialects the i-umlaut of *a merged with the very common *æ*. But it seems clear that most i-umlaut allophones became surface-contrastive upon the loss of some of their environments by syncope, on which see the following section.

One noteworthy detail of i-umlaut is that while both *j and the palatalized geminates inherited from PWGmc triggered it, the palatalized fricative *ǰ* did not. Since *ǰ* occurred intervocally and in the syllable coda only after front vowels, the only vowel it could have umlauted was short *æ*; but there are dozens of examples of stressed *ǣǰ* and no observable tendency for them to become *eǰ*. The best discussion of this problem that I know of is Hogg 1979, with numerous references; he suggests five solutions, as follows (1979: 106–11):

- 1) the merger of *j and *ǰ occurred after i-umlaut, which only the former triggered; this Hogg regards as phonetically improbable;
- 2) word-medial palatalization of velars occurred later than word-initial palatalization, specifically later than i-umlaut; but that fails to account for the velar *g* of *syngian* ‘to sin’ < *syn^jn^jǣgǣjan < *sun^jn^jǣgōjan, etc.;

²⁶ The list of reasons for the apparent failure of i-umlaut given in Campbell 1962: 83–5 is reliable and should be consulted first in puzzling cases.

- 3) the trigger for i-umlaut had to belong to the syllable following the target; but that cannot account for $\bar{a}\acute{g}$ 'egg' < * $\bar{a}j$ < PWGmc * a_{ij} (< PGmc * $ajja$);
- 4) the trigger for i-umlaut had to be separated from the target by a morpheme boundary; but that cannot account for $yfel$ < * $ubil$, etc.;
- 5) the low-level phonetic rule of i-umlaut operated very early, but it was phonemicized only after palatalization had run its course; but that is very improbable, given the merger of new and old \bar{a} (see above), and in any case it is difficult to account for the failure of $\bar{a}\acute{g}$ to become $e\acute{g}$ by this maneuver.

Charles Barrack, in an unpublished paper of 1981, suggested that we might improve on Hogg's second solution by splitting i-umlaut as well: the sequence of changes would be (1) word-initial palatalization; (2) i-umlaut in word-initial syllables; (3) word-medial palatalization; (4) i-umlaut in non-initial syllables, so that the * g of $d\bar{a}e\acute{g}$ e would have become \acute{g} too late to umlaut the preceding vowel, but the third vowel of * $sun^n^i\bar{a}e\acute{g}\bar{o}jan$ would have become front too late to palatalize the preceding * g . But that causes problems for the 'double umlaut' cases, in which a second-syllable high front vowel *which arose by i-umlaut* has to trigger i-umlaut in the first syllable.

So far as I can see, Hogg's first solution is the only one against which no clinching argument can be constructed; what we need to do is figure out how it could have been phonetically plausible. As both Hogg and Barrack imply, the difference between low-level phonetic rules and categorical phonological rules is probably the key to this puzzle. All the sound changes we have discussed began as superficial phonetic implementation rules, whose outputs are typically gradient rather than categorical. We would normally expect a fricative \acute{g} between two low front vowels, or between a low front vowel and a consonant or word-end, to have been less heavily palatalized than \acute{g} following nonlow front vowels or preceding high front vowels. At the time when the *low-level phonetic change* of i-umlaut occurred, those \acute{g} might not have been fronted enough to trigger it; more exactly, they might not have been front enough to trigger much raising of * \bar{a} , which is the specific change at issue. When i-umlaut was reinterpreted as a categorical rule, the \bar{a} of $\bar{a}\acute{g}$ apparently was still too low for native learners to reinterpret it as e , and the result is the attested pattern that we see.

On the other hand, it is clear that the merger of \acute{g} with inherited * j , which did eventually occur, could not have occurred before i-umlaut operated, and the merger might have occurred later in non-initial position than word-initially. Thus Barrack's observation might be valid as applied to that merger.

6.7 Syncope and related changes

6.7.1 Early changes of front vowels and loss of *w before *i

We have already encountered a regular syncope of *i in the sequence *-Cij-, which apparently occurred throughout WGmc and definitely preceded OE breaking (5.1.3). A much later syncope of short vowels in internal open syllables had effects on OE grammar as pervasive as those of i-umlaut, but before considering that specifically OE syncope we need to deal with three changes of front vowels that must have preceded it.

In 6.3.3 we encountered WS *lācnian* ‘to heal’, which exhibits retraction of **ǣ* < PWGmc **ā* even though the PWGmc form was **lākinōn*, with a high front vowel in the second syllable. Hogg’s suggestion of an intermediate preform **lākunōjan*, in which unstressed *i had become *u before a back vowel in the following syllable, can account for the WS form. There are at least two other forms in which a similar change might have occurred. One is OE *hēafod* ‘head’, which clearly reflects a preform **haubud* even though the PWGmc form was probably **haubid* (cf. OS *hōbid*, OHG *houbit*) and the PGmc form was certainly **haubida* (cf. Goth. *haubiþ*); in this case the suffix syllable *-id- preceded a back vowel in all and only the plural forms, from which the resulting *-ud- could have been levelled into the singular. The other is the OE z-stem gen. sg. and nom.-acc. pl. -ur, e.g. in Anglian OE *calfur* (see 7.2.3 below); this ending too can have arisen in the plural (nom.-acc. pl. *-iru > *-uru, etc.) and been levelled into the singular. Of course there are some examples of *i which did not undergo this change even though they appear to have been in the triggering environment, e.g. in the verb-forming suffix *-isō- (cf. *bletsian* ‘to bless’ < **blōdisōjan*), the noun-forming suffix *-iþu (cf. *strengþ* < **strangīþu*), and a handful of isolated words like *eln* ‘forearm’ < **ælinu*. However, in these exceptions either *i was separated from the following back vowel by a voiceless consonant, or else the vowel of the syllable preceding the *i was not a back vowel; in the examples in which *i might have become *u it was both preceded by a syllable with a back vowel and followed by a voiced consonant and a further back vowel, and it seems possible that that is the correct structural description of the change. There are admittedly some difficulties, e.g. the occurrence of *hālsian* beside *hǣlsian* ‘to invoke, to curse’; a full review of the evidence will be necessary to confirm or disprove this hypothesis, but in the current state of our knowledge it seems promising.

There might also have been some unusually early instances of syncope. That could account for the lack of i-umlaut in *hālsian*, *Cantware* ‘inhabitants of Kent’, and a handful of other forms (Campbell 1962: 83); on the possibility of early syncope in Anglian *milc* ‘milk’ see 6.6.4, and on *lāwerce* ‘lark’ see 6.7.3

below. We do not have enough material to determine whether any of the possible early instances of syncope was regular.

Furthermore, the class III weak present tense suffix *-ēja-, which arose by remodelling in the northern WGmc dialects (see 5.2), was shortened to *-ejV- or the like early enough to undergo syncope (see 7.1.5). If it passed through a stage *-ijV-, its chronology relative to i-umlaut cannot be recovered, since it would have triggered i-umlaut both before and after syncope; if the shortened *-e- was not raised to *-i- before being syncopeated, then its syncope must have preceded i-umlaut, which the suffix did trigger. The most compelling examples are perhaps the following:

- early Merc. *onhlingu* ‘I lean’ *CorpGl* 1137 < *hlineju < northern WGmc *hlinēju (cf. OHG inf. *linēn*);
- early Merc. *soer[ǰ]endi* ‘anxious, worried’ *EpGl* 79 < *sorgjændi < *sorgejandī < northern WGmc *sorgējandī (cf. OHG inf. *sorgēn*);
- North. (*Ru*²) *ðælgē* ‘to suffer’, iptv. pl. *ðæligas*, pres. indic. 3sg. *ðælgas*, (*Rit*) pres. subj. pl. *ǰiðæliǰa* < *þoljV- < *þolejV- < northern WGmc *þolēja- (cf. OHG inf. *dolēn*);
- North. (*Ru*²) *læs(i)ǰa* ‘to be lost’, pres. indic. 3sg. and pl. *læs(i)ǰað*, subj. sg. *læs(i)ǰe*, (*Rit*) inf. *læsia* < *losjV- < *losejV- < pre-OE *losēja-.

After the syncope of *i in *-CijV- (see 5.1.3) but before the regular syncope of short vowels (see below), non-word-initial *w was regularly lost before fully unstressed *ī. Contrast the prehistory of the infinitive WS *ǰierwan*, Merc. *ǰerwan* with the prehistory of the same verb’s pres. indic. 3sg. and past stem:

- PWGmc *garwijan ‘to prepare’ > *garwjan (OS *gerwian*, OHG *garewen*) > *ǰærwjan > OE *ǰearwjan > WS *ǰierwan*, Merc. *ǰerwan*;
- PWGmc *garwiþi ‘(s)he prepares’ (OHG *garewit* with analogical voiced Verner’s Law alternant of the ending) > *ǰærwiþi > OE *ǰearwiþi > WS *ǰierwiþi > *ǰierīþi > *ǰiereþ*, Merc. *ǰerwiþi > *ǰerīþi > *ǰe-ǰereð*;
- PWGmc *garwidē ‘(s)he prepared’ (OS *gerwida*, OHG *garota*) > *ǰærwidā > OE *ǰearwidā > WS *ǰierwidā > *ǰieridā > *ǰierede*, Merc. *ǰerwidā > *ǰeridā > *ǰe-ǰerede*.

A fairly small group of class I weak verbs with root syllables in *Cw, listed and discussed in Campbell 1962: 327–8, exemplify this sound change (often only by relic forms, since *w* tends to be restored by levelling). So do at least three nominals ending in the sequence *wi that have not restored *w by levelling (Campbell 1962: 166–7):

PGmc *saiwiz ‘sea’ (Goth. *saiws*, ON *sær* ~ *sjór*, OF *sē*, OS, OHG *sēo*) > *sāwi > *sāi > OE *sā*;

PNWGmc *gliwǵ ‘pleasure, joy’ (ON *glý*) > PWGmc *gliwi, *gliw^ǵǵa- > WS *gli, *gliw- > *glī*, *glīg-*; cf. also cpd. *glī-mann* ‘minstrel’;

PWGmc *aiwi ‘law’ (OF, OHG *ēwa*, *ē*, OS *ēo*) > *āwi > *āi > OE *ā*.

OE *hrā* ‘corpse’ apparently also belongs here, though all its cognates are neuter a-stems (ON *hræ*, OS, OHG *hrēo*; cf. OF *hrē-rāf* ‘robbing the dead’—and Goth. *hraiwa-dūbo* ‘turtledove’?) and there is an alternative form *hrāw* that can only reflect an old a-stem (as well as lexically ‘contaminated’ forms *hrāw* and *hrā*); possibly this word was originally a z-stem, PGmc *hraiwaz, *hraiwiz- (see vol. i 4.3.4 (i), p. 278). The same change *wi > *i is reflected in a combining form of ‘new’ (Campbell 1962: 100):

PGmc *niwǵaz ‘new’ (Goth. *niuǵis*, ON *nýr*) > PWGmc *niwi, *niw^ǵǵa- (OF *nī*, OS, OHG *niuwi*) > *niwi- > OE *nī-* in *nī-cenned* ‘newborn’, *nī-cumen* ‘newly come’.

So also in a derivative of PGmc *awiz ‘ewe’ (see 6.6 above):

PWGmc *awidī ‘flock (of sheep)’ (OHG *ouwiti*, *ewit*, the latter without the suffix *-ija-) > *æwidī > *eīdī (by i-umlaut and loss of *w) > North., northern Merc. *ēde* (but WS *eowede* has been remodelled on *eowu*; the nature of the relationship to Goth. *awēpi* is unclear).

Since most or all of the endings of i-stem nouns began with a high front vowel (see 4.2.2), the preservation of *w* in *eowu* ‘ewe’ must be due to its transfer into the *ō*-stems before the sound change under discussion took place. That fact will be important in determining the relative chronology of *w-loss (see below).

There are also a handful of verb forms in which *w in the sequence *Vwi has not been restored (Campbell 1962: 100, 167):

PGmc past indic. 3sg. *strawidē ‘(s)he spread (it) out’, past ptc. *strawidaz (Goth. 3pl. *strawidedun*, ptc. neut. *ga-strawiþ*, ON *stráði*, *stráðr*, OS past pl. *streidun*, OHG *strewita*, *gistrewit*) > *stræwidæ, *stræwid > *streidæ, *streid > early Merc. *streide*, North. pl. *strēdun*, poet. ptc. *strēd* scanned as two syllables at *Beo* 2436;²⁷ PGmc *lēwidē ‘(s)he betrayed’ (Goth. *ga-lewida*) > Angl. *lēwidæ > *lēidæ > North. *bi-lēde*, *be-lēde* (the latter with the hiatus restored by levelling);

²⁷ The shape of early WS *strewede* (Cosijn 1886: 153) is puzzling. A WS class II weak verb *streowian* is well attested and must reflect remodelling of the inherited class I verb. It seems possible that *strewede* is actually a class II form, though in early WS class II past *-ed-* (in place of usual *-od-*, *-ad-*) occurs with any frequency only before pl. *-on* (Cosijn 1886: 186–7).

PNWGmc *knānaŋ ‘to recognize, to know’ (ON *kná*) >→ OE *cnāwan*, pres. indic. 3sg. *knāwiþi > *knāiþi > early WS *ġecnāþ*;
 so also northern Merc. pres. indic. 3sg. *cræd* (for *cræð*) ‘(it) crows’ (*Ru¹*);
 PWGmc pres. indic. 3sg. *gakawiþi ‘(s)he calls’, past *gakawidē ‘(s)he called’, past ptc *gakawid (OHG *gikewit*, *gikewita*, *gikewit*) > *gækæwiþi, *gækæwidæ, *gækæwid > *ġæceiþi, *ġæceidæ, *ġæceid > Merc. (*Ps(A)*) *ġecēð*, *ġecēde*, *ġecēd*.

Here also belongs early WS *ætiede* ‘showed’ for usual *ætiewde*, though the phonological prehistory of the verb is difficult to reconstruct. Furthermore, southwest Merc. *strēn* ‘couch’ must reflect *streīnu < *stræwinu, derived from ‘spread out’ (see above). Finally, there is an early loanword in which *w was lost before *i:

Lat. *pulvinus* ‘pillow, cushion’ → pre-OE *pulwīn > *pylwī > *pyli > OE *pyle*.

OF *nī* and OS *streidun* (see above) show that a similar change also took place in other northern WGmc languages (cf. van Helten 1890: 75, Gallée 1993: 149). But it is clear that the changes were independent parallel developments (cf. Campbell 1962: 166 n. 4). In OF the loss of intervocalic *w might be later than the loss of intervocalic *h (van Helten 1890: 76), while in OE the loss of *w before *i must have preceded general syncope, which in turn preceded the loss of intervocalic *h by at least a couple of generations. Moreover, PWGmc *triwīn ‘wooden’ and PWGmc *þiwi or pre-OE *þiwin’n’u ‘female slave’ must have survived in approximately those shapes long enough to be remodelled to *triowīn and *þiowinn on the basis of *treow- ‘tree, wood’ and *þeow- ‘slave’ after the latter had undergone diphthongization by *w (see 6.2.4), which was a specifically OE sound change. Finally, and clinchingly, the OE loss of *w before *i must have followed the transfer of *eowu* ‘ewe’ into the *ō*-stems (see above)—and that transfer must have followed i-umlaut, since the *æ of ‘ewe’ was clearly raised to *e* (see 6.6.2). It follows that the loss of *w before *i must have followed i-umlaut too.

On the other hand, we know that the loss of *w before *i preceded general syncope because the latter change occurred only after heavy syllables; loss of *w in *ġierwidæ, *ġerwidæ created new light syllables (*ġie|ridæ, *ġe|ridæ) after which syncope did not occur, yielding WS *ġierede*, Merc. *ġerede*. In other words, loss of *w bled syncope.

An isolated form in which *w did not drop before unstressed *i is

PNWGmc *klawiþō ‘itch’ (ON *kláði*) > PWGmc *klawiþō (OHG *klouwida* with shift of gender) > *klæwiþā > OE *klewiþā > *cleweþa*.

This exception is probably attributable to lexical analogy with *clāwan* ‘to scratch’, or—perhaps more likely—to competition between parallel forms

with different vowels in the suffix. Other examples of the latter phenomenon will be adduced in 6.7.3 below.

6.7.2 Voicing of anterior fricatives

Another change of consonants which preceded general syncope was the voicing of fricatives. The voiceless anterior fricatives /f, þ, s/ in fully voiced environments became voiced [v, ð, z] if the preceding syllabic nucleus was stressed. This change is not normally reflected in OE spelling, since it gave rise to a robust phonological rule which was learned without error by many generations of children and must have been obvious to adult native speakers. Two types of evidence show that it had occurred in prehistoric OE, and one of those types of evidence shows that it occurred before general syncope, as follows.

Since OE scribes were (almost) always monks who had also been trained to write Latin, and since [v] was spelled *u* in medieval Latin, we occasionally encounter *u* for [v] in OE. An early example is *siuida* ‘siftings, bran’ in *EpGl* and *ErfGl* 428, corrected to *sifiðan* in *CorpGl* 940. An example which might reflect the habits of a late WS scribe (Klaeber 1950: lxxxv) is *reced hlīuade* ‘the hall towered’, *Beo* 1799 (cf. *mæst hlifade* ‘the mast towered’, *Beo* 1898). Of course there is no comparable evidence for [ð, z].

Much more useful to the linguist is the following constellation of facts (Luick 1914–40: 847–8). In the past stems of class I weak verbs with heavy root syllables, general syncope of *-i- brought the root-final consonant or cluster into contact with the *-d- of the past suffix. If the root-final consonant or cluster was voiceless, the suffixal *-d- was assimilated to it, becoming *-t-*; thus the past indic. 3sg. of *cēpan* ‘to keep’ is *cēpte* (< *kœpidæ), that of *cyssan* ‘to kiss’ is *cyste* (< *kyssidæ), etc. However, roots which end in single /f, þ, s/ preceded by a vocalic or a sonorant do not trigger devoicing of the *-d-. The following examples are typical:

PGmc *kunþijaną ‘to make known’, past indic. 3sg. *kunþidē (ON *kynna*, *kynda*, OF *kētha*, *kette*, OS *kūthian*, *kudda*, OHG *kunden*, *kunta*; cf. Goth. *ga-swi-kunþjan* ‘to reveal’, past subj. 3pl. *ga-swi-kunþidedeina*) > *kūþjan, *kūþidæ > *kȳþjan, *kȳþidæ > OE *cýþan*, *cýþde* ~ *cydde*;

PGmc *nanþijaną ‘to be bold’, past indic. 3sg. *nanþidē (Goth. *ana-nanþjan* ‘to take courage’; but past 3sg. *ga-nanþida* ‘he ceased’ is probably an error), ON *nenna*, *nenda* ‘to have a mind to, to intend to’, OF *binētha* ‘to venture’, past pl. *nethten*, OS *nāðian* ‘to strive’, past pl. *nāðidun*, OHG *nenden*, *nanta* ‘to apply oneself, to have courage’) > *nāþjan, *nāþidæ > *nœþjan, *nœþidæ > OE *ġe-nēþan*, *ġe-nēþde* ~ *ġe-nedde* ‘to venture, to risk’;

PGmc *lausijaną ‘to release, to set free’, past indic. 3sg. *lausidē (Goth. *lausjan*, *ga-lausida*, ON *leysa*, *leysti*, OF *lēsa* ‘to ransom’, OS *lōsian*, *lōsda*, OHG *lōsen*, *lōsta*) > *lēasjan, *lēasidē > WS *ā-liesjan, *ā-liesidē > *āliesan*, *āliesde*, Angl.

*ā-lēsjan, *ā-lēsidē > Merc. *ālēsan*, *ālēsde*, North. *ālēsa*, *ālēsde*;

PNWGmc *laiþijaną ‘to make hated’, past indic. 3sg. *laiþidē (ON *leiða*, *leiddi*, OS *a-lēðian*, past ptc. *a-lēðid*) > *lāþjan, *lāþidē > *læþjan, *læþidē > OE *læþan* ‘to hate’, past. pl. *læþdon*;

pre-OE *ræsjan ‘to rush, to attack’, *ræsidē (deriv. of *ræs* ‘rush, attack’) > *ræsjan, *ræsidē > *ræsan*, *ræsde*.

Examples with inherited *f are hard to find; OE class I weak verbs with heavy root syllables ending in /f/ are common enough, but in nearly all the /f/ reflects inherited *b (see further below). A reasonably good example is:

PNWGmc *raufijaną ‘to pluck, to rob’ (ON *reyfa*, OHG *roufen* ‘to pluck’) > *ræafjan > *rīefjan > *rīefan > late WS *be-rȳfan* ‘to deprive’ (*Vain* 63).

Unfortunately the past is not attested and the reconstruction of root-final *f is not quite certain, in spite of the unambiguous OHG cognate; it does not seem impossible that this verb was originally *raubijaną, and that pre-OHG introduced root-final *f by lexical analogy with its derivational basis, the strong verb *reufaną ‘to tear’ (see Seebold 1970: 378–9). Other examples seem to have been created within the separate prehistory of OE, but at least one was derived from a noun with a reasonably secure etymology and must have been in existence before the operation of i-umlaut, therefore also before syncope:

pre-OE *hrōfjan ‘to roof’ (deriv. of *hrōf* ‘roof’ (masc.) < PNWGmc. *hrōfa- ‘roof’, cf. ON *hróf* ‘boat-shed’ (neut.), OF *hrōf*; apparently < pre-PGmc. *krōpo- or *krāpo-, cf. OCS *stropŭ* with short root vowel) > *hrōefjan > OE *hrēfan*, late WS past *ofer-hrȳfde* (Luick 1914–40: 848).

Even in this case we cannot be quite sure that the preform contained *f instead of *b—an oxytone antecedent with *b by Verner’s Law is not completely out of the question. The preform of OE *ġetwæfan* ‘to deprive of, to put an end to’ is more uncertain still; it need not reflect the *f of OHG *zwīfo* and *zwīfal* ‘doubt’ (pace Luick 1914–40: 848). But there is no good reason to believe that the sound change that voiced /þ, s/ did not also voice /f/ at the same time under the same conditions.

The stress constraint on the voicing of anterior fricatives—that the last preceding syllable nucleus must be stressed—is observable in two different classes of cases. On the one hand, unstressed prefixes do not trigger voicing of root-initial fricatives. On the other hand, inherited *þ and *s in suffixes and grammatical endings remained voiceless. Of course many would have become

voiceless in any case after the apocope of final short high vowels (see 6.8.1); that could account for the voicelessness of the outcomes of pres. indic. 2sg. *-isi, 3sg. *-iþi and of the nom. sg. forms of the noun suffixes *-isi and *-iþu (all of which eventually became -(e)s, -(e)þ). Even voiceless consonants in the oblique forms of the suffixes, with final vowels that did not apocopate, might conceivably be attributed to levelling from the nom. sg. forms. But voiceless intervocalic *s must be posited to account for the development of -ts- in ‘bless’ (Luick 1914–40: 845–6, Fulk 2001: 57):

pre-OE *blōdisōjan ‘to consecrate with blood’ > *blōdisōjan > *blōdsejan > North. *blædsiga*, Merc. *bledsian*, WS *bletsian*, all ‘to bless’.

The syncope of short vowels must at first have rendered voiceless [θ] and [s] in suffixes and endings surface-contrastive by bringing them into position immediately after the stressed syllable (Bammesberger 1988); thus [s] in *hālsian* ‘to take an oath’, for example, must have contrasted with [z] in the same position in *healsas* ‘necks’. In addition, degemination of voiceless [ss] next to another consonant—a change which cannot be dated, possibly a standing constraint on OE consonant clusters that applied automatically—must have yielded a few voiceless [s]’s in words such as *cærse* ‘watercress’ < *cræsse (Fulk 2001: 61). To the extent that such forms were still derivable from underlying forms with /ss/, or with /s/ or /θ/ between unstressed vowels, no underlying contrast need have existed; but when any such derivation became opaque, the contrast should have been projected into underlying forms as well.

What the situation had become by the 9th century is difficult to determine. Aside from a few Middle English spellings with ⟨z⟩ (Fulk 2001: 66) and the early Modern English spelling *addice* ‘adze’, most of our evidence consists of pronunciations recorded in the 19th and 20th centuries. Such testimony is unreliable because further changes can have happened in the meantime. For instance, *addice* and the verb *curse* (with /s/) might conceivably be the descendants of northern Middle English forms; in the north word-final /ə/ was lost early and the resulting word-final fricatives were devoiced. (That is almost certainly why *both*, borrowed from ON *báðir*, ends in /θ/ in modern English.) Alternatively, *curse* might have adopted the voiceless fricative of the related noun, which was *curs* in OE. It is even possible that the fricatives in *clānsian* and *mærþu*, for example, had become subject to the voicing rule after syncope occurred because they now immediately followed a stressed syllable. That is probably what happened to *sīþe* ‘scythe’ < *siǰþi < *siǰiþi; but in that word the (irregular) syncope might have occurred before the fricative voicing sound change (see Fulk 2001: 64–5 and 6.7.4 below). Another word which suggests that fricatives which came to follow a stressed syllable by syncope

became subject to the voicing rule is *anvil*, which is clearly the descendant of OE *anfealt*, *anfilt(e)* < **anafalt-* (cf. OHG *anafalz*). On the other hand, *Thames* and *adze* (beside *addice*) can have acquired their word-final voiced fricatives at the beginning of the 15th century (Jespersen 1909: 199–206); it seems likely that OE *Temese* and *adesa* still contained voiceless [s]—not surprisingly, since the preceding unstressed vowel had not been syncopated. In sum, it is possible that a (marginal) contrast between voiceless and voiced anterior fricatives immediately following a stressed syllable existed in early WS, but that cannot be demonstrated.

One striking peculiarity of the fricative voicing rule should be noted: it affected the final fricatives of the first elements of compounds when a voiced sound followed immediately; see the extensive discussion of Fulk 2002, which establishes that beyond a reasonable doubt.

For some time after /f/ was voiced the outcome [v] appears to have remained distinct from [β], which was the allophone of /b/ that occurred between sonorants (unless the immediately preceding sonorant was /m/); the earliest sources write the bilabial fricative ⟨b⟩ but the voiced labiodental fricative ⟨f⟩ (see the list in Campbell 1962: 179). By the 9th century ⟨f⟩ was the usual spelling for both fricatives; evidently they had merged as [v] by about 800.

6.7.3 General syncope of short vowels

Short vowels in unstressed word-internal open syllables were lost under particular conditions. Nonhigh **æ* (the reflex of PWGmc **a* and **e*) and **e* (the *i*-umlaut product of the same) were usually lost regardless of the preceding syllable's weight, so long as the preceding syllable was stressed; high **i* and **u* were lost only if the preceding syllable was both heavy and stressed. For the reasons given in the preceding two sections, this change followed both the loss of **w* before **i* and the voicing of (most) word-internal anterior fricatives. In 6.8.1 I will demonstrate that general syncope preceded the general apocope of word-final **i* and **u* after heavy stressed syllables or a sequence of two syllables; forms that underwent both changes will be discussed in that context. (See also Luick 1914–40: 279–88, Campbell: 143–7, Hogg 1992: 225–32.)

Syncope gave rise to numerous alternations in paradigms and its effects were therefore often levelled out. Examples of isolated words and invariant suffixes and endings that exhibit syncope are therefore important. Note the following examples of **æ* and **e* syncopated after both heavy and light syllables:

PGmc strong adj. masc. acc. sg. *-anō (Goth. *-ana*, e.g. in *blindana* 'blind') >
 PWGmc *-anā > *-ænæ > *-næ > OE *-næ* > *-ne*, e.g. in *smælnē* 'small, narrow',
blindne 'blind', *midne* 'middle' (PWGmc **mid*^l*d*^l*anā*), *hēane* 'high' (PWGmc
 **hauhanā*), *hālīgne* 'holy' (PWGmc **hailaganā*), *ōperne* 'other' (PWGmc

- *anþaranā), etc.; note especially *wildne* ‘wild’ < *wildænē < *wildjænē < PWGmc *wildijanā, exhibiting both early and general syncope; this ending always appears syncopated regardless of the shape of the adjective;²⁸
- PGmc *saiwalō ‘soul’, gen. *saiwalōz (Goth. *saiwala*, *saiwalos*, OHG *sēola*) >→ *sāwælu, *sāwælē (*-u restored after loss in PWGmc, see 3.1.4) > *sāwlu, *sāwlē > *sāwl*, *sāwle* > *sāwol* (by epenthesis, see 6.9.5), *sāwle*;
- PGmc *haitadai ‘(s)he is called’ (Goth. *haitada*) > PWGmc *haitadē (if not already syncopated at that date, see 3.2.1) > *hātædē > OE *hätte*;
- PNWGmc strong adj. fem. gen. sg. *-ezōz, dat. sg. *-ezōi (?), gen. pl. *-ezō (see 2.2 above) > PWGmc *-ezā, *-ezē, *-ezō > *-æræ, *-ærē, *-ærā > OE *-re*, *-re*, *-ra*; the rare appearance of *-e-* before these OE endings (cf. Cosijn 1983–8: 143, 145), if not the result of errors, must result from a variable process of epenthesis;
- PNWGmc *gatawōz pl. ‘weapons, gear’ (ON *gōtvar*) > *gætæwā > *geatæwā > *geatwā > OE *geatwa*;
- PNWGmc *laiwazika/ōn- ‘lark’ (ON *lævirki*; see Kluge and Seebold 1995 s.v. *Lerche*) > PWGmc *laiwazikā (OHG *lērīhha*, Mod. North Frisian *lāsk*) > *lāwærīkē > *lāwerīcē > OE *lāwricæ* (early Merc. *lāuricæ*, *CorpGl* 142, 2026) > *lāwricē*; the competing form *lāwerce* (early Merc. *lāwerce*, *EpGl* 1012) apparently syncopated the second of the two successive unstressed short vowels before palatalization of *k occurred, see 6.4.1;
- PWGmc *anafalt ‘anvil’ (OHG *anafalz*) > *anæfælt > OE *anfealt*;
- PWGmc *magadīn ‘little girl’ (OF *meiden*, OHG *magatīn*) > *mægædīn > *mægædīn > *mægēdīn > OE *mægden*;
- PWGmc *skabaþō ‘shaving’ (OS *skabado*, OHG *scabado*, both ‘mange?’) > *skæbæþā > *sceaþþā > OE *sceaþþa* (the alternate form *sc(e)afþa* apparently had *u in its second syllable);
- PWGmc *hagatusi, *hagatus^jā- ‘witch’ (OHG *hagazussa*) > *hægætusi, *hægætus^jæ (see 6.4.1) > *hægety^jsi, *hægety^js^jæ (see 6.6.4) >→ *hægty^s(s), *hægtyssæ >→ early Merc. OE *hægtis* (*EpGl* 913, *CorpGl* 1913), late WS *hægtesse* (the majority form) ~ *hæitse* (remodelled as an n-stem).
- pre-OE *spiowæþā ‘vomiting’ > *spiowþa > *speowþa* (the alternate form *spiweþa* apparently had *i in its second syllable).

It can be seen that there is at least a bit of variability in the syncope of *æ and *e (cf. especially the acc. sg. of ‘holy’ and ‘other’), and there is at least one comparable form in which syncope does not seem to have occurred, namely

PWGmc *bru/onapō (OHG *bronado* ‘itch’) > OE *bruneða* (the name of a disease).

But the preponderance of syncopated forms shows that syncope of *æ, *e was the normal outcome. The alternations that arose by syncope of these nonhigh

²⁸ Forms like *gearone* ‘ready’, *cucune* ‘alive’ have been constructed by rule after syncope had run its course, when the relevant rule was ‘nom. sg. + *-ne*’.

vowels tend to be levelled out, but in at least two instances that does not seem to have happened:

PGmc *aljaną ‘zeal’, gen. *aljanas, dat. *aljanai (Goth. *aljan*, dat. *aljana*, ON *eljan* ‘power’) > PWGmc *alʲʲan, *alʲʲanas, *alʲʲanē ‘courage, power’ (OS *ellian*, OHG *ellen*) > *æʲʲan, *æʲʲænæs, *æʲʲænæ > → *eʲʲæn, *eʲʲænæs, *eʲʲænæ > *ellæn, *ellnæs, *ellnæ > OE *ellen*, *elnes*, *elne* (poetic);

PGmc *peudanaz ‘king’, gen. *peudanas, nom. pl. *peudanōz, etc. (Goth. *piudans*, *piudanis* (with analogical ending), *piudanos*, ON *þjóðann*, *þjóðans* (poetic), OS *thiodan*, *thiodnes*) > → *þeudan, *þeudænæs, *þeudænās, etc. > → *þeoden*, *þeodnes*, *þeodnas*, etc. (poetic).

Apparently the formulaic structure of OE poetry has resisted the creation of analogical gen. and dat. ‘*ellenes*, *ellene*’, gen. sg. and nom. pl. ‘*þeodenes*, *þeodenas*’, and so on. Other alternating examples include, for instance:

PGmc *h^waþeraz ‘which (of two)?’, masc./neut. gen. sg. *h^waþeras, etc. (Goth. *lvāþar*) > *hwæþær, *hwæþæræs, etc. > OE *hwæþer*, *hwæþres*, etc. → *hwæþeres*, etc.; adv. *hwæþre* ‘nevertheless’ → *hwæþere*;

PGmc *anþeraz ‘other’, masc./neut. gen. sg. *anþeras, etc. (Goth. *anþar*, *anþaris* (with analogical ending), etc., ON *annarr*, *annars*, etc., OF *ōther*, OS *ōðar*, *ōðres*, etc., OHG *andar*) > *āþær, *āþæræs, etc. > OE *ōþer*, *ōþres*, etc. (rarely *ōþeres*, etc.);

PGmc *aiganaz ‘(one’s) own’, masc./neut. gen. sg. *aiganas, etc. (ON *eiginn*, OF *ēin*, OS *ēgan*, OHG *eigan*; cf. Goth. *aigin* ‘property’) > *āgān, *āgānæs, etc. → *āgæn, *āgænæs, etc. > OE *āgen*, *āgnes*, etc. → *āgenes*, etc.;

PGmc *managaz ‘much, many a’, masc. nom. pl. *managai, etc. (Goth. *manags*, *managai*, etc., OF *monich*, OS, OHG *manag*) > *maṅæg, *maṅægæ, etc. > OE *manig*, *manige*, etc. → (usually) *manige*, etc.;

PWGmc *watar ‘water’, gen. *wataras, dat. *watarē (OF *weter*, OS *watar*, OHG *waʒʒar*) > *wætær, *wætæræs, *wætæræ > OE *wæter*, *wætres*, *wætre* → *wæteres*, *wætere*;

PWGmc *fagan ‘glad’, masc. nom. pl. *faganē, etc. (OS *fagan*) > *fægān, *fægānæ, etc. → *fægæn, *fægænæ, etc. > OE *fægen*, *fægne*, etc. → *fægene*, etc.

Strong past participles usually restore *-en-* after a light syllable but exhibit variation between *-n-* and *-en-* after a heavy syllable in early WS (Cosijn 1883–8: 143, 146). The fact that compounds with a-stem first members regularly fail to exhibit their stem vowel can also be the result of general syncope, though re-compounding with the nom. sg. (which had been endless since the PWGmc period, see 3.1.2) is difficult to rule out in most cases.

Short *i, *u, and *y were subject to general syncope only after heavy syllables. Relatively isolated examples seem to be few; note the following:

PWGmc *skuldihaitijō ‘deputy, bailiff’ (OF *skeltāta*, OHG *sculdheiʒo*) >
 *skuldihātijā > *sýldihætjā > OE *sýldhæta*; this compound might have been
 fossilized to such an extent that recompounding is relatively unlikely;
 PWGmc *grundilā (name of a species of fish; OHG *gruntila* ‘gudgeon’) > *gryndilā
 > OE *gryndle* ‘herring’;
 PWGmc *þaisimō ‘yeast’ (OHG *deismo*) > *þāsimā > *þæsīmā > OE *þāesma*;
 pre-OE *nēadiling ‘person under compulsion’ > *nīediling > OE *nīedling* ‘slave’;
 pre-OE *ūtumist ‘furthest out’ > *ýtymist > OE *ýtmet* (→ *ýtēmet* by analogy with
yfēmet, etc.).
 pre-OE *blōdisōjan ‘to consecrate with blood’ > *blēdisējan > *blēdsejan >
 North. *blædsiga*, Merc. *bledsian*, WS *bletsian*, all ‘to bless’;
 Lat. *Sāturnī diēs* ‘day of Saturn, Saturday’ → *Saturnidæg > *Sætýrnidæg >
Sæterndæg.

But there are many examples with suffixes in which a short high vowel in an
 open syllable was always followed by a further syllable, and they are also good
 evidence for regular syncope. Here belong the comparatives in *-irā <
 PWGmc *-izō, e.g.:

PGmc *junhizō ‘younger’ (Goth. *jūhiza*, ON *æri* ~ *yngrī*) >→ PWGmc *jūhizō ~
 *jungizō (OHG *jūgiro* ~ *jungiro*) > OE *jynġirā > *ġingra*;
 P(NW)Gmc *langizō ‘longer’ (ON *lengri*, OS *leng(i)ro*, OHG *lengiro*) > *lāngirā >
 OE *lænġirā > *lengra*;
 P(NW)Gmc *hauhizō ‘higher’ (ON *hær(r)i*, OHG *hōhiro*) > WS OE *hīehirā >
hīer(r)a, Angl. *hēhirā > Merc., North. *hēra*;
 PWGmc *aldizō ‘older’ (OHG *altiro*) > *ældirā (OF *eldra*) > WS OE *ealdirā >
 *ieldirā > *ieldra*, Angl. *aldirā > *ældirā > Merc. *ældra*;
 pre-OE *skurtirā ‘shorter’ (comp. of *skort > OE *scort*) > *sčýrtirā > *sčýrtra*.

Syncope of finite past stems of class I weak verbs are very numerous; several
 occur in early WS. The following examples are typical:

PGmc *hauzidē ‘(s)he heard’ (Goth. *hausida* with voiceless Verner’s Law variant;
 ON *heyrði*, OF *hērde*, OS *hōrda*, OHG *hōrta*) > *hēaridā > WS OE *hīeridā >
hīerde, Angl. *hēridā > Merc. *ġe-hērde*, North. *hērde*;
 PGmc *dōmidē ‘(s)he judged’ (Goth. 3pl. *domidedun*, ON *dæmði*, OHG *tuomta*) >
 OE *dōemidā > North. *ġe-dēmde*, WS *dēmde*;
 PGmc *girnīdē ‘(s)he was eager for, (s)he desired’ (Goth. *gairnida*, ON *girndi*) > WS
 OE *ġiernidā > *ġiernde*, Angl. *ġiornidā > North. *ġiornde*;
 PGmc *dailīdē ‘(s)he divided’ (Goth. *dis-dailida*, ON *deildi*, OF *dēlde*, OS *dēlda*,
 OHG *teilta*) > *dālidā > OE *dāelidā > (*tō-*)*dāelde*;
 PGmc *galaubīdē ‘(s)he believed’ (Goth. *galaubida*, OS *gilōbda*, OHG *giloubta*) >
 *ġilēabidā > WS OE *ġilīebidā > *ġeliefde*, Angl. *ġilēbidā > Merc., North. *ġelēfde*;
 PGmc *fullīdē ‘(s)he filled’ (Goth. *us-fullida*, ON *fylđi*, OHG *fulta*) > OE *fyllidā >
 *fýlldā > *fýlde*;

- PGmc *sandidē '(s)he sent' (Goth. *sandida*, ON *sendi*, OF *sente*, OS *senda* ~ *sanda*, OHG *santa*) > *sandidæ > OE *sændidæ > *sænddæ > *sende*;
- PGmc *mōtidē '(s)he met' (Goth. *ga-motida*, ON *mœtti*, OF *mette*, OS *muotta*) > OE *mōtidæ > *mōttæ > Merc., North. *ge-mætte*, WS *mette*;
- PGmc *laistidē '(s)he followed' (Goth. *laistida*) > PWGmc *laistidē '(s)he followed, (s)he carried out, (s)he accomplished' (OS *lēsta*, OHG *leista*) > *lāstidæ > OE *læstidæ > *læsttæ > *læste*;
- PGmc *drankidē '(s)he caused (someone) to drink' (Goth. *dragkida* '(s)he gave (someone something) to drink', ON *drekði* '(s)he drowned (someone)', OHG *trankta* '(s)he gave (someone something) to drink; (s)he saturated') > *drānkidæ > OE *drāncidæ > *drāncdæ > *drencte* '(s)he made (someone) drunk, (s)he drowned (someone), (s)he saturated';
- P(NW)Gmc *kunþidē '(s)he made known' (ON *kynda*, OF *kette*, OS *kudda*, OHG *kunta*) > *kūþidæ > OE *kūþidæ > *cūþde* ~ *cydde*;
- PNWGmc *baugidē '(s)he bent (it)' (ON *beygði*, OHG *bougta*) > *bēagidæ > WS OE *biēgidæ > *biēgde*, Angl. *bēgidæ > North. *ge-bēgde* '(s)he stooped';
- PNWGmc *laididē '(s)he led' (ON *leiddi*, OF *lette*, OS *ledda*, OHG *leitta*) > *lādidæ > OE *lædidæ > *lædde*;
- PNWGmc *kussidē '(s)he kissed' (ON *kysti*, OF *keste*, OS, OHG *kusta*) > OE *kyssidæ > *kyssdæ > *cyste*;
- PWGmc *mangidē '(s)he mixed' (OF *mengde* '(s)he shared', OHG *mengta*) > *maŋgidæ > OE *mængidæ > *ge-mengde*;
- PWGmc *þrukkiðē '(s)he pressed' (OHG *dructa*) > OE *þryccidæ > *þryccdæ > *þrycte*;
- pre-OE *ēakidæ '(s)he increased (it)' > WS OE *iecidæ > *iecdæ > *iecte*, Angl. *ēcidæ > *ēcdæ > North. *ge-ēcte*;
- pre-OE *huspidæ '(s)he mocked, (s)he reproached' (deriv. of *hosp* 'reproach, insult') > *hyspdæ > *hyspte*.

The treatment of CR-clusters in syncopated past stems is not uniform, but some of the variation probably results from reintroduction of *-i- after syncope had occurred. In early WS we find the following pattern (Cosijn 1886: 162–3). Syncope has clearly occurred in *þrysmde* '(s)he choked' and *wyrmsde* 'it festered' (for *wyrmsde* by metathesis), as well as in *nemde* '(s)he named' (inf. *nemnan*); it follows that *āþrysemodon* (for *-smedon*) results from restoration of the syncopated vowel. All these verbs exhibit a short vowel before the consonant cluster that ends in a nasal. The only example with a long vowel is *gebīecneðe* '(s)he indicated', without syncope. Consonant clusters ending in *l* present a different pattern. We find syncope if the preceding consonant is *g*, thus in *eglde* 'it afflicted' and *siglde* '(s)he sailed', but not otherwise: *bytleðon* 'they built', *symblede* '(s)he feasted', *wrixleðon* 'they exchanged'. After clusters ending in *r* we never find syncope, but all the examples have either heavy root syllables or disyllabic roots: *āfrēfredon* 'they

consoled', *timbrede* '(s)he built', *ofersilefredon* 'they covered them with silver'. All these data except *bytle don* and the metathesized form *wyrsmde* (which could simply be a scribal error) support a generalization: if a CR-cluster in a weak class I verb is preceded by a stressed short vowel, syncope occurs; otherwise it does not. This generalization is well enough supported by the evidence of later WS and other dialects (Campbell 1962: 326–7) that exceptions can be treated as the effects of other processes operating after general syncope had run its course. The constraint is admittedly odd: we might have expected all heavy syllables to behave similarly.

Some derived verbs of weak class II might have undergone syncope well before i-umlaut (see 4.3.3 (i) and 6.3.3) or in the general syncope that followed i-umlaut, because they are similar in structure to examples of early syncope but do not meet the conditions for i-umlaut, so that we cannot tell whether they syncopated at the same time as *hālsian* (without i-umlaut) or *bletsian* (with i-umlaut); the following are typical:

PNWGmc *handulōnā 'to handle' (ON *hōndla*) > PWGmc *handulōn (OHG *hantolōn*) >→ *handulōjan > OE *handlian*;

PWGmc *rikisōn 'to rule' (OHG *rīhhisōn*) >→ *rikisōjan > OE *riccian*;

PWGmc *grimmisōn 'to rage' (OHG *grimmisōn*) >→ *grimmisōjan > OE *grimsian*;

PWGmc *gīdisōn 'to be greedy for, to covet' (MHG *gītesen*) >→ *gīdisōjan > OE *gītsian*;

PWGmc *wītinōn 'to punish' (OHG *wīzinōn*) >→ *wītinōjan > OE *witnian*.

Alternations caused by the syncope of short high vowels in internal syllables are widespread. The past participles of class I weak verbs often level the syncopated vowel back into inflected forms from the uninflected forms where it was preserved, but there are also numerous examples of syncopated forms, often from the same verbs; thus in early WS we find *sē āncenda* 'the only-begotten' and *sē āncenneda*, *sīo unliēfde* 'the unlawful (fem.)' and *sē āliēfeda* 'the permitted', and so on (Cosijn 1886: 104). Some underived and opaquely derived nouns and adjectives exhibit more levelling than others. The following examples illustrate the range of outcomes:

PGmc *druhtinaz 'head of a war band, lord' (ON *dróttinn*; cf. Goth. *draúhtinon* 'to campaign, to take the field') > PWGmc *druhtin, gen. *druhtinas, etc. (OF *Drochten* 'the Lord', OS *drohtin* 'lord; (usually) the Lord' with *o levelled in from related words; OHG *truhtin* ~ *truhtin* with partial replacement of the suffix) > OE *dryhtin, *dryhtinæs, etc. > *dryhten*, *dryhtnes*, etc.; syncopated in verse 272×, unsyncopated in verse 9×, nearly always metrically better if read with syncope (cf. Bessinger 1978: 217–18, 221–3); also regularly syncopated in early WS prose (Cosijn 1883–8: 146), Merc., and North. (including late North.);

- PGmc *haubidą ‘head’, gen. *haubidas, etc. (Goth. *haubiþ*, OS *hōbid*, OHG *houbit*)
 >→ *haubud, *haubudas, etc. (OF *hāved*; see 6.7.1 above) > OE *hēabud,
 *hēabudæ, etc. > *hēafod*, *hēafdes*, etc.; nearly always syncopated in early WS
 (Cosijn 1883–8: 138) and the Angl. dialects, including verse (Bessinger 1978:
 550–1); on the nom.-acc. pl. see section 6.8.1;
- PNWGmc *ōþVla- ‘property, inheritance, native land’ (ON *óðal* (neut.)) >→
 PWGmc *ōþil, dat. *ōþilē, etc. (masc.; OF *ēthel*, OS *ōðil*, OHG *uodil*) > OE **œþil*,
 **œþilæ*, etc. > Merc., North. *æðel*, *æðle*, etc., WS *ēþel*, *ēþle*, etc. → *ēþele*, etc.;
- PNWGmc *ailidaz ‘fire’, gen. *ailidas (ON *eldr*, *elds*) > **ālid*, **ālidæs* > OE **ælid*,
 **ælidæs* > *æled*, *ældes* (poetic; 8× and 3× in verse respectively, Bessinger 1978:
 20–1);
- PWGmc *angil ‘angel’, nom. pl. *angilō, etc. (OHG *engil*, nom. pl. *engila*, etc.)
 >→ *angil, *angilōs, etc. (OS *engil*, *engilos*) > OE **ængil*, **ængilās* > *engel*,
englas, etc.;
- PWGmc *diubul ‘devil’, gen. sg. *diubulas, etc. (OS *diuþal*, OHG *tiubil*, *tiufal*) > OE
 **diobul*, **dioblæs*, etc. > *diofol*, *diofles*, etc. → *diofoles*, etc. > *dēofol*, *dēof(o)les*, etc.;
- PWGmc *þurhil ‘perforated’, weak *þurhilVn-, noun *þurhil ‘hole’ (OHG *durhil*
 ‘perforated’) >→ OE *þyrhil, *þyrhilan- > *þýrel*, *þýrlan* → *þýrelan* and noun
þýrel, *þýrl* → *þýrel*-;
- pre-OE *lūtil ‘little’, nom. pl. masc. *lūtilē, etc. (cf. OS noun *lūt* ~ *liut* ‘a little’, adj. OS
luttil, OHG *luzzil*) > OE *lýtīl, *lýtīlæ, etc. > *lýtel*, *lýtle*, etc., rarely → *lýtele*, etc.;
- pre-OE *aikul ‘trembling, frightened’, masc. nom. pl. *aikulē, etc. (cf. ON *eikinn*
 ‘raging’ (of fire)?) > OE **ākul*, **ākulæ*, etc. > *ācol*, *ācle*, etc. (poetic; *ācol* 4×, *ācle*
 3×, dat. pl. *āclum* 1×, Bessinger 1978: 9).

A large number of examples show that *i, *u, and *y (the i-umlaut product of *u) were not syncopated after light syllables. They include isolated and opaquely derived words with surviving syllables after the open syllable in question, e.g.:

- PGmc *widuwōn- ‘widow’ (Goth. *widuwo*, OF *widwe*, OS *widowa*, OHG *wituwa*) >
 **widuwæ* > OE *widuwe*;
- PNWGmc *nabulō ‘navel’ (ON *nafli*) > PWGmc *nabulō (OF *navla*, OHG *nabalo*)
 > **næbulā* > OE *nafola*;
- PNWGmc *klawiþō ‘itch’ (ON *kláði*) > PWGmc *klawiþō (OHG *klouwida* with
 shift of gender) > **klæwiþā* > OE **klewiþā* > *cleweþa* (see also 6.7.1 ad fin.);
- PWGmc *natilā ‘nettle’ (OS *netila*, OHG *nezȝila*) > **nætilæ* > OE *nete*le (but see
 below);
- PWGmc *hamiþī ‘shirt’ (OF *hemethe*, OS *hemidi*, OHG *hemidi*) > **hæmiþī* > OE
 **hæmiþi* > *hemeþe*;
- PWGmc *gibiþī ‘given, granted (by fate)’ (cf. OS *gibidīg* ‘allotted, given’, OHG
gibedīg ‘productive’) > OE **gibiþi* > *gifeþe*;
- PWGmc *kirikā (OF *tserke*, OHG *kirihha*) > OE **čiricæ* > *čiriče*;

PWGMc *kukinā (OHG *kuhhina*) > OE *kyċinā > *cyċene*; northern WGmc *tō / *at gadurī ‘together’ (OF *tōgadere*) > *tō / *æt gædyrī > OE *tōgædere*, *ætgædere*.

Several more or less transparently derived words also provide evidence, e.g.:

PNWGMc *aþulingaz ‘prince’ (ON *ǫðlingr*; OHG *adalung* ~ *ediling*) > *aþuling > OE *æþyling > *æþeling*;

PWGMc *gaduling ‘kinsman’ (OS *gaduling*, OHG *gataling*) > OE *gædyling > *gædeling* ‘kinsman, comrade’ (poetic);

pre-OE *latumist ‘slowest, tardiest’ > OE *lætymist > *lættemest*;

pre-OE *ubumist ‘highest’ > OE *ybymist > *yfemest*.

A suppletive comparative belongs here:

PGmc *batizō ‘better’ (Goth. *batiza*, ON *betri*, OF *betera*, OS *betara*, OHG *be33iro*) > *bætirā > OE *betirā > *betera*.

The finite past tenses of class I weak verbs with light root syllables are a major piece of evidence, e.g.:

PGmc *nazidē ‘(s)he saved’ (OF *nerede* ‘(s)he fed, (s)he sustained’, OS *nerida*, OHG *nerita*; Goth. *ga-nasida* with voiceless Verner’s Law alternant) > *næridā > OE *ġe-nerede*;

PGmc *hazidē ‘(s)he praised’ (Goth. *hazida*) > *hæridā > OE *herede*;

PGmc *waridē ‘(s)he prevented’ (Goth. 3pl. *waridedun*, ON *varði* ‘(s)he defended’, OF *werde* ‘(s)he defended’, OS *werida*, OHG *werita*) > *wæridā > OE *werede* ‘(s)he defended’;

PGmc *buridē ‘(s)he was begotten, it began’ (ON *burði*, OS *giburida* ‘it happened’, OHG *giburita* ‘it happened’; see 6.6.1) > *(gæ)buridā > OE *(ġe)byrede* ‘it happened’;

PGmc *þanidē ‘(s)he extended’ (Goth. **uf-þanida* ‘(s)he exerted’, ON *þanði*, OS 3pl. *thenidun*, OHG *denita*) > *þænidā > OE *þenede*;

PNWGMc *framidē ‘(s)he furthered’ (ON *framði*, OS *fremida* ‘(s)he accomplished’, OHG *fremita* ‘(s)he accomplished’) > *fræmidā > OE *fremede* ‘(s)he furthered, (s)he accomplished, (s)he made’;

PNWGMc *swabidē ‘(s)he put to sleep’ (ON *svafði*, OS *an-swebida*, OHG *int-swebita*) > *swæbidā > OE *ā-swefede* ‘(s)he put to sleep, (s)he killed’;

PWGMc *bihalidē ‘(s)he covered’ (OHG *bihelita*) > *bihælidā > OE *behelede*;

PWGMc *knusidē ‘(s)he struck’ (OHG *knusita*) > *knusidā > OE *cnysede*;

PWGMc *wagidē ‘(s)he moved (it)’ (OHG *wegita*) > *wægidā > OE *wegede*.

As noted in 6.7.1, the loss of *w before *i preceded general syncope; the result is that no syncope could occur in the past stems of class I weak verbs that originally contained the sequence *-Cwid-. A well attested example is

PWGMc *garwidē ‘(s)he prepared’ (OS *gerwida*, OHG *garota*) > *ġærwidā > OE *ġearwidā > WS *ġierwidā > *ġieridā > *ġierede*, Merc. *ġerwidā > *ġeridā > *ġe-ġerede*.

(There are several others, all very similar, as well as several that restored the *w*; see Campbell 1962: 327–8.) Since regular syncope did not occur after light syllables, we expect to find no alternation in words with some endingless forms, such as the following:

- PGmc *nak^wadaz ‘naked’, masc. nom. pl. *nak^wadai, etc. (Goth. *naqaps*) > PWGmc *nakwad, *nakwadē, etc. (OF *naked*, OHG *nackut*, *nackute*, etc.) > *nækud, *nækudæ > OE *nacod*, *nacode*, etc.;
- PGmc *katilaz ‘kettle’, dat. *katilai, etc. (Goth. gen. pl. *katile*, ON *ketill*, *katli*, etc., OF *tsetel*, OS *ketil*, OHG *kezzil*, *kezzile*, etc.) > *cætil, *cætilæ, etc. > WS OE *cætil, *cætilæ, etc. > *cietil, *cietile, etc. > late WS *cytel*, *cytele*, etc. (cf. early Merc. *cetil*, *EpGl* 168, *CorpGl* 346);
- PGmc *ubilaz ‘bad’, masc. nom. pl. *ubilai, etc. (Goth. *ubils*, *ubilai*, etc., OF *evel*, *evele*, etc., OS *uþil*, *uþile*, etc., OHG *ubil*, *ubile*, etc.) > OE *ybil, *ybilæ, etc. > *yfel*, *yfele*, etc. (but see below);
- PNWGmc *habukaz ‘hawk’, dat. *habukai, etc. (ON *hauk*, *hauki*, etc., OHG *habuh*, *habuhhe*, etc.) > *habuk, *habukæ, etc. > OE *hafoc*, *hafaoc*;
- PNWGmc *staþulaz ‘standing structure’, nom. pl. *staþulōz, etc. (ON *støðull* ‘milking shed’, *støðlar*, etc.) > PWGmc *staþul, *staþulō, etc. (OHG *stadal* ‘(act of) standing’) > *stæþul, *stæþulās, etc. > OE *stapol* ‘support, foundation’, *stapolas*, etc.;
- PNWGmc *fatilaz ‘strap’, dat. pl. *fatilumaz, etc. (ON *fetill* ‘shoulder-strap’, *fatlum*, etc., OHG *fezzil* ‘fetter’, *fezzilum*, etc.) > *fætil, *fætilum, etc. > OE *fetel* ‘belt’, *fetelum*, etc. (but see below);
- PNWGmc *kanipaz ‘moustache’, nom. pl. *kanipōz, etc. (ON *kampr*, *kampar*, etc.) > *kañip, *kañipās > *kænip, *kænipās > OE *cenep*, *cenepas*;
- PWGmc *munit ‘coin’, gen. pl. *munitō, etc. (OHG *muniŷ*) > *munit, *munitā > OE *mynet*, *myneta*, etc.;
- PWGmc *sikur ‘secure, safe’, masc. nom. pl. *sikurē, etc. (OF *siker*, OS *sikor*, *sikora*, etc., OHG *sihhur*, *sihhure*, etc.) > *sikur, *sikuræ, etc. > OE *sicor*, *sicore*, etc.; northern WGmc *hebun²⁹ ‘sky, heaven’, gen. *hebunas, etc. (OS *heþan*, *heþanas*, etc.) > OE *heofon*, *heofones*;
- pre-OE *gæbul ‘tribute, payment’, gen. *gæbulæs, etc. > OE *gafol*, *gafoles*, etc.;
- pre-OE *ætul ‘horrible’, weak masc. nom. sg. *ætulā, etc. (cf. ON *atall* ‘fierce’, but the vowel of the second syllable is different) > OE *atol*, *atola*, etc.

However, some words of this shape do sometimes syncopate the vowel in the second syllable of the stem; for instance, *gafol* occasionally syncopates in later texts, *mid fetlum* ‘with belts’ is attested at least once, *netle* occurs beside *nete*,

²⁹ There is some sort of relationship between this word and PWGmc *himil (OF, OS, OHG *himil*), and between both and PGmc *himinaz (Goth. *himins*, ON *himinn*), but the details do not seem to be recoverable.

and *betra* occurs as a byform of *betera* ‘better’. More surprisingly, *micel* ‘big’ typically syncopates in early WS (though there is more variation later, and in other dialects), and *yfel* ‘bad’ often does so. This phenomenon will be dealt with in the following section.

Finally, it should be noted that inherited long vowels did not normally undergo general syncope, even when a heavy syllable preceded; evidently they were still long when this sound change occurred. Examples will be given in section 6.8.3. There are a few systematic exceptions. The opaquely derived noun *mōnaþ* ‘month’, though its second syllable unquestionably contained a long vowel (cf. Goth. *menoþs*, OHG *mānōd*), often appears as *mōnþ-* before endings beginning with vowels. The non-umlauting comparative suffix also always syncopates, though comparative evidence shows that the lost vowel was long; for instance, *frōdra* ‘wiser’ is cognate with Goth. *frodoza* (except for the nom. sg. ending) and OHG *frōtōro*. These phenomena too will be dealt with in the following section.

6.7.4 Other cases of syncope

In addition to regular syncope in the sequence *-CijV- (5.1.3), individual instances of early syncope (see 6.6.1, 6.6.4), and the general syncope of short vowels (6.7.3), OE underwent various processes of syncope whose conditions are sometimes difficult to define. In this section I will list those known to me and attempt to explain them; the explanations advanced will often be tentative.

The apparent syncope of inherited *-ōr- in comparatives is the easiest case to explain. Though the reflex of non-umlauting *-ōrVn- is the default comparative suffix in OE, the situation in PGmc was almost certainly different. In Gothic the default comparative and superlative suffixes are *-izVn-* and *-ista-*; the alternative *-ozVn-* and *-osta-* are suffixed only to a-stems, and not to all of those (Braune and Heidermanns 2004: 123–5). Streitberg’s list of occurring examples includes seventeen stems to which the forms with *-i-* are suffixed, but only ten to which the forms with *-o-* are suffixed (Streitberg 1906: 120–1). It is probable that the PGmc system was very like that of Gothic. But Heidermanns 1993 shows that in the daughters of PGmc there was a noticeable amount of interchange between the two sets of suffixes. Even if we discount the large number of uniquely OHG suffixes with *-i-* as possible innovations, variation both between languages and within languages is attested—and the real incidence of variation can have been much higher, given the large number of adjectives for which only *ō-* suffixes are attested and the even larger number for which no comparatives or superlatives are attested at all. Bearing all this in mind, consider what is likely to have

happened to the comparative of PGmc *harduz ‘hard’ (Goth. *hardus*, ON *harðr*, OE *heard*, OS *hard*, OHG *hart*) in the prehistory of OE. Since the adjective was originally a u-stem its comparative must have been *hardizVn-, which is actually attested in Goth. *hardiza*. In OE we should therefore find WS ‘*hierdra*’, superlative ‘*hierdest*’, and Angl. ‘*herdra*, *herdest*’. What we actually find are *heardra*, *heardest* (occasionally *heardost*), which differ from the expected forms only in failing to exhibit i-umlaut. In fact they could be the expected forms, with the non-umlauted vowel levelled in from the positive; their suffixes need never have exhibited an inherited long vowel *-ō-. If any significant number of OE adjectives underwent the type of development just sketched, native learners might have concluded that normal comparative adjectives did not have an underlying vowel before the -r- of their suffix, regardless of whether the vowel of the root syllable was umlauted. But even if the number of such adjectives was very modest, the parallelism between the two comparative formations might eventually have led to the same sort of learner error. The elimination of the non-umlauting vowel would of course have been easier if it had already been shortened; thus the main part of this analogical process probably occurred after the shortening of unstressed long vowels (see 6.8.3), though it could have begun before that change. The last comparative to be affected was a fossilized member of the small set with i-suffixes, *betera* ~ *betra* ~ *bettra* < *bætiran- < PGmc *batizan-; it is the only comparative which still exhibits an unstressed vowel before its -r- in a significant number of early WS tokens (cf. Cosijn 1886: 80–1). It seems likely that the immediate model for its non-phonological syncope was its synonym *sētra*, with regular syncope after a heavy syllable (Alfred Bammesberger, p.c.).

For ‘month’ two rather different explanations are possible. If the vowel of the second syllable was shortened—irregularly, for reasons not now recoverable—before general syncope occurred, it would have undergone syncope regularly; in that case forms such as dat. pl. *mōnaþum* must have reintroduced the second vowel from endingless nom.-acc. sg., nom.-acc. pl. *mōnaþ*. Alternatively, the second vowel of the stem could have survived general syncope but have been syncopated much later, after it had undergone regular shortening (cf. Luick 1914–40: 290–1).³⁰

³⁰ However, the elaborate scenario which Luick constructs to account for syncope in ‘month’, ‘golden’, etc. (but not in *nīetenu*, *nētenu*, for example) relies on too many ad hoc assumptions, including the contention that the second syllable of ‘month’ actually contained long *ū (see 2.3.1 (ii)). It seems more parsimonious to operate with the provable regular sound changes and a great deal of levelling—especially since the latter is required in any case to account for the facts.

A more certain case of the syncope of an originally long vowel is a WGmc verb meaning ‘help’:

PWGmc *fu/ollalaistjan ‘to help’ (OS *follestian*, OHG *folleisten*) > *fullælstijan > *fullæstjan (apparently by haplology) > *fullistjan > *fyllistjan > early WS *fylstan*.

This can only be an allegro form that ‘got loose’ and acquired an independent lexical existence, since there is also a (much rarer) full form *fullæstan*; that the latter was recompounded seems unlikely, since the semantics of the verb has drifted substantially from the original ‘follow completely, support fully’. Note that this is also an example of syncope before an sC-cluster (see below).

Most of the unexpected cases of syncope involve short *i, and most—unlike the comparative *bet(e)ra* (see above)—cannot be explained plausibly by analogical processes. Such a solution might be considered for ‘big’:

PGmc *mikilaz ‘big’, masc. nom. pl. *mikilai, etc. (Goth. *mikils*, **mikilai*, etc., ON *mikill*, OS *mikil*, OHG *mihhil*, *mihhile*, etc.) > OE *micil, *micilæ, etc. → *micil, *miklæ, etc. (on the analogy of *lytlæ, etc.?) > *micel*, *micle*, etc.

But the frequent syncope of *yfel* ‘bad’ (weak oblique *yflan* beside *yfelan*, etc.) is not so easily explained, because there seems to be no syncopating adjective whose meaning is so closely related to ‘bad’ as ‘little’ is to ‘big’. Note also the variation in an isolated noun:

PNWGmc *usilVn- ‘ashes’ (ON *usli* ‘glowing coals’) > OE pl. *yselán* ~ *yslan*.

We need a better hypothesis, and in order to construct one we need to assemble as much of the relevant evidence as possible.

The most obvious pattern is very specific: unstressed *i in open syllables is often syncopated next to *l*. In addition to the forms mentioned in the preceding paragraph, we find syncope in some inflected forms of *fetel* ‘belt’ (though apparently not of *çytel*, *çetel* ‘kettle’), in *netle* ~ *netele* ‘nettle’, and in North. dat. sg. *cryple* ‘cripple’, in which suffixal *i is guaranteed by the unlauded *y* (though apparently not in the inflected forms of *crypel* ‘burrow’). There are also forms that have undergone both syncope and apocope, which we will need to revisit in section 6.8.1:

PGmc *alinō ‘forearm, ell’ (ON *ǫln*, OF *elne*, OS, OHG *elina*; the long vowel in Goth. *aleina* is puzzling) > *ælinu > OE *elinu > *elnu > *eln*;

PGmc *twalif- or *twalib- (Goth. *twalif*, dat. *twalibim* with *b, OHG *zwelif* with *f; either in ON *toľf*, OF *twelf*, OS *twelif*) > *twælif or *twælibi > OE *twelif or *twelibi > *twelf or *twelbi > *twelf*;

PGmc *saliþwō ‘dwelling, hall’ (Goth. pl. *saliþwos*) > PWGmc *saliþu (OS *selida*, OHG *selida*) > *sæliþu > OE *seliþu > *selþu > *seld* (poetic; *d* is unexpected: lexical analogy with *seld* ‘seat’ < *setl*?).

Two words which originally contained long *ī probably belong here as well:

PGmc *swalikaz ‘of such a kind’, masc. nom. pl. *swalikai, etc. (Goth. *swaleiks*, ON *slikr*, OS *sulik*, OHG *sulih*) > *swælic, *swælicæ, etc. > OE *swelic, *swelce* → *swelc*, *swelce*; so also OE *hwelc* ‘which?’ (originally ‘of what kind?’, see 1.2 ad fin.).

The exceptionless syncope in these two words (which has been levelled into the endingless forms) argues that their *ī had been shortened to *i early in allegro speech and the shortening was then generalized to more careful or formal registers.

Whether this pattern reflects one sound change or more is unclear, but it is clear that there was at least one sound change syncopating *i between a preceding light syllable and a following *l*. Weyhe 1905: 84–141 assembles the relevant evidence and finds a complex pattern: short *i* after a light syllable syncopates between most consonants and *l*, but at somewhat different dates depending on the preceding consonant, and never in the sequence *-pil-*; the vowel is often restored by anaptyxis in late WS; short *u* does not normally syncopate between a light syllable and *l*, but all sequences *-wVl-* (where *V* is a short vowel) syncopate early, and *-rVl-* after a light syllable syncopates in the 10th century. Of course Weyhe was working on the assumption that these sound changes were categorical, so that he felt obliged to explain away scattered counterexamples by a variety of other (mostly analogical) processes. A modern understanding of sound change in progress suggests that what we are witnessing in our OE documents might be a sound change in progress, taking place over many generations, that never went to completion. Luick (1914–40: 309–10) suggests that it was a relatively late change, but that does not account for the fact that syncope is the norm in the inflected forms of *micel*, and that the *ç of *miclum*, etc. was depalatalized (to judge from unambiguous ME forms, e.g. *mucle*, *miccle*, *mikel*, *mekill*; see 6.7.5 below). Pending further study, the most plausible hypothesis is that the sound change responsible for these instances of syncope was arrested before it went to completion, giving rise to stable variation which persisted for many generations.

The extent to which syncope of unstressed *i after light syllables also occurred next to other sonorants is hard to determine. As we have seen, *betra* is best assessed in the light of other comparatives. Comparable examples of syncope before nasals, and of *u, are rare, especially in the early period; Luick 1914–40: 311 lists a few possible cases.³¹ Examples in which the

³¹ The early examples are of variable quality. An early 9th-century Kentish charter contains unmistakably syncopated *butran* ‘of butter’ (Sweet and Hoad 1978: 209, l. 22), but the identity of the

sonorant precedes are slightly more common. One clear example is an adjective of unusual shape:

PGmc *framap(i)jaz³² ‘foreign’ (Goth. **framapeis*) >→ PWGmc *framipī (OF *fremethe*, OS *fremidi*, OHG *fremidi*) > *fræmipī > OE *fremeþe* ~ *fremeþe*.

Several others involve short *i after ġ, which might have become the semi-vowel [j] when adjacent to vowels by the time this syncope occurred (though see also the following section):

PNWGmc *sigipiz ‘sickle’ (ON *sigðr*) >→ PWGmc *sigipī ‘scythe’ > *sigipi > OE *sigþi* (spelled *sigdi* in *EpGl*, *ErfGl* 430) > *siþe* (already in *CorpGl* 834);
PWGmc *agipā ‘rake, harrow’ (OHG *egida*) > *ægipæ > OE *egipæ > *egeþe* ~ *egeþe*;
PWGmc *agisō ‘terror’ (OS, OHG *egiso*) > *ægisā > OE *eġesa* ~ *eġsa*.

At least one example of syncope between sonorants,

PWGmc *firinōn ‘to sin’ (OHG *firinōn*; the divergent meaning of Goth. *fairinon*, ON *firna*, both ‘to blame’, argues independent derivation) >→ *firinōjan > OE *firenian* ~ *firnian*,

could be an example of the early syncope that affected many suffixed class II weak verbs (see 6.3.3 above).

Syncope of short *i after a light medial syllable also seems to have occurred before *s*, and in this case it was not restricted to open syllables. Two examples are suffixed class II weak verbs exhibiting the effects of i-umlaut in their root syllables (therefore not examples of early syncope):

pre-OE *obisōjan ‘to clip (hair)’, derived noun *obisungu ‘clipping’ > Merc. (*CorpGl*) *æfsung*, WS *efesian* ~ *efisian*, *efesung*;
pre-OE *tāmisōjan ‘to sift’ > OE *temesian* ~ *temsian*.

The number of examples of syncope of *i and umlauted *y before *sC* is surprisingly large. The superlative of ‘good’ is almost always syncopated, even in early WS texts:

syncopated vowel in this loanword is unclear. The adverb *ætġad[re]*, *Ruth* 48, is unfortunately damaged (Sweet and Hoad 1978: 103), but *ġegædradon* ‘gathered’ (ptc., dat. pl.) in *CorpGl* 512 clearly exhibits syncope of *u. On *bet(t)ra* in *Ps(A)* (3×, no exx. of *betera*; Kuhn 1965: 226) see above. Syncope in *nicras* ‘water monsters’, *Beo* 1427, is not guaranteed by the meter.

³² The Sievers’ Law output of PGmc */j/ after light second syllables remains a vexed question. Gothic exhibits reflexes of *-ij- (e.g. in *riqizeip* ‘it’s getting dark’), but the PWGmc verb-forming suffix that appears in OE as *-ett-* requires simple *j for pre-PWGmc (see 3.1.3). Whatever the PGmc shape of this adjective was, it could have been shifted into the *-ija-stems in WGmc. In any case the *i of the PWGmc second syllable (guaranteed by i-umlaut in the first syllable) must be an innovation, though its rationale is obscure.

PGmc *batistaz ‘best’, weak *batistō (Goth. *batists, *batista*, ON *baztr*, *bazti*, OF *besta*, OS *bezt*, *bezto*, OHG *beʒʒisto*) > *bætist, *bætiſtā > OE *betest*, *betsta* → *betst* (the usual form), *betsta*.

That can hardly be the result of morphological reanalysis, given that *betera* is the comparative that resists syncope the longest. Syncope occurs more variably in some other forms of similar shape:

PNWGMc *winistarān- ‘left(-hand)’ (ON *vinstri*, OF *winstera*, OS, OHG *winistaro*) > *winistærā > *winistrā > OE *winestra* ~ *winstra*;
northern WGMc *marisk, gen. *mariskas ‘marsh’ > *mærisk, *mæriskæs (OF *mersk*) > OE *merisc*, *meriscēs* > *merisc*, *merscēs* → *mersc* (already in *CorpGl* 394);
northern WGMc *obūsti ‘haste’ (?; cf. OS *obastliko* ‘quickly’) > *œbÿsti > North. *æfest*, WS *efest*; derived verb Merc. *æfestan* ‘to hasten’, WS *efestan* > *efstan*.

It seems likely that high front vowels became variably voiceless in this environment, and that native learners acquired syncopated forms because they did not hear the voiceless vowels. The date(s) of these developments are hard to determine, though they must have followed i-umlaut. Syncope probably occurred first in ‘best’, in which a voiceless consonant preceded.

Since the *i of superlative *-ist- was syncopated even after a light stem syllable, it is not surprising to find it syncopated after heavy stem syllables as well. In the early period there are two adjectives in -h- with a consistently syncopated suffix in WS:

PGmc *hauhīstaz ‘highest’, weak *hauhīstō (ON *hæstr*, OF *hāchsta*, OS, OHG *hōhīsto*) > *hēahist, *hēahistā > WS OE *hiehīst, *hiehīstā > *hīest, *hiehsta* → *hiehst*, *hiehsta*; Angl. *hēhist, *hēhista > Merc. *hēst*, *hēhsta* → *hēsta*;
PWGMc *nāhwīst ‘nearest’, weak *nāhwīstō (OF *nēsta*, OS, OHG *nāhīsto*) > WS *nāhīst, *nāhīstā > *nēahist, *nēahīstā > *niehist, *niehīstā > *nīest, *niehsta* → *niehst*, *niehsta*; Angl. *nēhist, *nēhīstā > Merc., North. *nēst*, *nēhsta → *nēsta*— or did syncope not occur in this superlative in the Anglian dialects?

Variable syncope also occurs in WS *strengesta* ~ *strengsta* ‘strongest’, *ieldesta* ~ *ieldsta* ‘eldest’. It seems likely that the voiceless *h* of *hiehsta* and *niehsta*, like the voiceless *t* of *betsta*, promoted devoicing of the following vowel early and to an unusual degree. We will have occasion to return to that observation in discussing forms that underwent both apocope and syncope in section 6.8.1.

Finally, though the class II weak present stem suffix -iġV- < northern WGMc *-ōja- did not usually undergo syncope, because its first vowel was still long at the times that most of the episodes of syncope occurred, it did syncopate when followed by a closed medial syllable, namely in the pres. ptc. and the inflected infinitive (Campbell 1962: 333–4). The resulting forms were

usually levelled out (syllabic *-ig-* being restored from the rest of the paradigm), but a few survive in early glosses, e.g.:

early Merc. *tācnendi* ‘indicating’ *CorpGl* 1105 < *tācnǣndī < *tācnigǣndī (cf. WS *tācni(ǰ)ende* with the syncopated syllable restored);
 early Merc. *dobǣndi* ‘senile’ *CorpGl* 638 < *dobigǣndī (cf. WS *dofi(ǰ)ende*).

This minor syncope must have occurred after *i*-umlaut had run its course, since the /*j*/ had no effect on the vowels of root syllables.

6.7.5 Four consequences of general syncope

All instances of postconsonantal **j* that arose by syncope—even by the last change discussed above, which clearly occurred after *i*-umlaut—were lost after heavy syllables. Examples can be found above in 5.1.3, 6.7.1, and 6.7.4.

Palatal stops brought into contact with a following consonant by syncope were depalatalized. The following examples, adduced above in 6.7.3 and 6.7.4, are typical:

PGmc **mikilaz* ‘big’, masc. nom. pl. **mikilai*, etc. > OE **micil*, **micilǣ*, etc. → **micil*, **miclǣ*, etc. (on the analogy of **lȳtlǣ*, etc.?) > *micel*, *micle*, etc.;

PGmc **drankidē* ‘(s)he caused (someone) to drink’ > **drǣnkidǣ* > OE **drǣncidǣ* > **drǣncdǣ* > *drencte* ‘(s)he made (someone) drunk, (s)he drowned (someone), (s)he saturated’;

PGmc **junhizō* ‘younger’ >→ PWGmc **jūhizō* ~ **jungizō* > OE **jynǰirā* > *ǰingra*;

P(NW)Gmc **langizō* ‘longer’ > **lǰngirā* > OE **lǰngirā* > *lengra*;

PWGmc **mangidē* ‘(s)he mixed’ > **mǰngidǣ* > OE **mǰngidǣ* > *ǰe-mengde*;

PWGmc **þrukkiðē* ‘(s)he pressed’ > OE **þryccidǣ* > **þryccdǣ* > *þrycte*;

PWGmc **angil* ‘angel’, nom. pl. **angilō*, etc. >→ **angil*, **angilōs*, etc. > OE **ǰngil*, **ǰngilās* > *ǰngel*, *ǰnglas*, etc.;

pre-OE **ēakidǣ* ‘(s)he increased (it)’ > WS OE **iecidǣ* > **iecdǣ* > *iecte*, Angl. **ēcidǣ* > **ēcdǣ* > North. *ǰe-ēcte*.

Though I have given intermediate forms with palatal consonants before following consonants, it is possible that depalatalization was an automatic and immediate consequence of syncope. This change makes phonetic sense only if palatal stops had not yet begun to be affricated; but since affrication is not attested before the end of the 9th century (see 6.4.1 ad init.), this relative chronology is no surprise. Evidence that the palatal fricative *ǰ* lost its palatalization when brought into contact with a following consonant by syncope is meager and equivocal; there is usually no change in spelling even when the following consonant is voiceless (and so should have triggered a change of velar fricative *g* to *h*, see below). The following examples, adduced above in 6.7.3 and 6.7.4, are typical:

PNWGmc *baugidē ‘(s)he bent (it)’ > *bēagidā > WS OE *bīegidā > *bīegde*, Angl.
 *bēgidā > North. *ge-bēgde* ‘(s)he stooped’;
 PNWGmc *sigiþiz ‘sickle’ >→ PWGmc *sigiþi ‘scythe’ > *sigiþi > OE *sigþi*
 (spelled *sigdi* in *EpGl*, *ErfGl* 430) > *sīþe* (already in *CorpGl* 834);
 PWGmc *agiþā ‘rake, harrow’ > *ægiþā > OE *ēgiþā > *ēgeþe* ~ *ēgþe*;
 PWGmc *agisō ‘terror’ > *ægisā > OE *eġesa* ~ *eġsa*.

There are further instances among weak class I past stems, e.g.:

PGmc *burgidē ‘(s)he raised a mound over’³³ (ON *byrgði* ‘(s)he closed, (s)he shut
 in?’; deriv. of *burg- ‘mound’, cf. OIr. *brí*, *brig-* ‘hill’) > *byrgidā > OE *byrgde*
 ‘(s)he buried’;
 PWGmc *brōgidē ‘(s)he terrified’ (OHG *bruogta*) > *brōgidā > OE *brēgde*.

Note also a derived noun (on which see further 6.8.1):

pre-OE *æbulgiþu ‘anger’ (cf. OHG *ābulgi*) > *æbylgiþu > *æbylgþu > OE *æbylgþ*.

This seems to follow naturally if *g* was already [j] next to vowels; but in that case we might expect it to become syllabic between consonants, and it seems clear that *g* was usually preserved in that position, to judge from late spellings like *byrigde* and *æbyligþe*. Apparently *g* had simply drifted too far from velar [ɣ], phonetically speaking, for it to revert to [ɣ] when it became pre-consonantal. (See further section 6.8.2 below.)

A third sound change that occurred as a direct consequence of general syncope was voicing assimilation in obstruent clusters. The *-d- of the weak class I past and past participial suffix *-id- was devoiced when it came into contact with any voiceless obstruent by syncope. The following examples have already been adduced in section 6.7.3:

PGmc *mōtidē ‘(s)he met’ > OE *mōtidā > *mōttā > Merc., North. *ge-mætte*, WS
mette;
 PGmc *laistidē ‘(s)he followed’ > PWGmc *laistidē ‘(s)he followed, (s)he carried
 out, (s)he accomplished’ > *lāstidā > OE *lāstidā > *lāsttā > *lāste*;

³³ This etymology, implicitly proposed in vol. i 3.3.1 (iii), p. 165, still makes more sense to me than a direct derivation from PGmc *bergana ‘to hide’. One would expect a ja-present with a zero-grade root to be a derived intransitive, like *þunkijana ‘to seem’ and *burjana ‘to be begotten’. It is true that *huljana ‘to cover, to hide’ is more or less synonymous with *helana, and the parallel with *burgijana and *bergana is close and obvious. But there are two possible explanations for *huljana other than direct derivation from *helana: it might actually be a denominative of *hulā ‘hole, hollow’ (ON, OE, OF, OHG *hol*)—parallel to the derivation of *burgijana proposed here; alternatively, *burgijana might have been reinterpreted as a derivative of *bergana (cf. the ON word), and that might have led to the creation of (transitive) *huljana as a parallel.

PGmc *drankidē ‘(s)he caused (someone) to drink’ > *drānkidā > OE *dræncidā > *dræncdā > *drencte* ‘(s)he made (someone) drunk, (s)he drowned (someone), (s)he saturated’;
 PNWGmc *kussidē ‘(s)he kissed’ > OE *kyssidā > *kyssdā > *cyste*;
 PWGmc *þrukkiðē ‘(s)he pressed’ > OE *þryccidā > *þryccdā > *þrycte*; pre-OE *ēakidā ‘(s)he increased (it)’ > WS OE *īecidā > *īecdā > *īecte*, Angl. *ēcidā > *ēcdā > North. *ġe-ēcte*;
 pre-OE *huspidā ‘(s)he mocked, (s)he reproached’ (deriv. of *hosp* ‘reproach, insult’) > *hyspdā > *hyspte*.

Conversely, voiced consonants were assimilated to following voiceless *s* and *þ* when syncope occurred; examples will be adduced in 6.8.1. Note that geminate consonants were also degeminated next to another consonant (cf. *cyste*, *þrycte* above). These assimilations could have been more or less automatic consequences of syncope; the intermediate stages given in my schemata of phonological development should not be taken too seriously.

A fourth sound change fed by syncope was also fed by other processes. Long vowels and diphthongs were shortened (1) before clusters of three consonants; (2) before clusters of two consonants if at least two syllables followed in the word; and (3) before geminates. The results of this early shortening are largely ‘invisible’ in OE texts, since long and short vowels are written with the same symbols (though see below); some reveal themselves in the changes of low vowels that occurred in the 11th and 12th centuries, and a few of the resulting alternations still survive as fossils in ModE. The relative chronology of early shortening is, as usual, determinable from its interactions with other sound changes. But for the first time we also encounter a word whose external history provides an approximate absolute date for a change.

One example of shortening before two consonants followed by two further syllables has already been encountered:

pre-OE *blōdisōjan ‘to consecrate with blood’ > *blōdisōjan > *blōdsejan > North. *blædsiga*, Merc. *bledsian*, WS *bletsian*, all ‘to bless’.

The vowel was shortened by regular sound change in all forms of this class II weak verb except the pres. indic. 2, 3sg., and iptv. 2sg., in which only one syllable followed the root syllable; presumably it spread to them by levelling. The spelling with *e* rather than *æ* in 9th-century Mercian (*Ps(A)*) shows clearly that the vowel had been shortened. An example of shortening before three consonants was also fed by regular syncope:

PWGmc *brām- (name of a prickly plant; OHG *brāma* ‘thornbush’) > *brām > OE *brōm* ‘broom’ (the plant); dimin. *brāmil, nom. pl. *brāmilō > *brāmil, *brāmilōs > OE *brōemel > *brēmel* ‘briar, bramble’, nom. pl. *bræmblas*³⁴ > *bremblas*.

This example shows further that the reflexes of *ā and of its i-umlaut product were not much rounded when shortening occurred.

Most examples of shortening before three consonants, and before two consonants in trisyllabic and longer words, were created by compounding and derivation. The spelling of the following more or less transparent examples—in OE or in loan translations (see below)—clearly reveals shortening (cf. Luick 1914–40: 187–8):

PGmc *ainalif- or *ainalib- ‘eleven’ (Goth. dat. *ainlibim* with *b, OHG *einlif* with *f; either in ON *ellifu*, OF *elleva*, OS *ellevan*) > *ānlif/bi- (with early syncope, before i-umlaut) or *ānilif/bi- (with raising between a nasal and a potentially umlauting syllable, see 6.6.4) > *ænlif/ban > *ænlifan > OE *enlefan*;
 PWGmc *sāmikwi/eku ‘half-dead’ (lit. ‘half-alive’; OS *sāmquik*, OHG *sāmiqek*) > OE *sāmækwiku > *sāmkwiku > *samcwic* ~ *samcucu*;
 early OE *sāmboræn ‘untimely born’ > *samboren*;
 early OE *ānwintrī ‘yearling’ > *ænwintrī > *ænwintrī > *enwintrī > *enitrī (with loss of the second *n by dissimilation; see below on the *w) > *enetre*;
 early OE *gōdspell* ‘good news, gospel’ (loan translation of Gk *εὐαγγέλιον* /euangélion/) > *godspell*.

The loss of *w before *i in *enetre*—after shortening, therefore after general syncope, therefore after the loss of *w before fully unstressed *i—is striking. It suggests that either the loss of *w was a process that took some generations to complete, eliminating this *w before a weakly stressed *i well after *w was lost before fully unstressed *i, or else that native learners abstracted a rule dropping word-medial *w before *i regardless of stress, which eliminated *w in this example. If that latter is what happened, the loss of this *w resulted not from a regular sound change but from the generalization of an existing phonological rule (see Ringe and Eska 2013: ch. 6).

The inclusion of *godspell* in the above list may seem surprising, since it would be spelled the same in OE regardless of the length of its first vowel. But it was mistranslated into OHG as *gotspel*, with apparent first element *got* ‘god’ (= OE *god*) rather than *guot* ‘good’ (= OE *gōd*), and the shortening must have taken place *and the original long-vowel variant must have been lost* by the time the attempted translation misfired (Luick 1914–40: 188, Anm. 1).

³⁴ This is obviously the source of the ModE form; it was characteristic of Essex (and thus of London), in which the umlaut product of *ā remained low into the ME period (Luick 1914–40: 171, 347–8).

The occasion for the translation can only have been an English mission to polytheistic or under-Christianized areas of Germany, and the earliest such mission appears to be that of Boniface (born Wynfriþ), launched in 716. Since the English term was probably coined by the missionaries whom Pope Gregory I sent to Canterbury in 597, the date of these early shortenings must fall roughly in the 7th century. The qualifier ‘roughly’ needs to be taken seriously: though the original form *gōdspell* (with a long vowel) must have been lost sight of by the time someone attempted to translate the word into OHG—otherwise there would have been no error—it is not literally true that shortening before three-consonant clusters *must* have occurred after the word was first coined; shortening before three consonants can already have been a productive phonological rule at that time, recent enough to have applied to the new coinage automatically. Thus it is at least possible that three-consonant shortening began in the last generation of the 6th century (so already Luick 1914–40: 266).

If fronting occurred roughly in the 5th century (which is fairly likely but not certain; see 6.1.1 above) and three-consonant shortening can be dated around 600 or so, we have the following relative chronology of sound changes with approximate beginning and ending dates:

- 1) fronting (5th century?)
- 2) breaking
- 3) general retraction
- 4) palatalization
- 5) palatal diphthongization (WS only)
- 6) i-umlaut
- 7) loss of *w before unstressed *i
- 8) general syncope
- 9) three-consonant shortening (c.600–650)

(cf. Luick 1914–40: 321, 931; Campbell 1962: 109, 161, 196–7). An ordered sequence of nine sound changes in about 150–200 years (roughly six to eight generations) is plausible, to judge from modern work in sociolinguistics.

Further possible examples of early shortening, to judge from their reflexes in ME and ModE, include the following:

- gastlic* ‘spiritual’, deriv. of *gāst* ‘spirit’ (cf. ModE *ghastly* ‘spectral’ : *ghost*, both with negative shift in meaning);
- Cristesmæsse* ‘Christmas’ (lit. ‘Christ’s mass’), cpd. of *Crīst* ‘Christ’;
- blostma* ‘blossom’, cf. *blōma* ‘ingot’ (both ultimately derivs. of *blōwan* ‘to bloom’);
- freondscīpe* ‘friendship’, deriv. of *frēond* ‘friend’;
- clænsian* ‘to cleanse’, deriv. of *clæne* ‘clean’;
- fiftiene* ‘fifteen’, cpd. of *fif* ‘five’.

However, two circumstances make most of these examples less than fully certain. On the one hand, recombination and rederivation can have restored the long vowel in just about every one of these words (least probably in the opaquely derived *blostma*). On the other hand, a similar sound change with less restrictive conditioning occurred in the 11th century, re-shortening any long vowels that had been restored in the meantime. It will be discussed in vol. iii.

The evidence for early shortening before geminates is similar. Four examples are guaranteed by OE spellings (Luick 1914–40: 189, Brunner 1965: 119). One exhibits the raising of short *æ* to *e* before nasals:

P(NW)Gmc *aininō ‘one’, acc. sg. masc. (see 2.1.2) > *āninæ > *ǣnine > (*)*ǣnne* > (*)*ænne* > *enne*, preserved unchanged in Merc., North.; early WS shows *ǣnne* and *ānne* by levelling.

Two others exhibit back umlaut, a sound change that affected only short vowels (see 6.9.4):

northern WGmc *laisizā ‘less’ (OF *lessa*) >→ OE (*)*lǣssa* (see 3.3.1) > *læssa* > North. *leassa*;
 OE *sīþ þan ‘after that’ > *siþþan > *siþþan* ‘since’ > Kent. *siopþan*.

The fourth example was subject to an odd sound change affecting only the sequence *sel* (with short *e*) in late WS (see vol. iii), which shows that it had undergone early shortening:

pre-OE *sōlirā ‘better’ (see Heidermanns 1993: 528) > *sōlirā > *sōlra > (*)*sēlra* > (*)*sēlla* > *sella* > late WS *sylla*.

It is likely that the long vowel was restored by levelling in at least some of these words, least probably in *siþþan* (hence the asterisks in parentheses: the forms so marked may actually be attested—we can’t really tell, since OE scribes didn’t usually mark vowel length—but if they are, they reflect later restoration of the long vowels). Shortening should also have occurred, and probably did occur at first, in weak class I past stems like *hydde* ‘(s)he hid’, *mette* ‘(s)he met’, etc. (infs. *hȳdan*, *mētan*, etc.), but the long vowel might have been restored in these forms too; we cannot know for sure, because an 11th-century sound change shortened, or would have shortened, them again.

6.8 Apocope and related changes

6.8.1 Apocope of short high vowels

After general syncope had run its course, short **i* and **u* were lost word-finally after a heavy syllable and after an unstressed syllable preceded by a

stressed light syllable. (For handbook references see 6.7.3 ad init.) Several inflectional endings and stem vowels were affected; I will sort the examples morphologically. We have already encountered many examples of the loss of *ō*-stem nom. sg. *-u:

- PGmc *markō ‘boundary, border’ (Goth. *marka*; cf. Lat. *marginō*, *margin-* ‘edge’) > PNWGmc *marku (ON *mǫrk* ‘woods’, OF *merke*, OS, OHG *marka*) > *mæрку > OE *mearc*;
- PGmc *herdō ‘herd’ (Goth. *hairda*) > PNWGmc *herdu (ON *hjørð*, OHG *herta*) > OE *heord*;
- PGmc *razdō ‘voice’ (Goth. *razda* ‘speech’) > PNWGmc *razdu (ON *rǫdd*, OHG *rarta*) > *riordu (?) > OE *reord*;
- PGmc *mizdō ‘reward’ (extended as an n-stem in Goth. *mizdo*) > PWGmc *mizdu (OF *mēde*, OS *mēda*, OHG *miata*) > OE *meord* ~ *mēd*;
- PGmc *strēlō ‘arrow’ (cf. OCS *strēla*) > PWGmc *strālu (OS, OHG *strāla*) > OE *stræl*;
- PGmc *haljō ‘hell’ (Goth. *halja*, ON *hel*) > PWGmc *halʝu (OF *helle*, OS *hellia*, OHG *hella*) > *hællʝu > OE *hell*;
- PGmc *awjō ‘island’ (ON *ey*; cf. the medieval Latin place-name *Scandinavia* ← *Skadinawjō ‘the Island of Skåne’) > PWGmc *awʝu (OHG *ouwa*) > *auju > *ēaju > OE (WS) *īeg*, (Angl.) *ēg*;
- PGmc *feþrō ‘feather’ (cf. Lat. *penna* < *petnā) > PNWGmc *feþru (ON *fjǫðr*, OF *fethere*, OS *fedara*, OHG *fedara*) > *feþr > OE *feþer*;
- PGmc *ahslō ‘shoulder-joint’ (ON *ǫxl*; cf. Lat. *āla* ‘wing’) > PWGmc *ahslu (OF *axle*, OS *ahsla*, OHG *ahsala*) > *æhslu > *eahslu > OE *eaxl*;
- PGmc *agjō ‘edge’ (ON *egg*; cf. Lat. *aciēs*) > PWGmc *agʝu (OF *egg*, OS *eggia*, OHG *ecka*) > *ægʝu > *egǵu > OE *ecǵ*;
- PGmc *banjō ‘(a) wound’ (Goth. *banja*) > PNWGmc *banʝu (ON *ben*) > *banʝu > *bænnu > OE *benn*;
- PGmc *swegrō ‘mother-in-law’ (*swegrū?; cf. Skt *śvaśrūs*, Lat. *socrus*) > PWGmc *swegru (OHG *swigar*) > *swēgr > OE *swēger*;
- PGmc *ahs- ‘axle’ (ON *ǫxull*; cf. Lat. *axis*) > PWGmc *ahsu (OS, OHG *ahsa*) > *æhsu > *eahsu > OE *eax*;
- PGmc *ubiswō ‘hall’ (Goth. dat. sg. *ubizwai*, ON *ups* ‘vestibule’) > PWGmc *ubisu (OHG *obasa*, *obisa* ‘entrance hall’) > *ybisu > OE *yfes* ‘eaves’;
- PNWGmc *raidu ‘act of riding’ (ON *reið*, OF *rāf-rēd* ‘a ride on a stolen horse’, OHG *reita* ‘chariot’) > *rādu > OE *rād* ‘riding, expedition’;
- PNWGmc *baunu ‘bean’ (ON *baun*, OF *bāne*, OS, OHG *bōna*) > *bēanu > OE *bēan*; PNWGmc *hallu ‘hall’ (ON *holl*, OS, OHG *halla*) > *hællu > WS OE *heall*, Angl. *hall*;
- PWGmc *brugʝu ‘bridge’ (OF *bregge*, OS *bruggia*, OHG *bruckea*) > *bryǵgu > OE *brycǵ*;
- PWGmc *fihlu ‘file’ (the tool; OS *fila*, OHG *fihala*) > *fiohlu > *fiol > OE *fēol*;

PWGmc *gimmu ‘gem’ (OHG *gimma*) > OE *gimm*;
PWGmc *gabulu ‘fork’ (OS *gabala*, OHG *gabala*) > *gæbul > OE *gafol*;
northern WGmc *kaij- ‘key’ (OF *kēi*, masc.) > *kāju (fem.) > *kæju > OE *cæg*.

Further examples with disyllabic stems include:

PGmc *firinō ‘crime’ (Goth. *fairina* ‘guilt, reproach’) > PWGmc *firinu (OF *firne*, OS, OHG *firina*) > OE *firen*;
PWGmc *luginu ‘(a) lie’ (OF *leine*, OS, OHG *lugina*) > *lyginu > OE *lygen*.

If it survived long enough (see 2.1.1 and below), *i*/*ij*-stem nom. sg. *-i was likewise lost:

PGmc *bandi ‘fetter’ (Goth. *bandi*) > PWGmc *bandi > *bāndi > *bændi > OE *bend*;
PWGmc *gazdi ‘rod’ (OF *jerde* ‘yard’, OS *gerdia*, OHG *gertia*) > *gærði > *geardi > WS OE *gierdi > *gierd*, Angl. *gerdi > Merc., North. *gerd*;
PGmc *ak^wisi ~ *akuzjō- ‘ax’ (cf. Goth. *aqizi*; vol. i 4.3.4 (i), pp. 269–70) >→
PNWGmc *ak^wisi (ON *ax* ~ *øx*) > PWGmc *ak(k)wisi (OF *axa*, OS *akus*, OHG *accus*) > *akusi > *ækysi > Merc. OE *æces*;
PWGmc *kabisi ‘concubine’ (OHG *kebis(a)*) > *kæbisi > *cæbisi > *ceabisi > WS OE *ciefes* (early Merc. pl. *cebisæ*, *EpGl* 745; North. pl. *cefissa*).

The loss of a-stem neut. nom.-acc. pl. *-u was precisely parallel:

PGmc *landō ‘lands’ (Goth. **landa*) > PNWGmc *landu (ON *lōnd*, OHG *lant*) > OE *land*;
PGmc *wurdu ‘words’ (Goth. *waúrda*) >→ PNWGmc *wordu (ON *orð*, OF, OS *word*, OHG *wort*) > OE *word*.
PWGmc *wataru ‘waters’ > *wætæru > Merc. *weter*, WS *wæter* → *wæteru*.

So was the loss of consonant-stem gen., dat. sg. and nom. pl. *-i:

PGmc gen. sg. *burgiz, dat. sg. *burgi, nom. pl. *burgiz ‘hill-fort(s), palisade(s)’ (Goth. *baúrgs*, *baúrg*, *baúrgs* ‘town(s)’) > PWGmc *burgi ‘town’s, (to a) town, towns’ > *byrgi > OE *byrg*;
PGmc nom. pl. *manniz ‘human beings’ (Goth. *mans*, ON *mēðr*) > PWGmc *manni (OF *men*, OS, OHG *man*) > *mānni > OE *mænni > *menn*;
PGmc nom. pl. *fōtiz ‘feet’ (ON *fætr*, OF *fēt*; cf. Gk *πόδες* /*pódes*/) > *fœti > Merc., North. OE *fēt*, WS *fēt*;
PGmc dat. sg. *duhtri ‘daughter’ (Goth. *daúhtr*) → *dohtri > *dœhtri > OE *dœhtr > Merc., North. *dæhter*, WS *dehter*;
PGmc nom. pl. *uhsiniz ‘oxen’ (ON *yxn*) >→ *ohsini > *cæhsni > OE *cæhsn > Merc. (*Ps(A)*) *æxen*, late North. *exin*;
PNWGmc nom. pl. *bōkiz ‘inscribed billets’ (vel sim.; ON *bækr* ‘books’) > PWGmc *bōki (OHG *buoh* ‘books’) > *bæci > North. OE *bæc*, WS *bēc*, both ‘books’;
PNWGmc nom. pl. *aikiz ‘oaks’ (ON *eikr*) > *āci > *æci > OE *æc*.

The stem vowels of *i-* and *u-* stems were lost under the same conditions; note the following examples:

PGmc nom. sg. *gastiz, acc. sg. *gasti ‘guest’ (Goth. *gasts*, *gast*, Runic Norse *-gastiz*, ON *gestr*, *gest*) > PWGmc *gasti (OF *jest*, OHG *gast*) > *gæsti > *gæsti > WS OE *gæasti > *giesti > *giest*, Angl. *gesti > North. *gest*;

PGmc *balgiz ‘leather bag’ (Goth. **balgs*, ON *belgr* ‘flayed skin, leather bag’) > PWGmc *balgi (OS, OHG *balg*) > *bælgi > WS OE *bealgi > *bielgi > *bielg*, Angl. *balgi > *bælgi > *bælg > North. *bælig*;

PGmc *dailiz ‘part’ (Goth. acc. *dail*) > PWGmc *daili (OS, OF *dæl*, OHG *teil*) > *dāli > *dæli > OE *dæl*;

PGmc *dēdiz ‘deed’ (Goth. **missa-deps* ‘misdeed, sin’) > PNWGmc *dādiz (ON *dād*) > PWGmc *dādi (OF *dēde*, OS *dād*, OHG *tāt*) > OE *dædi, Angl. *dēdi > WS *dæd*, Angl. *dēd*;

PGmc *k^wēniz ‘woman, wife’ (Goth. *qens*) > PWGmc *kwāni (OS *quān*) > *kwāni > OE *cwōen* > *cwēn*;

PGmc *wurtiz ‘root, plant’ (Goth. *waúrts*) > PWGmc *wurti (OS *wurt*, OHG *wurz*) > *wyrtri > OE *wyrt*;

PNWGmc *bankiz ‘bench’ (ON *bekkr*) > PWGmc *banki (OS, OHG *bank*, OF *bank* ~ *benk*) > *bānci > *bænci > OE *bænc > *benç*;

PNWGmc *laugiz ‘flame’ (ON *leygr* (poetic)) > *lēagi > WS OE *liæg*, Merc., North. *lēg*;

PNWGmc *glōdiz ‘hot coals, embers’ (ON *glōð*) > PWGmc *glōdi (OF *glēd*, OHG *gluot*) > *glōedi > North. OE *glōed*, WS *glēd*;

PWGmc *fūsti ‘fist’ (OF *fēst*, OS, OHG *fūst*) > *fýsti > OE *fýst*;

PWGmc *flaiski ‘flesh, meat’ (OF, OS *flēsk*, OHG *fleisc*) > *flæsçi > OE *flæsç*; northern WGmc *lūti (noun) ‘little, few’ (OS *lūt*) > *lȳti > OE *lȳt*;

PGmc nom. sg. *handuz, acc. sg. *handu (Goth. *handus*, *handu*) > PWGmc *handu (OF, OS *hand*, OHG *hant*) > OE *hand*;

PGmc *skelduz ‘shield’ (Goth. acc. *skildu*, ON *skjöldr*) > PWGmc *skeldu (OF *skeld*, OS *skild*, OHG *skilt*) > *sčeldu > WS OE *sčield*, Merc. *sčeld*;

PGmc *k^wernuz ‘mill’ (Goth. *asilu-qairnus* ‘millstone’, ON *kvern*) > PWGmc *kwernu > OE *cweorn*;

PGmc *anud- ‘duck’ (ON *ǫnd*; cf. Lat. *anas*, *anat-*) → PWGmc *anudiz (OHG *anut*) > *ānudi > *ānydi > *ænid* (*EpGl* 17) > *ened*;

PGmc *hanapiz ‘hemp’ (ON *hampr*; cf. Gk *κάνναβις* /*kánnabis*/) > PWGmc *hanapi (OHG *hanaf* ~ *hanif*) > *hānipi > OE *hænep* > *henep*;

PWGmc *abunsti ‘envy’ (OS, OHG *abunst*) > *abūsti > *æbȳsti > OE *æfest*.

Here also belong comparative adverbs, e.g.:

PGmc *airiz adv. ‘earlier’ (Goth. *airis*, ON *ær*, OF *ēr* ‘earlier, before’, OS *ēr*, OHG *ēr* ‘before’) > *āri > OE *ær* ‘before’;

PGmc adv. *langiz ‘longer’ (ON *lengr*) > PWGmc. *langi (OS, OF *leng*) > *l̥angi > *l̥æŋgi > OE *leng̊*.

There are also two examples of the loss of *-i in opaque pronominal and numeral forms:

PGmc inst. pl. *þaimiz ‘those’, *twaimiz ‘two’ (Goth. dat. pl. *þaim*, *twaim*, ON *þeim*, *tveimr* > *tveim*, unless these are old dat. pl. forms in *-maz) > PWGmc *þaimi, *twaimi (OHG *dēm* (orig. unstressed), *tweim*) > *þāmi, *twāmi > *þ̥æmi, *tw̥æmi > OE *þ̥æm*, *tw̥æm*.

Pres. indic. 1sg. *-u should also have been lost, and probably was lost, after heavy syllables; but it was clearly restored in the Anglian dialects, and probably also in Kentish and WS, where it was later replaced (see 7.1.3).

The only apparent exception to this sound change is a preposition:

PGmc *umbi ‘around’ (vol. i 3.2.1 (iv), p. 79; ON *um*, OHG *umbi*) > *ymbi > OE *ymbe*;

in this case the sound change did not operate because the preposition formed a single phonological word with a following nominal.

After a light stressed syllable neither vowel was lost. Note the following *ō*-stem nom. sg. forms (mostly replaced by acc. sg. forms in OS and OHG):

PGmc *gebō ‘gift’ (Goth. *giba*) > PNWGmc *gebu (ON *gjǫf*, OF *jefe*) > *gēbu > WS OE *giefu*, Merc. *geofu*;

PGmc *snuzō ‘daughter-in-law’ (ON *snor* ~ *snør*; cf. Skt *snuṣā*) > PWGmc *snuzu (OHG *snur*) > OE *snoru*;

PGmc *ah^wō ‘river’ (Goth. *ahva*) > PWGmc *ahu > *æhu > *eahu > OE *ēa* (with contraction, not apocope);

PNWGmc *k^walō ‘torture’ (ON *kvǫl*) > PWGmc *kwalu > OE *cwalu*; PNWGmc *saku ‘conflict, accusation’ (ON *sǫk*) > PWGmc *saku > *sæku (OF *seke*) > OE *sacu*;

PNWGmc *faru ‘journey’ (ON *fǫr*) > PWGmc *faru > *færu (OF *ūt-fere* ‘journey abroad’) > OE *faru*.

So also a-stem neut. nom.-acc. pl. *-u (mostly levelled away in OHG):

PGmc *skipō ‘ships’ (Goth. *skipa*) > PNWGmc *skipu (OF *skipe*) > OE *scipu*;

PNWGmc *fatu ‘containers’ (ON *fǫt*, OS *fatu*) > *fætu > OE *fatu*;

PNWGmc *bladu ‘leaves, blades’ (ON *blǫð*, OS *bladu*) > *blædu > OE *bladu*.

So also the stem vowels of i- and u-stems (mostly levelled away in OHG):

PGmc *stadiz ‘place’ (Goth. *staþs*, ON *staðr*) > PWGmc *stadi (OF *stede*, OS *stedi*, OHG *stat* ‘place, town’) > *stædi > OE *stedi* > *stede*;

- PGmc *matiz ‘food’ (Goth. *mats*, ON *matr*) > PWGmc *mati (OF *mete*, OS *meti*, OHG *maʒ*) > *mæti > *meti > OE *mete*;
- PGmc *hugiz ‘thought, understanding’ (Goth. **hugs*, ON *hugr*) > PWGmc *hugi (OS *hugi*, OF *hei*; OHG *hugu* with shift into the u-stems) > *hygi > OE *hyge*;
- PGmc *slagiz ‘blow, stroke’ (Goth. acc. *slah* (with analogical -h-), ON *slagr*) > PWGmc *slagi (OS *slegi*, OHG *slag*) > *slægi (OF *slei*) > *slegi > OE *sleġe*;
- PGmc *stikiz ‘puncture, point’ (Goth. *stiks melis* ‘moment of time’) > PWGmc *stiki (OF *stek*, OS *stiki*, OHG *stih*) > *stīci > OE *stiċe*;
- PGmc *awiz ‘sheep’ (cf. Goth. *awistr* ‘sheepfold’, Lat. *ovis*) → PNWGmc ‘ewe’ (ON *æʀ*) > PWGmc *awi (OHG *ou*) > *æwi > OE *ewi → *ewu > *eowu* (see 6.9.4);
- PGmc *mari- ‘sea’ (Goth. *mari-saiws* ‘lake’) → PNWGmc *mariz (ON *marr*) > PWGmc *mari (OS, OHG *meri*) > *mæri > OE *meri* > *mere* ‘pond, pool’, poetic ‘sea’;
- PWGmc *baki ‘brook’ (OS *beki*, OHG *bah*) > *bæci > OE *beċi > *beċe*;
- PGmc *sunuz ‘son’ (Goth. *sunus*, ON *sonr*) > PWGmc *sunu (OF, OS *sunu*, OHG *sunu* → *sun*) > OE *sunu*.
- PGmc *maguz ‘boy’ (Goth. *magus*, ON *mōgr* ‘son’) > PWGmc *magu (OS *magu* ‘son’) > OE *magu* ‘young man, son’ (poetic);
- PNWGmc *laguz ‘water, the sea’ (ON *lōgr*) > PWGmc. *lagu (cf. OS *lagustrōm* = OE *lagustrēam*) > *lægu > OE *lagu*.

The only clear exception that has come to my attention is OE adv. *bet* ‘better’ < PWGmc *bati (OF *bet*, OS *bet*, *bat*, OHG *baʒ*) < PGmc *batiz (ON *betr*); Campbell 1962: 144 n. 2 suggests that it might have lost its *-i by lexical analogy with *sēl* ‘better’. PWGmc word-final *-i, *-u that developed from *j, *w upon the loss of word-final short low vowels occurred only after light syllables and so were not lost; see 3.1.2 for examples.

In Ringe 2002 I argued that syncope in 2, 3sg. pres. indic. forms of strong and class I weak verbs could be explained only by the survival of the disyllabic PGmc endings *-isi, *-iþi into prehistoric OE and their shortening by syncope and apocope operating in that order. Since then two further developments have occurred. On the one hand, Fulk 2010, Hogg and Fulk 2011: 220 have argued against my hypothesis; on the other hand, new evidence which supports my hypothesis has come to my attention. It therefore seems necessary to argue for my hypothesis (more briefly) again here.

Fulk 2010 objects most strongly to the fact that I posit prehistoric neut. a-stem nom.-acc. pl. forms such as *hēafd ‘heads’ < *hēafdu < *hēafudu and *riċ ‘kingdoms’ < *riċju < *rikiju, with syncope and apocope applying in that order. He prefers the formulation of Campbell 1962: 146–7, namely that general syncope and the apocope of short high vowels occurred simultaneously (though not Campbell’s further stipulation that in sequences of this type the medial vowel was the one lost). But such a preform as *rikiju cannot have been affected by syncope and apocope simultaneously. The

discussion in 5.1.3, 6.7.1, and 6.7.3 establishes a relative chronology of sound changes as follows:

- 1) syncope of *i in the unstressed sequence *-CijV- (only);
- 2) variable loss of *h before two nonsyllabics;
- 3) breaking
- ...
- 4) loss of *w before fully unstressed *i (but not *j);
- 5) general syncope of short high vowels in unstressed open syllables.

This is the only way to explain why *w survives in *ġierwan* ‘to prepare’ < *ġierwjaŋ < PWGmc *garwijan but has been lost in *ġiereþ* ‘(s)he prepares’ < *ġierwiþi and *ġierede* ‘(s)he prepared’ < *ġierwidæ, with no syncope in either of the latter forms. Note that at the relevant period there were no forms of the paradigm of this verb in which *w occurred before any sound other than *i or *j, from which it could have been reintroduced into the forms which exhibit it in attested OE; and if we hypothesize that it was reintroduced from the adjective *ġearu* ‘ready’ (from which the verb was still synchronically derived), we must explain why it was not reintroduced into all forms of the verb. In short, only the sequence of regular sound changes posited above will account for the pattern of facts. But since sound change is regular, we expect the same changes to have applied to *rikiju, and the result is in fact *rikiju > *rikju (by pre-OE syncope) > *riċju > *riċu > *riċ, EVEN IF general syncope and apocope occurred simultaneously, as Campbell believes. The only way to ‘save’ the actually attested form *riċu* as the outcome of sound change alone is to impose a condition on the early syncope of *i in *-CijV-. We could suggest that early syncope failed to occur if the vowel following *j was a word-final short high vowel (which could only be *u at that stage of the language). That is more or less what Fulck proposes: that neither syncope nor apocope occurred in this sequence, and that *rikiju > *riċiju > *riċiu > *riċu*, with a relatively late change of the anomalous unstressed diphthong *iu to *u* (Fulck 2010: 127 with references).³⁵ He likewise proposes that *hēafudu* is the regular sound-change outcome of prehistoric *hēabudu; that is, that in word-final sequences of this type neither vowel was ever lost by regular sound change.

Fulck’s hypothesis accounts fairly well³⁶ for the early pattern of neut. nom. -acc. pl. forms of words of this shape; unfortunately it does not account well

³⁵ It is not clear to me what the inconclusive discussion in Fulck 2010: 139–40, with references, is meant to demonstrate.

³⁶ It is somewhat startling to find that, though *hēafudu* is presented as the regular sound-change outcome and *Ps(A)* is presented as the text that best preserves regular sound-change outcomes, *hēafudu* occurs only twice in *Ps(A)*, whereas *hēafud* occurs five times (Fulck 2010: 137).

for other forms which should have developed in the same way. Most obviously it does not account for the nom. sg. of such nouns as *strengþ* ~ *strengþu* ‘strength’: though the suffix was unarguably disyllabic *-iþu, such forms as ‘*strengþu*’, with both unstressed vowels preserved, virtually never occur. Fulk suggests that these nom. sg. forms were vulnerable to analogy in ways that neut. nom.-acc. pl. forms like *hēafudu* were not (Fulk 2010: 140–1); I am not convinced. But there are also more isolated forms for which his hypothesis does not account, including at least the following:

PGmc *alinō ‘forearm, ell’ (cf. Lat. *ulna*; the long vowel in Goth. *aleina* is puzzling)
 > PNWGmc *alinu (ON *ǫln*, OF *elne*, OS, OHG *elina*) > *ælinu > *elinu > *elnu
 > OE *eln*;

PGmc *salipwō ‘dwelling, hall’ (Goth. pl. *salipwos*) > PWGmc *salipū (acc. OS
selida, OHG *selida*) > *sælipū > *selipū > *selþū > OE *seld* (poetic; *d* is unexpected: lexical analogy with *seld* ‘seat’ < *setl*?);

Lat. *mīlia* (*passuum*) ‘thousands of paces, miles’ → PWGmc *mīliju ‘mile’ (OHG
 acc. *mīla*) > OE *mil*.

(Other ijō-stems with a long root syllable can have existed in PWGmc, but this one is more or less certain; that it was borrowed as *mīli, like PWGmc *bandi ‘fetter’, seems improbable, given that it was the nom. form—a neut. pl. in Latin, reinterpreted as a fem. sg.—that determined the word’s inflectional class in PWGmc.) In these forms, as in *strengþ*, both vowels have been lost. Syncope of *i could of course have been levelled into the nom. sg. from the oblique cases, but why should nom. sg. *-u have been dropped as well? Moreover, we should not overlook a related fact about the class of feminine nouns that I originally adduced in support of my hypothesis, *bliss* ‘happiness’ < *blīþisi, etc.: they are jō-stems, with *-ss- < *-sj- in the oblique cases, and for that reason syncope of *-i- could *not* have been levelled from the oblique cases into the nom. sg.—which must therefore exhibit syncope by regular sound change.

It is axiomatic in historical linguistics that the more isolated a form is, the more reliably it reflects sound change alone, since changes of all other types depend, in various ways, on the (perceived) relations of forms to other forms. The fact that only neut. nom.-acc. pl. forms conform at all well to Fulk’s rules is itself an argument that not only regular sound change is responsible for the shapes of those forms. How was Fulk misled into taking them for *lautgesetzlich*? The errors are inherent in two of his arguments: ‘That *rīcu* is a regular phonological development seems undeniable, since it is the form encountered in all dialects, and it is used almost entirely to the exclusion of any other’ (Fulk 2010: 128); ‘Given the remarkable conservatism of the language of the Vespasian Psalter . . . it is difficult to credit the usual assumption that forms

like *ēadigu* and *īdelu* in the Psalter are analogical creations' (Fulk 2010: 136). Both statements are non sequiturs as stated; they make sense only if there was not enough time between the sound changes in question and the dates of our attested forms for sound-change outcomes to be substantially disturbed by changes of other kinds. But there certainly was enough time for such developments. We have seen that, because three-consonant shortening must be dated between about 600 and about 650, general syncope must have occurred in the second half of the 6th century, possibly in its last quarter (see 6.7.5 above). Even if, as I maintain, apocope occurred after general syncope, it probably occurred fairly early in the 7th century. But the glosses to the Vespasian Psalter were written in the 9th century, possibly in the first generation or so (Kuhn 1965: v–vi, cf. Budny 1984: 633–7, 643–5, 777–8), less likely in the middle of the century (Campbell 1962: 7 with n. 1). Thus roughly 200 years separate the processes under discussion from our earliest substantial attestation of OE. That is more than enough time for processes other than sound change to alter the distribution of variants, even to the point of generalizing a form that arose by levelling between paradigms (such as *rīcu*). To attempt to work out the details of prehistoric sound changes solely from the distribution of one class of forms in the documents is no better than trying to determine details of the grammar of a given dialect of English around 1200 from documents written around 1400—a procedure which we know would be faulty.

Moreover, we need to account for the forms that originally ended in *-isi and *-īpi. I maintain that prehistoric OE 2sg. *-isi, 3sg. *-īpi are necessary to account for the syncope in such WS forms as *drīfst*, *drīfþ* (to *drīfan* 'to drive') and *hīerst*, *hīerþ* (to *hīeran* 'to hear'). The suggestion of Walde 1900: 125 n. 1, that syncope occurred when unstressed pronouns followed the verb and was then generalized, is unworkable because the *proportion* of unstressed pronouns that follow verbs in the present indicative is low: a large majority of unstressed pronouns precede the verb.³⁷ Fulk's assertion that the survival of

³⁷ Fulk's suggestion that WGmc 2sg. *-s must have arisen by devoicing before *þū 'you (nom. sg.)' (Fulk 2010: 129, citing Fullerton 1975) is completely unnecessary; as has long been known, both voiced and voiceless Verner's Law alternants were inherited by PWGmc (see vol. 1 3.4.3 (i), pp. 182–4), and OE has generalized the voiceless alternants also in the 3sg. and (3)pl. The observation of Hogg and Fulk 2011: 220 (§6.14 n. 3) that *þū* occurs immediately following a verb in the pres. indic. more than 100 times in Ælfric's *Catholic Homilies* (and not always in questions) is not a cogent objection; what matters is not the *number* of such examples in a particular corpus but the *proportion* of such examples that must have occurred in *natural speech to native language learners* (i.e. young children), who certainly did not learn their native language from Ælfric's rhetorical style. The proportion of relevant examples in casual speech can be estimated only on the basis of a coherent description of OE syntax (such as Pintzuk 1999), which makes it reasonably clear that subject pronouns did not routinely follow the verb immediately in positive declarative clauses in the present tense. But even if we restrict ourselves to Ælfric's prose, the numbers do not support Hogg and Fulk's hypothesis. Perusal of the first hundred

*-i in some OE endings but not others is implausible has been dealt with in Ringe 2002 and in 3.1.4 above; his belief that levelling of syncope (or its absence) and levelling of umlaut (or its absence) must go together is contradicted by the material in Hedberg 1945. Finally, the standard derivation of nouns like *bliss* ‘happiness’ from preforms with nom. sg. in *-isi is not doubtful; note especially PWGmc *kabisi ‘concubine’ cited above.³⁸

In sum, I do not believe that Fulk has cast any serious doubt on my hypothesis. The view that general syncope preceded apocope does not rest on ‘privileging Late West Saxon forms over Mercian ones’ (Fulk 2010: 143); it rests on taking the regularity of sound change seriously, and that is not negotiable.

In addition to the nouns ‘forearm’, ‘hall’, and ‘mile’, cited above, syncope and apocope of short high vowels both occurred in at least the following nominal forms:

PGmc *mēriþō ‘fame, reputation’ (Goth. *meriþa*) > PNWGmc *māriþu (ON *mærð*, OS *mārīda*, OHG *mārīda*) > *mæriþu > (*mæriþu > OE *mærþ* (the penultimate form is attested, but it reflects later processes, see 7.2.4); so also the other fem. abstract nouns in *-iþu;³⁹ note the endingless nom. sg. of the opaque *weorþmynt* and *gīemelīest* (see 6.8.2 below); northern WGmc *bliþisi ‘happiness’ (OS acc. sg. *blīdsea*) > *bliþsi > (*bliþs > (*)bliss > OE *bliss* (acc., dat. sg. *blīþse* are attested but must have been adjusted to *blīþe*); pre-OE *liþisi ‘gentleness, mildness’ > *liþsi > (*liþs > (*)liss > *liss*; pre-OE *mildisi ‘mildness’ > *mildsi > (*milds > *milts*.

Kentish and WS pres. indic. 2sg., 3sg. forms of strong and class I weak verbs with heavy root syllables also underwent both syncope and apocope; the following are typical:

PGmc *hilpizi ‘you help’, *hilpidi ‘(s)he helps’ (Goth. **hilpis*, **hilpiþ*, OHG 3sg. *hilfit*)
→ *hilpisi, *hilpiþi (see 5.2) > *hilpsi, *hilppi > OE *hilps, *hilpþ* → *hilpst*, *hilpþ*;

examples of ‘*þu*’ in the prose part of the *Dictionary of Old English Web Corpus*—all from Ælfric’s homilies—yields fifty-five clauses in which the subject pronoun precedes its pres. indic. verb, three negative clauses in which it follows the verb, two questions in which it follows the verb, and two clauses in which the order is *þonne* + V + *þū*—that is, the subject immediately follows the verb in a little more than 11% of the clauses even in formal prose, and there is no reason to believe that those numbers are unrepresentative. That seems too small a basis from which to generalize syncope of the verb endings.

³⁸ OE *hægtesse* ~ *hægtis* ‘witch’ is not a counterexample. If it was originally a member of the same class of words, it has clearly been remodelled; even so, a syncopated stem *hæts-* (< **hægtis-*) is actually attested, as my hypothesis predicts (see Toller 1921 s.v.).

³⁹ The shape of the suffix without *-i- was then levelled into words of this class with light root syllables; thus the fact that *gesihþ* ‘sight’ has no vowel between its last two consonants in any dialect cannot be taken as further evidence that unstressed *-i- was lost by regular sound change between voiceless consonants even after light syllables (but see further below).

PGmc *dōmāsi ‘you judge’, *dōmīþi ‘(s)he judges’ (cf. Goth. **domeis*, **domeiþ*) →
PWGmc *dōmisi, *dōmīþ (OHG 2sg. *tuomis*, cf. 3sg. *tuomit*; see 3.2.1) >
*dōemisi, *dōemiþi > *dōēmsi, *dōēmþi > OE *dōēms, *dōēmp >→ *dēmst*, *dēmp*.

WS also exhibits syncope in the corresponding forms of verbs in *-ettan*, e.g.:

PWGmc *likatⁱan ‘to pretend, to dissemble’ (OHG *lihhezzen*), pres. indic. 2sg.
*likatīsi, 3sg. *likatīþi > *licætⁱan, *licætīsi, *licætīþi >→ OE *licettan*, *licetst*,
licett;

but this is unlikely to be entirely the result of sound change, since we might expect *æ in an open syllable to be syncopated in at least some forms (cf. the double development of ‘lark’ in 6.7.3). On the other hand, verbs with root syllables ending in CR-clusters do not normally exhibit syncope in these forms, e.g.:

PGmc *namnāsi ‘you name’, *namnīþi ‘(s)he names’ (Goth. **namneis*, **namneiþ*)
→ PWGmc *namnisi, *namnīþi (OHG 2sg. *nemnis*, cf. 3sg. *nemnit*) >→ OE
nemnest, *nemneþ*.

In this environment the length of the vowel before the CR-cluster does not seem to matter (whereas it clearly did in the syncope of class I weak past stems; see 6.7.3). A possible reason for the difference in outcomes is that the final vowel of *-isi, *-iþi was fully unstressed, whereas the past tense suffix bore at least weak stress which was sufficient to trigger syncope in a slightly wider range of cases.

In the Anglian dialects a few syncopated relics are attested (cf. Campbell 1962: 300–1), but for the most part unsyncopated forms have been created on the analogy of verbs with light root syllables. In WS, by contrast, many strong and class I weak verbs with light root syllables have syncopated forms in these categories. Verbs with light roots ending in *h* or a voiceless stop almost always syncopate; those with light roots ending in *r* and a *j*-suffix (i.e., the strong present *swerian* ‘to swear’ and class I weak verbs like *nerian* ‘to save’, *gebyrian* ‘to belong’, etc.) never syncopate; the others vary depending on the final consonant of the root syllable, and there is also lexical variation, with syncope gradually becoming more common over time (see the discussion in Ringe 2002: 132–4 with references, especially to Hedberg 1945, and Hogg and Fulk 2011: 217–18, which adds detailed information about individual texts and dialect influence). These last are an obvious example of the extension of a rule, at first variably, to new classes of lexemes; as usual, that type of change proceeds lexeme by lexeme. The question is whether the same process was responsible, at an earlier date, for syncope in verbs with light roots ending in *h*, *c*, *t*, and *p*. Obviously that could have been the case. But those consonants

form a natural class (since *h* was the only voiceless fricative that was not voiced intervocally after a stressed vowel); that part of the pattern is phonologically determined, just like the syncope of **i* after a light syllable and next to *l* (see 6.7.4)—except that this pattern of syncope, after a light syllable and between a voiceless consonant and a voiceless fricative (*s* or *þ*), is more nearly exceptionless. Moreover, we can advance a plausible phonetic motivation for regular syncope in this position: the **i* could have been subject to devoicing, as in the syncope of **i* between *h* and *st* in superlatives. Thus the following pairs of verbs might have undergone syncope by the same sound change:⁴⁰

PGmc **tiuhizi* ‘you pull’, **tiuhidi* ‘(s)he pulls’ (Goth. **tiuhis*, *tiuhīþ*, OHG 3sg.

ziuhit) → **tiuhisi*, **tiuhīþi* (see 5.2) > **tiohisi*, **tiohīþi* > **tiehsi*, **tiehþi* > OE **tiehs*, *tiehþ* → *tiehist*, *tiehþ*;

PGmc **sih^wizi* ‘you see’, **sih^widi* ‘(s)he sees’ (Goth. *sailwis*, *sailwīþ*, OHG 3sg. *sihit*)

→ **sihwisi*, **sihwīþi* (see 3.1.3, 5.2) > **siohisi*, **siohīþi* > **siehsi*, **siehþi* > OE **siehs*, *siehþ* → *siehist*, *siehþ*;

PGmc **wirpizi* ‘you throw’, **wirpidi* ‘(s)he throws’ (Goth. *us-wairpis*, *wairpiþ*,

OHG 3sg. *wirfit*) → **wirpisi*, **wirpiþi* (see 5.2) > **wiorpisi*, **wiorpiþi* > **wierpsi*, **wierþi* > OE **wierps*, *wierþþ* → *wierpst*, *wierþþ*;

northern WGmc **stapisi* ‘you step’, **stapiþi* ‘(s)he steps’ > **stæpisi*, **stæpiþi* (by fronting; OF 3sg. *stepth*) → **stapisi*, **stapiþi* (see 6.3.2) > **stæpisi*, **stæpiþi* (by i-umlaut) > **stæpsi*, **stæþi* > OE **stæps*, *stæþþ* → *stæpst*, *stæþþ*;

PNWGMc **writizi* ‘you scratch’, **writidi* ‘(s)he scratches’ (ON 2sg. *ritr*) → **writisi*, **writiþi* (see 5.2) > **writsi*, **writþi* > OE **writs*, **writt* >→ *writst* ‘you write’, *writ* ‘(s)he writes’;

PGmc **sitisi* ‘you sit’, **sitiþi* ‘(s)he sits’ (Goth. **sitis*, *and-sitip* ‘(s)he recognizes’) > **sitsi*, **sitþi* > OE **sits*, *sitt* → *sitst*, *sitt*;

PGmc **þankisi* ‘you think’, **þankiþi* ‘(s)he thinks’ (cf. Goth. **þagkeis*, *þagkeiþ*) → **þānkisi*, **þānkīþi* (see 3.2.1) > **þæncisi*, **þæncīþi* > **þænksi*, **þænkþi* > OE **þencs*, *þenþþ* → *þencst*, *þenþþ*;

PGmc **brikizi* ‘you break’, **brikidi* ‘(s)he breaks’ (Goth. **brikis*, *brikīþ*) → **brikisi*, **brikīþi* (see 5.2) > **briçisi*, **briçīþi* > **briksi*, **brikþi* > OE **brics*, *bricþþ* → *bricst*, *bricþþ*.

We should at least consider the possibility that syncope in the relevant forms of verbs with light roots ending in a voiceless consonant was regular in WS but not in the Anglian dialects (Patrick Stiles, p.c.); if true, that would help to account for the fact that the dialects levelled in different directions (though that could have happened in any case). Morphological changes in these

⁴⁰ Campbell 1962: 329 n. 1 notes correctly that class I weak verbs with root syllables ending in *-h- exhibit no syncopated forms; but since there are only three examples of the relevant categories in purely WS texts (Hedberg 1945: 47), it is not clear that any conclusions can be drawn.

inflectional categories will be dealt with in 7.1.2; the phonological consequences of syncope in these forms will be described in 6.8.2.

Whether apocope of *-i, *-u occurred after a heavy unstressed syllable that was preceded by a heavy stressed syllable is not immediately obvious. I will return to that problem in section 6.8.3.

6.8.2 Further consequences of syncope and apocope

In forms that have undergone both syncope and apocope, as in those that underwent only syncope (see 6.7.5), palatal stops seem to have reverted to velars, but the palatal fricative *ǰ* has not. The following are typical:

PGmc *sōkisi ‘you look for’, *sōkīþi ‘(s)he looks for’ (cf. Goth. *sokeis, sokeiþ) →
 PWGmc *sōkisi, *sōkīþi (OHG *suohhis*, cf. 3sg. *suohhit*; see 3.2.1) > *sēcēcisi,
 *sēcēciþi > *sēcēksi, *sēcēkþi > OE *sēcs, *sēcþ* → *sēcst*, *sēcþ*;

PGmc *bringizi ‘you bring’, *bringidi ‘(s)he brings’ (Goth. *briggis, briggīþ; OHG
 3sg. *bringit*) → *bringisi, *bringīþi (see 5.2) > *bringīsi, *bringīþi > OE *brings,
bringþ >→ *brincst*, *brincþ*;

PNWGmc *baugīsi ‘you bend (it)’, *baugīþi ‘(s)he bends (it)’ (cf. ON *beygr*) →
 PWGmc *baugisi, *baugīþi (OHG *bougis* ‘you incline’, cf. 3sg. *bougit* ‘(s)he
 inclines’; see 3.2.1) > *bēaǰisi, *bēaǰiþi > pre-WS *bieǰisi, *bieǰiþi, pre-Kent.
 *bēǰisi, *bēǰiþi > *bieǰisi / *bēǰisi, *bieǰþi / *bēǰþi >→ WS OE *bieǰst*, *bieǰþ*,
 Kent. 3sg. *ǰe-bēǰþ*.

Spellings of etymological *ǰ* as *h* before consonants are rare in early WS (Cosijn 1886: 151, 172). All the more striking are the counterexamples *ǰedrīhð* ‘he inflicts’ (inf. *ǰedrēogan*) and *līehð* ‘he lies, he deceives’ (inf. *lēogan*). A possible explanation is that velar [ɣ] has been levelled into these 3sg. forms from the 1sg., 3pl., subjunctive, etc., and that [ɣ] has then been devoiced to *h* [x]. Note that such a development was not possible in class I weak verbs like *bieǰan*, since there were no forms with a root-final velar fricative.

In 6.7.5 I noted that voiced consonants were devoiced when they came into contact with a following *s* or *þ* as a result of syncope; *miltis* ‘mercy’ < *mildisi, cited above, is a clear example. In addition, *þ* was assimilated to a following *s*, yielding *ss* as in *bliss* ‘happiness’ < *bliþisi, cited above; *sþ became *st*; and *tþ became *tt*. As always, geminates were simplified when in contact with another consonant. The following examples illustrate these changes (cf. Campbell 1962: 299–300, Brunner 1965: 274–5, Hogg and Fulk 2011: 218–19):

PGmc *snīþizi ‘you cut’, *snīþidi ‘(s)he cuts’ (Goth. *sneiþis*, *sneiþiþ*, OHG 3sg.
snīdit) → *snīþisi, *snīþiþi (see 5.2) > *snīþsi, *snīþþi > *snīssi, *snīþþi > OE
 *snīs, *snīþþ* >→ *snīst*, *snīþ*;

- PGmc *wirþizi ‘you become’, *wirþidi ‘(s)he becomes’ (Goth. *wairþis*, *wairþiþ*, OHG 3sg. *wirdit*) → *wirþisi, *wirþiþi (see 5.2) > *wiorþisi, *wiorþiþi > *wierþsi, *wierþþi > *wierssi, *wierþþi > OE *wiers, *wierþ* → *wierst*, *wierþ*;
 PGmc *kuisizi ‘you test’, *kuisidi ‘(s)he tests’ (Goth. **kuisis*, **kuisiþ*, OHG 3sg. *kuisit* ‘(s)he chooses’) → *kuisisi, *kuisiþi (see 5.2) > *cīosisi, *cīosiþi > *cīessi, *cīesþi > OE *cīess ‘you choose’, *cīest* ‘(s)he chooses’ → *cīest*, *cīest*;
 PGmc *giutizi ‘you pour’, *giutidi ‘(s)he pours’ (Goth. **giutis*, *giutiþ*, OHG 3sg. *giuzit*) → *giutisi, *giutiþi (see 5.2) > *gīotisi, *gīotiþi > *gīetsi, *gīetti > OE *gīets, *gīett* > → *gīetst*, *gīet*;
 PGmc *standisi ‘you stand’, *standiþi ‘(s)he stands’ (Goth. **standis*, *standiþ*) → *stāndisi, *stāndiþi (see 5.2) > *stændisi, *stændiþi (see 6.6.1) > *stæntsi, *stæntþi > OE *stents, *stent* → *stentst*, *stent*;
 PGmc *laidisi ‘you make (someone) go’, *laidiþi ‘(s)he makes (someone) go’ (cf. ON inf. *leiða* ‘to accompany’) → PWGmc *laidisi ‘you lead’, *laidiþi ‘(s)he leads’ (see 3.2.1) > *lādisi, *lādiþi > *lædisi, *lædiþi > *lætsi, *lætþi > OE *læts, *lætt* > → *lætsst*, *læt*;
 PWGmc *gasundiþu ‘health’ (OHG *gisuntida*) > *gæsundiþu > *gæsuntþu > *gæsynttu > OE *gēsunt → *gēsuntu*;
 pre-OE *obærmōdiþu ‘arrogance’ > *obærmōdiþu > *obærmōtþu > *obærmōettu > OE *ofermett → *ofermettu*;
 pre-OE *weorþæmundiþu ‘honor’ (lit. ‘remembrance of worth’) > *weorþæmyndiþu > *weorþmyntþu > *weorþmynttu > OE *weorþmynt*;
 pre-OE *gēamilēasiþu ‘carelessness, neglect’ > *gīemiliesiþu > *gīemiliestu > OE *gīemeliest*.

Spellings with word-final *tt*, *þþ* after etymologically long vowels are reasonably common among the present-tense forms, but it is not clear that they record regular sound-change outcomes; it does not seem impossible that they are morphological spellings (a 3sg. ending being written even if not pronounced). There is no evidence for vowel length before these geminates; if the geminates are real and the vowels are long, the long vowels must have been levelled back in from the other forms of the paradigm.

After apocope had occurred, inherited fricative *b (i.e., [β]) was devoiced to *[ϕ]; it subsequently merged with /f/. Examples can be found among the nom. sg. forms of *ō*-stems and the nom.-acc. pl. forms of neut. a-stems, e.g.:

- PGmc *salbō ‘ointment, salve’ (cf. Goth. *salbon* ‘to anoint’) > PWGmc *salbu (OHG *salba*) > *sælbu > Angl. *salbu > early Merc. *salb* (*EpGl* 635) > *salf* (*CorpGl* 1272), WS *sealbu > *sealb > *sealf*;
 PGmc *laibō ‘what is left, remainder’ (Goth. pl. *laibos*, ON *leif*) > PWGmc *laibu (OS *lēba*, OHG *leiba*) > *lābu > OE *lāb > *lāf*;
 PWGmc *wību ‘women’ (OF, OS *wīf*, OHG *wīb*) > OE *wīb (cf. *wiib* in Ct. 42.6, an extreme archaism—or a morphological spelling?—in a 9th-c. charter) > *wīf*.

Of course devoicing also applied in a-stem nom. and acc. sg. forms that had been endingless since PWGmc, and in strong past indic. 1, 3sg. forms that had been endingless since PGmc, e.g.:

- PGmc *skaub '(s)he pushed' (Goth. *af-skauf* '(s)he rejected', OHG *skoub*) > OE *scēab > *scēaf*;
- PGmc *gab '(s)he gave' (Goth., ON, OS *gaf*, OHG *gab*) > *gæb (OF *ief*) > Angl. OE *gæb > North. *ā-gæf*, Merc. *for-gæf*, WS *geab > *geaf*;
- PNWGmc *libą 'life' (ON *líf*) > PWGmc *lib (OF, OS *lif*, OHG *lib*, all 'life, body') > OE *lif*;
- PNWGmc *h^walbaz 'curved' (cf. ON neut. *hvalf* 'vault') > PWGmc *hwalb > *hwælb > early Merc. OE *hwalb* (*EpGl* 179) > *hwalf* (*CorpGl* 498), WS *hwealb > *hwealf*.

The spellings with *-b* in the *Épinal Glossary* but *-f* in the *Corpus Glossary* almost certainly indicate that the merger with *-f* took place in the 7th century.

6.8.3 Shortening of unstressed long vowels

After the general syncope of short vowels had run its course, unstressed long vowels in internal syllables were shortened; after the apocope of short high vowels had run its course, word-final unstressed long vowels were shortened (Luick 1914–40: 288–92, Campbell 1962: 147–50, Hogg 1992: 232–5). To be more precise, shortening counterfed both syncope and apocope; it could have occurred simultaneously with those losses of vowels or after them (possibly with some overlap in time), but not before them. Note the following examples of long vowels in internal syllables:

- PGmc class II weak past 3sg. *-ōdē, e.g. in *salbōdē '(s)he anointed' (Goth. *salboda*, OHG *salbōta*) > OE *-ode* ~ *-ade*, never syncopated: cf. *sealfode* ~ *-ade* '(s)he anointed', *lōcode* ~ *-ade* '(s)he looked', *fultumode* ~ *-ade* '(s)he helped', etc.;
- PGmc *arbaiþiz, *arbaidi- 'hardship, hard labor' (Goth. *arbaiþs*, *arbaid-*) > PWGmc *arbaiþ (see 3.1.1, 3.1.4), *arbaidi- (OHG *arbeit*) > *ærbāþ, dat. *ærbāþæ, etc. > OE *earfoþ*, *earfoþe*, etc.;
- PGmc *fiskōpuz 'fishing' (cf. Goth. *fiskon*, OHG *fiskōn* 'to fish') > *fiskōpu > PWGmc *fiskōp, dat. *fiskōpē, etc. > OE *fiscoþ*, dat. *fiscoþe*, etc.;
- PGmc *gulþinaz 'golden' (Goth. *gulþeins*, ON *gullinn*) > PWGmc *gulþin (OHG *guldin*) > *gulðin, masc. nom.-acc. pl. *gulðinē, etc. (OS *gulðin*, *gulðine*) > *gyldin, *gyldinæ, etc. > OE *gylden*, *gyldene*, etc.;
- PWGmc *tikkin 'kid', gen. *tikkinas, nom.-acc. pl. *tikkinu, etc. (OHG *zickin*) > OE *tičcen*, *tičcenes*, *tičcenu*, etc.;
- PWGmc *kliuwīn 'little ball', gen. *kliuwīnas, etc. (OS *kliuwīn* 'lump') > OE *cliewen* 'ball', *cliewenes*, etc.;
- PWGmc *-ārī (see 4.3.4 ad fin.) > *-æri > OE *-ere*, never syncopated; cf. *mynetere* 'moneyer', *bōcere* 'scribe', *scēacere* 'robber', etc.; pre-OE *neātin 'domestic

animal', nom.-acc. pl. *nēatīnu, etc. (deriv. of *nēat* 'animal, bovine') > WS OE *nīeten*, *nīetenu*, etc., Merc. *nēten*, *nētenu*, etc.; pre-OE *gēamilēasiþu 'carelessness, neglect' > *gīemilīesiþu > *gīemilīestu > OE *gīemeliest*.

A large proportion of OE inflectional endings reflect PWGmc word-final long vowels; the following list is representative but not exhaustive. Verb endings:

pres. subj. 2, 3sg. *-e* < *-æ* < **-æ̅* < PWGmc **-ē* < PGmc 2sg. **-aiz*, 3sg. **-ai*, e.g. in *weorþe* 'may become' < *weorþæ* < **werþæ* (OF *werthe*, 3sg. OS *werðe*) < **werþē* (OHG 3sg. *werde*) < PGmc 2sg. **werþaiz* (Goth. **wairþais*), 3sg. **werþai* (Goth. *wairþai*, ON *verði*);

past subj. 2, 3sg. *-e* < **-i* < PWGmc **-ī* < PGmc 2sg. **-īz*, 3sg. **-ī*, e.g. in northern Merc. *scýlde* 'would be obliged to' < **sćyldi* < **sćyldī* < PWGmc **skuldi* (cf. OS *skoldi*, OHG *skolti* with root vowel levelled in from the indic.) < PGmc 2sg. **skuld(ē)iz* (Goth. **skuldedeis*, ON *skyldir*), 3sg. **skuld(ē)ī* (Goth. *skuldedi*, ON *skyldi*);

strong past indic. 2sg. *-e* < **-i* < PWGmc **-ī*, e.g. in WS *wære*, Merc., North. *wēre* 'you were' < **wæri*, **wēri* < **wæri*, **wēri* < PWGmc **wāzī* (OS, OHG *wāri*);

weak past indic. 1, 3sg. *-de* < *-dæ* < **-dæ̅* < PWGmc 1sg. **-dā*, 3sg. **-dē* < PGmc 1sg. **-dō*, 3sg. **-dē*, e.g. in

WS *gierede*, Merc. *ge-gerede* 'prepared' < **geridæ* (cf. early North. [ond] *geredæ*) < **gearwidæ* < PWGmc 1sg. **garwidā* (OHG *garota*), 3sg. **garwidē* (OS *gerwida* ~ *geriwide*) < PGmc 1sg. **garwidō* (ON *gørða*, cf. Runic Norse *tawido* 'I made'), 3sg. **garwidē* (ON *gørði*, cf. Runic Norse *tawidē* '(s)he made');

class II weak pres. iptv. 2sg. *-a* < **-ā* < PWGmc **-ō* < PGmc **-ō*, e.g. in WS *sealfa* 'anoint!' < **sælbā* < PWGmc **salbō* (OHG *salbo*) < PGmc **salbō* (Goth. *salbo*).

Noun endings:

gen. pl. *-a* < **-ā* < PWGmc **-ō* < PGmc **-ō̅*, e.g. in *worda* 'of words', *tungena* 'of tongues', *gōdra* 'of good...' < **wordā*, **tungænā*, **gōdærā* (OF *worda*, *tungena*, *gōdera*) ←< PWGmc **wordō*, **tungōnō*, **gōdezō* (OS *wordo*, *tungono*, *gōdaro*, OHG *worto*, *zungōno*, *guotero*) ←< PGmc **wurdō*, **tungōnō̅*, **gōdaizō̅* (Goth. **tuggono*, fem. **godaizo*, ON *orða*, *tungna*, *góðra*);

a-stem, ō-stem dat. sg. *-e* < *-æ* < **-æ̅* < PWGmc **-ē* < PGmc a-stem **-ai*, ō-stem **-ōi* (?), e.g. in

blōde 'with blood', *sāwle* 'for a soul' < *blōdæ*, *sāwlæ* < **blōdæ̅*, **sāwælæ̅* < PWGmc **blōdē*, **saiwalē* (OHG *bluote*) < PGmc **blōdai* (ON *blóði*, cf. Goth. *blōþa*), **saiwalōi* (Goth. *saiwalai*);

ō-stem acc. sg., gen. sg. *-e* < *-æ* < **-æ̅* < PWGmc **-ā* < PGmc acc. sg. **-ō̅*, gen. sg. **-ōz*, e.g. in

sorge 'trouble, of trouble' < *sorgæ* < **sorgæ̅* < PWGmc **sorgā* (OS, OHG *sorga*) < PGmc acc. sg. **surgō* (Goth. *saurga*), gen. sg. **surgōz* (Goth. **saurgos*, ON *sorgar*);

- ō-stem nom. pl. *-a* < **-ā* < PWGmc **-ō* < PGmc **-ōz*, e.g. in
sāwla ‘souls’, *gōda* ‘good (ones, fem.)’ < **sāwælā*, **gōdā* (OF *sēla*) < PWGmc
 **saiwalō*, **gōdō* (OHG *guoto*) < PGmc **saiwalōz*, **gōdōz* (Goth. **saiwalos*,
 **godos*, ON *gōðar*);
- ō-stem acc. pl. *-e* < *-æ* < **-æ* < PWGmc **-ā* < PGmc **-ōz*, e.g. in
 WS *healfe*, Merc. *halfe* ‘sides’ < **healbæ*, *halbæ* < **hælbæ* < PWGmc **halbā* (OS
halba, OHG *halba*) < PGmc **halbōz* (Goth. **halbos*, ON *halfar*);
- i-stem nom. pl. *-e* < *-i* < PWGmc **-ī* < PGmc **-īz*, e.g. in
Engle ‘the English’ < *Engli* < PWGmc **Angli*; cf. PWGmc **gasti* ‘guests’ (OS, OHG
gesti) < PGmc **gastiz* (Goth. *gasteis*, ON *gestir*; OE *giestas* and most other i-stems
 have replaced the ending with an a- or ō-stem ending);
- u-stem gen. sg. *-a* < **-ā* < PWGmc **-ō* < PGmc **-auz*, e.g. in
sunā ‘of a son’ < **sunā* (OF *sunā*) < PWGmc **sunō* (OS *sunō?*; see 3.1.4) < PGmc
 **sunauz* (Goth. *sunaus*, ON *sonar*);
- masc. n-stem nom. sg. *-a* < **-ā* < PWGmc **-ō* < PGmc **-ō*, e.g. in *mōna* ‘moon’,
nama ‘name’ < **mānā*, **nāmā* (OF *mōna*, *noma*) < PWGmc **mānō*, **namō* (OS,
 OHG *māno*, *namo*) < PGmc **mēnō*, **namō* (Goth. *namo*; the ending of *mena*
 has been replaced);
- fem., neut. n-stem nom. sg. *-e* < *-æ* < **-æ* < PWGmc **-ā*, e.g. in
tunge ‘tongue’, *ēage* ‘eye’ < **tungæ* (cf. early Merc. *nectægalæ* ‘nightingale’), **ēagæ*
 < **tungæ*, **ēagæ* < PWGmc **tungā*, **augā* (OS *tunga*, *ōga*, OHG *zunga*, *ouga*).

Strong adjective endings (not homonymous with those of nouns):

- masc. acc. sg. *-ne* < *-næ* < **-ænæ* < PWGmc **-anā* < PGmc **-anō*, e.g. in
gōdne < **gōdnæ* (cf. early North. *riicnæ* ‘mighty’) < **gōdænæ* (OF *gōdene*) <
 PWGmc **gōdanā* (cf. OS *mikil(a)na* ‘great’) < PGmc **gōdanō* (Goth. *godana*);
- masc. nom. pl. *-e* < *-æ* < **-æ* < PWGmc **-ē* < PGmc **-ai*, e.g. in
gōde ‘good (ones, masc.)’ < **gōdæ* (cf. early North. *fūsæ* ‘eager’) < **gōdæ* (OF
gōde, OS *gōde* ~ *gōda*) < PWGmc **gōdē* (OHG *guote*) < PGmc **gōdai* (Goth.
 **godai*, ending levelled in from *þai* ‘those’).

On the endings of vowel-stem nouns see especially Dahl 1938.

At the end of section 6.8.1 above I left a question about apocope unresolved: did apocope of short high vowels occur after a sequence of two heavy syllables the first of which was stressed? The evidence is severely limited, because word-final short high vowels had already been lost in PWGmc when a heavy syllable preceded (see 3.1.4); but the subsequent restoration of inflectional endings provides at least a few examples. It appears that apocope did not occur in that environment. The two most secure examples are a-stem neut. nom.-acc. pl. forms:

PGmc **landī* ‘flank, loin’ (ON *lend*; cf. Lat. *lumbus*) >→ PWGmc. **landin* (OHG
lentī(n) ‘loin, kidney’) >→ OE pl. **lændinu* > *lændinu* > *lendenu*, endingless once
 out of five times in *Ps(A)* and the early glossaries (Dahl 1938: 67–8);

pre-OE *nēatīnu ‘domestic animals’ > WS OE *nīetīnu > *nīetenu*, Merc. *nētīnu > *nētenu*, endingless only once out of 19 occurrences in *Ps(A)*, *CP*, and *Or* (Dahl 1938: 67–9).

Adjectives of material such as *gyldīn ‘golden’ and the numerous adjectives in *-liċ can also be expected to exhibit fem. nom. sg., neut. nom.-acc. pl. -u; the latter are common, and in early WS they do exhibit -u in both categories (Cosijn 1886: 72–3).

At first this seems counterintuitive: if *-u was lost after an accented heavy syllable, why not after these heavy syllables too? The answer lies partly in the relative chronology of sound changes and partly in the apparent metrical structure of prehistoric OE words *at the time when syncope and apocope occurred* (not necessarily the same as at the time when i-umlaut occurred). Words seem to have been organized as metrical ‘feet’ beginning with the stressed syllable. If it was heavy, it constituted an entire foot by itself; if it was light, it and the immediately following syllable, whatever its weight, constituted a foot. Word-final short high vowels were dropped if they did not fall within a foot. Thus the *-u of *skipu ‘ships’ survives in OE *scīpu* because the structure of the word was *[sci|pu]_F, with the ending within the foot; but the *-u of *[wor]_F|du ‘words’, *[fi|ri]_F|nu ‘crime’, and *[we|ral]_F|du ‘world’ (transferred from the i-stems into the ō-stems) was lost (OE *word*, *fīren*, *weorold*) because it fell outside the foot. Of course we would expect the *-u of *nīetīnu to fall outside the relevant foot—the second foot of the word—as well, so long as the preceding *ī remained long. But suppose that the relative chronology of changes was the following:

- 1) general syncope of short vowels in internal open syllables;
- 2) shortening of word-internal unstressed long vowels;
- 3) apocope of word-final short high vowels;
- 4) shortening of word-final long vowels.

Note how the first three sound changes affect the words used as examples above, and *mæriþu ‘fame, reputation’:

<i>before syncope</i>	<i>general syncope</i>	<i>shortening</i>	<i>apocope</i>
*scīpu	(no change)	(no change)	*[sci pu] _F > <i>scīpu</i>
*wordu	(no change)	(no change)	*[wor] _F du > <i>word</i>
*fīrinu	(no change)	(no change)	*[fi ri] _F nu > <i>fīren</i>
*weraldu	(no change)	(no change)	*[we ral] _F du > <i>weorold</i>
*mæriþu	*mæriþu	(no change)	*[mǣr] _F þu > <i>mǣrþ</i>
*nīetīnu	(no change)	*nīetīnu	*[nīe] _F [ti nu] _F > <i>nīetenu</i>

The reason that apocope did not affect words like *nīetenu* is that AT THE TIME IT OCCURRED they could be footed completely, because their unstressed long vowels had been shortened but not lost; the reason that apocope did affect

words like *mærp* is that by that time they had lost their medial syllables and so could no longer be footed completely. This seems to me to be an advance over the analysis of Boutkan 1995: 68–72.

This dataset establishes a relative chronology of the relevant sound changes, with both syncope and medial vowel shortening preceding both apocope and final vowel shortening. It raises the possibility that in each case—word-medially and word-finally—the loss of short vowels and shortening of long vowels were part of the same process, though a sequence of four distinct sound changes is also possible. Finally, this scenario explains the pattern in *Ps(A)* found by Fulk 2010: 134–5, in which originally disyllabic nominals exhibit word-final *-u* whereas originally monosyllabic nominals with heavy root syllables have dropped the ending:⁴¹ SOME disyllabic nominals—namely those that originally had long vowels in their second syllables—preserved *-u* regularly, and it spread from them to the other disyllables but not to monosyllables, evidently at a time before epenthesis in word-final CR-clusters had occurred (see 6.9.5).

A distributional fact about the meter of *Beowulf* discovered by A. J. Bliss also tends to support the hypothesis that the shortening of word-final long vowels was the last change in the sequence posited above. Bliss demonstrated that, in a position in which two metrically independent syllables are avoided by the *Beowulf* poet, the use of a secondarily stressed light syllable plus an unstressed syllable as the equivalent of a heavy syllable is almost confined to words in which the second syllable ended in short *-u* or *-e* < short **-i*; thus halfines like *bānfatu bærnān* ‘to burn the body’ (*Beo* 1116a) or *gīlpcwide Gēates* ‘the boasting speech of the Geat’ (*Beo* 640a; **-cwidi*) occur 57 times, whereas halfines like *mōdceare micle* ‘great grief’ (*Beo* 1778a), with originally long vowels in the third syllable, occur only 5 times. Conversely, in a position in which ‘resolution’ (i.e., light + unstressed = a single heavy syllable) would be inadmissible, the use of a secondarily stressed light syllable plus an unstressed syllable as two syllables is entirely confined to words in which the second syllable was something else, including words with final vowels that were originally long; thus of 36 halfines like *wīs wordcwida* ‘wise of speech’ (*Beo* 1845a) or *heard hondlocen* ‘linked tight by hand’ (*Beo* 322a, 551a), none ends in etymologically short *-u* or *-e* < **-i* (Bliss 1967: 27–31).⁴² Evidently the poem largely preserves a differential distribution of original long and short word-final vowels in some formulas, though not quite perfectly. Since *Beowulf* is clearly an 8th-century poem (see 1.4) and is much more likely to preserve a distribution that made phonological sense recently than one that ceased to

⁴¹ In fact the pattern is not perfect; in addition to forms like pl. *hēafud* (see above), *Ps(A)* also exhibits *lendān* for expected *lendu*.

⁴² One possible counterexample (*Beo* 1409a) is problematic; see Bliss 1967: 30.

make sense many generations before, the shortening of word-final vowels, which eliminated the length distinction so clearly observed by the *Beowulf* poet, is very likely to have been a 7th-century sound change and fairly likely to have occurred late in that century.⁴³

It should be noted that such a conclusion can be drawn from the material just discussed only because the pattern is highly consistent across a wide variety of formula-types in what is clearly an oral poem. A very different case is the alternation in the form of *hild* ‘battle’ as first member of a poetic compound, first noted by Weyhe 1905: 79–83.⁴⁴ When the second member consists of or begins with a heavy syllable, the form used is virtually always *hilde-*, and the number of such compounds is very large. But when the second member consists of a light syllable and a further syllable, the first member is regularly monosyllabic *hild-*, as in *hildfreca* ‘warrior’, *hildfruma* ‘battle-chieftain’, and *hildlata* ‘coward, shirker’ (all from *Beowulf*); the number of such compounds is limited, and there are fewer than a dozen and a half attestations in the whole poetic corpus (six of them in *Beowulf*). Since the *-e-* of *hilde-* cannot possibly be an unsyncopated **-i-* after a heavy syllable, Weyhe (1905: 79–83) reconstructs the equivalent of **hildjō-*, or its sound-change outcome, for this compound member and then tries unsuccessfully to figure out why it should have syncopated before a light open syllable. But that is not the only possible solution, given that in the syncopated examples we are dealing with a single family of formulas which probably arose by modification of a single prototype. Though a stem **hildijō-* can be reconstructed from OE *hild* and OHG *hiltea* (attested in the *Hildebrandslied*), the word was originally an *i*-stem (cf. ON *hildir*, OS dat. sg. *hildi*). It is possible that the syncopated compounds still reflect **hildi-*, with regular syncope, as a first element, and that this small family of formulas is simply an archaism relative to the formulas with unsyncopated *hilde-*, which must reflect **hildjō-*. It seems clear from this example that a thorough analysis of the formulaic structure of *Beowulf* and other 8th-century poems from a rigorous linguistic point of view could yield a much clearer picture of the evidence for the prehistory of OE that those poems preserve.

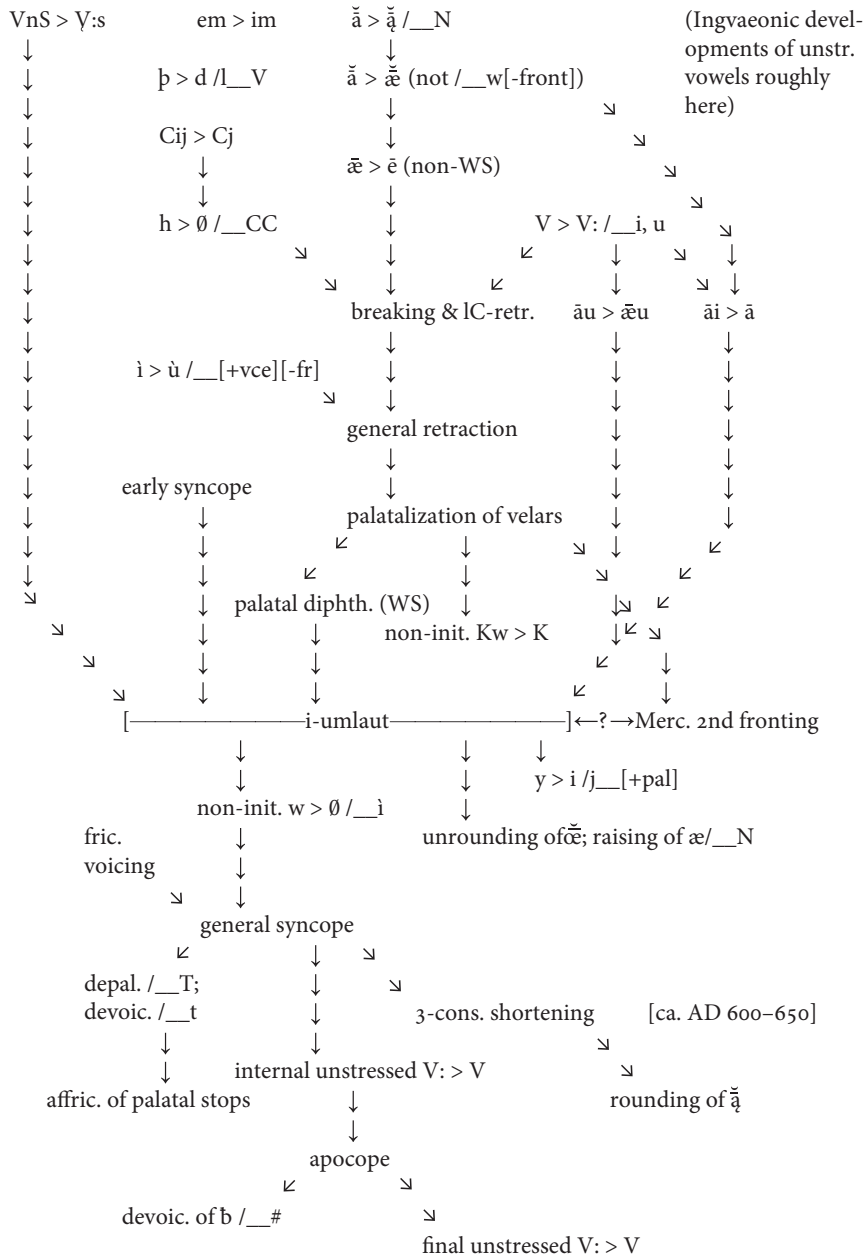
6.8.4 Relative chronology of sound changes

Apocope and the shortening of unstressed long vowels are the last prehistoric OE sound changes; subsequent changes can be followed, at least to some extent, in the (often archaizing) spellings of OE. The diagram on the following page represents the relative chronology of northern WGmc and prehistoric OE sound changes to the extent that it can be recovered.

⁴³ The details of the cases with tertiary stress adduced in Bliss 1967: 31–5 remain to be worked out, but I do not see that they invalidate the chronological point made here.

⁴⁴ I am grateful to Alfred Bammesberger for calling both the problem and the reference to my attention.

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6.9 Changes after apocope

6.9.1 Loss of *h with compensatory lengthening

After syncope and apocope had run their course, all instances of *h between voiced sounds were lost (Luick 1914–40: 869–73, Campbell 1962: 186–7, Hogg 1992: 277–81). If *h was lost immediately adjacent to *r or *l, in either order, the vowel or diphthong preceding the *r or *l was lengthened; this compensatory lengthening must have occurred at the time *h was lost, since it was conditioned by *h (Luick 1914–40: 226–8, Campbell 1962: 104–5, Hogg 1992: 173–6). If *h had been intervocalic, so that a hiatus between vowels (including diphthongs) resulted, the vowels usually contracted; the result was always long and in most cases was identical with the first vowel or diphthong, though there are some exceptions (Luick 1914–40: 218–26, Campbell 1962: 98–104, Hogg 1992: 176–86). Loss of intervocalic *h apparently occurred slightly later than loss of *h next to voiced consonants, at least in the Anglian dialects, and contraction need not have occurred immediately; intervocalic *h will be dealt with in 6.9.3 below.

Some instances of *h between voiced sounds are still written in the early glossaries and at least one early Kentish charter (Campbell 1962: 186, Sweet and Hoad 1978: 200); in *Beowulf*, which is certainly an 8th-century poem (see 1.4 above and especially Fulk 1992: 390), the meter sometimes demands that contracted words be read with an extra syllable, as though contraction had not occurred. From those indications it seems that the loss of *h occurred late in the 7th century, perhaps extending into the 8th, and at any rate before back umlaut went to completion (see 6.9.4); both spelling and the meter of formulaic poetry can be expected to have lagged behind the actual change in speech.

At least in the Anglian dialects, medial *h seems to have been lost earliest when followed by a sonorant which was in turn followed by a vowel; in those cases a preceding diphthong did not undergo the Anglian monophthongization triggered by *h (on which see 6.9.2). The following examples are more or less certain:

- PGmc *tahrą, *tagra- ‘tear’ (Goth. *tagr*, ON *tár*) > PWGmc *tahr, *tagra- / *tahrā- (OF *tār*, OHG *zahar*, *zahhar*) >→ *tæhr, pl. *tæhrās > *teahr, pl. *teahrās >→ WS, Merc., North. OE *tēar*, pl. *tēaras*; the endingless nom.-acc. sg. is backformed in Merc. and North. (see below) but phonologically regular in WS; on the alternative North. form, with gemination, see 6.9.2;
- PNWGmc *leuhmō ‘light’ (ON *ljómi*, OS *liomo*) > *lēohmā > WS, Merc. OE *lēoma*;
 PWGmc *nāhawisti ‘neighborhood’ (OHG *nāhwist*) > (pre-WS) *nēahæwisti, (pre-Angl.) *nēohæwisti > *nēahwist, *nēohwist > WS OE *nēawist*, Merc. *nēowist*;

northern WGmc nom. pl. *hweh(u)lōs ‘wheels’, etc. ?> *hweohlās, etc. (but see also 6.9.3 below) > OE *hwēolas*, etc., whence by levelling Merc. nom. sg. *hwēol* (but WS *hwēol* can be by regular sound change alone, since there was no early monophthongization in WS);
 northern WGmc *stahlī ‘steel weapon’ (OS *stehli* ‘ax’) > *stæhli > WS OE *steahli > *stiehlī > *stiele > late WS *stȳle*, Angl. *steahli > *stehli > early Merc. *stēli* (*EpGl* 49, *CorpGl* 55), both ‘steel’;
 pre-OE *eohrād ‘mounted expedition’ (lit. ‘horse-riding’) > early Merc. OE *ēorod* (*CorpGl* 708), Merc. *ēorud* ~ *ēored*, WS *ēored*, all ‘troop, band (of retainers)’;
 pre-OE (WS) *nēahlācan, (non-WS) *nēohlācan ‘to approach’ (see 6.2.1) > WS OE *nēalācan*, Merc. *nēolācan*;
 pre-OE *hēahness ‘height’ > Merc., WS *hēanness* ~ *hēanis* (cf. WS *hēahness*, Merc. *hēhnis*, readjusted);
 pre-OE (non-WS) *hēahlēcas ‘consummate physicians’ > early Merc. *hēalēcas* (cf. late WS *hēahlēcas*, recomposed or adjusted).

There is also an uncertain example:⁴⁵

pre-OE *gæsēani or *gæsēahni ‘visible’ > pre-WS *gæsienī or *gæsiehnī, pre-Angl. *gæsēni or *gæsēhni (by i-umlaut) > WS OE *gēsene*, early Merc. *un-gēsene* (*CorpGl* 682), late North. *gēsene*.

When *h was followed by a word-final sonorant or by a voiced obstruent, it seems to have been lost after Anglian monophthongization, to judge from the following examples:

PGmc *p̥wahlą ‘washing, bath’ (Goth. *p̥wahl*) > PWGmc *p̥wahl (OHG *dwahal*) > pre-OE *p̥weahl > early Merc. *p̥wæhl (*ErfGl* 326 *thuachl*, *CorpGl* 641 *ðhuehl*) > *p̥wæl, levelled into *CorpGl* 1991 dat. pl. *p̥wælum* ‘with fillets’ (*taeniis*, interpreted as ‘towels’ or ‘washcloths’; cf. WS *p̥wēal* ‘washing, bath’, with loss of *h but preservation of the diphthong);
 PGmc *twīhnai ‘a pair; two each’ (Goth. *tweihnai*) > OE *twiōhn- > early Merc. *bi-twīhn* ‘between’ (*CorpGl* 1310) > *betwīn, levelled (?) into Merc. (*Ps(A)*) *betwīnum* (cf. WS *betwēonum*, with loss of *h but preservation of the diphthong);
 PWGmc *fihlu ‘file’ (the tool; OHG *fihala*) > OE *fiohlu > *fiohl > Angl. *fihl > early Merc. *fiil* (*CorpGl* 1234; cf. WS *fēol*, with loss of *h but preservation of the diphthong);
 pre-OE *wioh-bēod ‘image-table’ > Merc. *wihbedd (second element influenced by *bedd* ‘bed’) > *wībed* ‘altar’ (cf. WS *wēofod*, apparently with *-b- → *f* by learner error because single intervocalic *b was unique, cf. Campbell 1962: 186 n. 3).

⁴⁵ Though it is unclear whether this example originally contained *ēa (< *au < *aw) or a sequence *eah (< *ah(u) < *ah^w), the Anglian outcomes probably show that it had an ea-diphthong; cf. Brunner 1965: 182, pace Campbell 1962: 81, Seebold 1970: 388, Heidermanns 1993: 473.

For the relative chronology of Anglian monophthongization and the loss of *h between *r* or *l* and a vowel (in that order) the evidence is inconsistent. The earliest glossaries disagree on the shape of diagnostic words, for instance:

pre-OE *sceolh-ēaġi ‘squint-eyed’ > Angl. *sceolhēġi (by i-umlaut) > *EpGl* 981
sceolhēġi (or *sceol[h]ēġi* with *h* from *sceolh* ‘squinting’ (Campbell 1962: 95, 97),
 perhaps by error?) > *ErfGl* 981 *sceolēġi*, but *sclhēġi (with monophthongization)
 > *CorpGl* 1939 *sclēġe* (cf. WS *sceolh ‘crooked’, weak obl. cases *sceolan*).

Similarly, *CorpGl* 627b and *ErfGl* 346a both offer *ēola* ‘elk’ < *eolha; a form apparently with monophthongization, *elha*, is preserved in *LdGl* 139, and the a-stem *elh*, with monophthongization < *eolh, occurs in *EpGl*, *ErfGl* 233 and *CorpGl* 443. The evidence from *Ps(A)* is likewise inconsistent. A clear case of loss before monophthongization is:

PGmc *pwerhaz ‘transverse, crooked’ (Goth. *þwairhs* ‘angry’, ON *þverr*) > PWGmc
 *pwerh > OE *pweorh, weak obl. *pweorhan- > Merc. *þwerh* ‘crooked, perverse’
 (with monophthongization), *þwēoran* (cf. WS *pweorh*, *þwēoran*).

Cases of monophthongization before loss include:

PGmc *felhaną ‘to push in’ (Goth. *filhan* ‘to hide’, OHG *bifelahan* ‘to recommend’)
 > OE *feolhan, pres. subj. *feolhæ > Angl. *felhæ > Merc. *fēle* ‘that I (not) be
 caught (in it)’ (*Ps(A)*); cf. WS *fēole*);

PNWGmc *selhaz ‘seal’, gen. sg. *selhas (ON *selr*, *sels*) > PWGmc *selh, *selhas
 (OHG *selah*, *selahes*) > OE *seolh, *seolhæs > early North. *sēlæs-ēi*
 ‘insula vituli marini, seal’s island’ (Bede, *Hist. Eccl.* IV.13; cf. WS *seolh*, *sēoles*).

But the infinitive of a compound of *feolhan, *ætfēalan* ‘to cling’, shows loss of *h before monophthongization in *Ps(A)* (though the spelling *ēa* for *ēo* is puzzling; cf. WS *fēolan*). It seems likeliest that *h in this position was lost before monophthongization when a back vowel followed, but after monophthongization when a front vowel followed (so Campbell 1962: 97). It is also possible that, since breaking apparently did not occur in the preform of Merc. *ætfīlēð* ‘(s)he clings’ (see 6.2.3), an unbroken vowel was levelled into the preform of *fēle* (cf. Brunner 1965: 100, Anm. 1); in that case the evidence that monophthongization occurred before the loss of *h between a liquid and a front vowel is reduced to *Sēlæs-*.

There are many more examples of the development of *VrhV and *VlhV that provide no evidence for its chronology relative to Anglian monophthongization, often because they are attested only in WS. The following are representative:

- PGmc *ferhuz, *ferh^w - ‘world’ (Goth. *faírlvus*) >→ PWGmc *ferh ‘life’, gen. sg. *ferhas (OS *ferah*, *ferahas*, OHG *ferah*, *ferahes*) > OE *feorh*, *feorhæs > *fēores*;
 PGmc *marhaz ‘horse’, gen. sg. *marhas (ON *marr*, *mars* (poetic); cf. Welsh *march*) > PWGmc *marh, *marhas > OE *mearh*, *mearhæs > *mēares* (poetic);
 PGmc *furh- ‘furrow’ (< post-PIE *p_ṛk-, cf. Welsh *rhych*) > PWGmc *furh, dat. pl. *furhum (OHG *furuh*) > OE *furh*, *furhum* (the latter attested in *EpGl* 884) > *fūrum*;
 PGmc *Walhōz nom. pl. ‘Celts, foreigners’ (see vol. i 4.6, p. 296), PNWGmc *walhiskaz ‘foreign, Celtic-speaking’ (ON *valskr*, cf. *Valir*; OHG *Walaha* ‘speakers of Latin / Romance languages’, *walahisc*) >→ *Wealhas, *wealhisc > WS *Wealhas, *wielhisc > *Wēalas* ‘the Welsh’, *wielisc > late WS *wylisc*; Kent. *welhis* (preserved as a name *Uelhis*, with a Latin gen. sg. ending, in Ct. 4.6, dating to 679) > *wēlesc* (Ct. 37.21, describing a variety of ale);
 PNWGmc *firh^wiĵōz ‘humans’ (deriv. of ‘world’/‘life’, see above; ON *fīrar*) > PWGmc *firhwijō (gen. pl. OS *firiho*, OHG *virho*, *fireo*) >→ Angl. OE *firhas > *firas* (poetic);
 PWGmc *þurhil ‘perforated’ (OHG *durhil*; deriv. of *þurh ‘through’) > OE *þyrhil > *þýrel*;
 PWGmc *o/uzhait ‘challenge (to fight)’ (OHG *urheiĵ* ‘uprising’) > *orhāt > OE *ōret* ‘battle’ (poetic).

Finally, it appears that *h was lost after a voiced obstruent without effect on any adjacent sound; the relevant data are *eofot* ‘crime’ < *eobot* (*CorpGl* 1705) < *ebhat* (*EpGl* 854), apparently < *eb-hāt (*eb-, cf. Goth. *ibuks* ‘turned backwards’; *-hāt to *hātan* ‘to call?’) and *eofolsian* ‘to blaspheme’, apparently < *eb-hālsian (see e.g. Holthausen 1963: 92, Hallander 1966: 159–62, both with references). The *eo* of these words is the result of back umlaut, a subsequent change (see 6.9.4).

6.9.2 Anglian monophthongization (‘smoothing’)⁴⁶

After the earliest losses of medial *h, but before intervocalic *h was lost, diphthongs were monophthongized in the Anglian dialects when followed by a velar, either immediately or with *r* or *l* intervening (Luick 1914–40: 213–18, Campbell 1962: 93–8, Hogg 1992: 142–52). The specific changes are the following (where K indicates a velar consonant):

- ēaK* > *ǣK* > *ēK*; *ēoK* > *ēK*; *īoK* > *īK*;
eah > *ǣh*; *eoh* > *eh*; *ioh* > *ih*;
earK > *ǣrK* > *erK*; *eorK* > *erK*;
eolh > *elh*.

⁴⁶ In place of the traditional term ‘smoothing’, which is not used for any other sound change in any language, I have used the standard term ‘monophthongization’.

In addition, *eax* > *æx*, *eoX* > *ex*, and *ioX* > *ix*; these might or might not be special cases of the second line of the table, depending on whether *hs had become /ks/ in the Anglian dialects by the time monophthongization occurred. The environments listed were the only ones in which diphthongs occurred before velars in the Anglian dialects. The long diphthongs reflect u-diphthongs inherited from PWGmc, except for *nēoh ‘near’ and a few examples of *īoh, which arose by breaking; all the short diphthongs arose by breaking. The following examples of the monophthongization of long diphthongs are representative:

- PGmc *auk ‘also’ (Goth., early ON *auk*, OF *āk*, OS *ōk*, OHG *ouh*) > OE *ēac*
(preserved in WS) > *æc* (early Merc.; also late North., apparently reflecting an unstressed form, cf. Campbell 1962: 95) > Merc., North. *ēc*;
- PGmc *augōn- ‘eye’ (Goth. *augo*, ON *auga*, OF *āge*, OS *ōga*, OHG *ouga*) > OE *ēage*
(WS) > *æge* (early Merc. inst. sg. *ægan*, *ErfGl* 1093) > Merc. *ēge*, North. *ēgo*;
- PGmc *daug ‘it is useful’ (Goth. *daug*, OHG *toug*) > OE *dēag* (WS) > **dæg* > North.
dēg;
- PGmc *hauhaz ‘high’ (Goth. *hauhs*, OF *hāh*, OS, OHG *hōh*) > OE *hēah* (WS) > *hāh*
(early Merc., *CorpGl* 1667) > Merc., North. *hēh*;
- PGmc *flauh (*plauh?) ‘(s)he fled’ (Goth. *ga-plauh*, ON *fló*, OF *flāch*, OS, OHG
flōh) > OE *flēah* (WS) > Merc., North. *ǵe-flēh*;
- PGmc *pauh ‘nevertheless’ (Goth. *pauh*, ON *bó*, OF *thāch*, OS *thōh*, OHG *dōh*) >
OE *pēah* (WS) > Merc., North. *pāh* (apparently generalized from unstressed
position, cf. Campbell 1962: 95);
- PNWGmc *baugaz ‘(arm-)ring’ (ON *baugr*, OF *bāg*, OS *bōg*, OHG *boug*) > OE *bēag*
(WS) > **bæg* > Merc., North. *bēg*, both ‘crown’;
- PWGmc *baukn ‘sign’ (OF *bāken*, OS *bōkan*, OHG *bouhhan*) > OE *bēacn* (WS) >
bēcun (early Merc., *EpGl* 919, *CorpGl* 1971) > Merc. *bēc(e)n*, North. *bēcon*;
- PWGmc *daugul ‘hidden, secret’ (OHG *tougal*) > OE *dēagul* (WS) > **dægul* >
Merc. *dēgul*;
- PGmc *fleuganaþ ‘to fly’ (ON *fljúga*, OF *fliāga*, OHG *fliogan*), PWGmc *fleugā ‘(a)
fly’ (OHG *flioga*) > OE *flēogan*, *flēoge* (WS) > Merc., North. *flēgan*, *flēge*;
- PGmc *leuhadaþ ‘light’ [noun] (Goth. *liuhapþ*) ?> PWGmc *leuht ‘light’ (OF *liāht*,
OS, OHG *lioht*) > OE *lēoht* (WS) > Merc., North. *lēht*;
- PGmc *seukaz ‘sick’ (Goth. *siuks*, ON *sjúkr*, OF *siāk*, OS *siok*, OHG *sioh*) > OE *sēoc*
(WS) > North. *bræc-sēc* ‘insane’;
- PGmc *teuh ‘lead!, pull!’ (Goth. *at-tiuh* ‘bring!’, OS *tioh*, OHG *zioh*) > OE *tēoh*
(WS) > Merc. *ǵe-tēh* ‘draw together!, bind!’;
- PGmc *nēh^w- ‘near’ (Goth. adv. *nehva*) > PWGmc *nāhw- (OS, OHG *nāh*) > pre-
WS *nāh > OE (WS) *nēah*, but pre-Angl. *nēh > *nēoh > Merc., North. *nēh*;
- PNWGmc *reukanaþ ‘to smoke’ (ON *rjúka*, OF *riāka*, OHG *riohhan*) > OE *rēocan*
(WS) > North. *rēca*;

- PNWgmc *þeuha ‘thigh’ (ON *þjó*, OF *thiäch*, OHG *dioh*) > OE *þēoh* (WS) > early Merc. *thēgh* (*CorpGl* 556);
 pre-OE *hrehu ‘rough’, neut. ‘storm, downpour’ > OE *hrēoh* (WS) > North. *hrēh* ‘downpour’;
 PGmc *liuhtjana ‘to shine, to illuminate’ (Goth. *liuhtjan*, OS *liuhtian*, OHG *liuhten*) > OE *liohtjan > WS *lēhtan*, but Angl. *liohtan > Merc. *lihtan*, North. *lihta*;
 PGmc *linhtaz ‘light(-weight)’ (Goth. *leihts*, ON *léttr*, OHG *liht*) > OE *lioht > WS *lēoht*, but Merc., North. *liht*;
 pre-OE *bitwih ‘between’ (cf. Goth. *tweihnai* ‘a pair; two each’) > *bitwioh > WS *betwēoh*, but Merc., North. *betwih*.

The entire course of the changes can be followed in the early Mercian glossaries (which contain material from different sources of different dates, inconsistently updated), since there are a few instances of diphthongs recorded before monophthongization (e.g. *ErfGl* 295 *thēoh* ‘thigh’), as well as numerous examples of *ǣ* and *ē* < *ēa* and a representative sample of *ē* < *ēo* and *ī* < *īo* (see Campbell 1962: 95–7). It seems clear that these were 8th-century sound changes.

Apparently the raising of *ǣ* to *ē* occurred only in fully stressed syllables (see above). Surprisingly, it affected only those *ǣ* that arose by monophthongization of *ēa*, not those that arose by i-umlaut of **ā*. At least three examples, possibly four, demonstrate that restriction:⁴⁷

- PGmc *aihtiz ‘possession, property’ (Goth. *aihts*, OS, OHG *ēht*) > *āhti > *ǣhti > OE *ǣht* (WS, Merc., and North.);
 PGmc *taiknjaną ‘to indicate, to signify’ (Goth. *taiknjan* ‘to show’, OHG *zeihhenen*) > *tāknjan > *tǣknjan > OE *tācnan* (early Merc., cf. *EpGl* 544 pres. ptc. *tācnaendi*; late North., cf. *Li* pres. indic. 3sg. *tācnes*; WS);
 PNWgmc *faihjana ‘to paint, to decorate’ (Runic Norse past indic. 1sg. *faihido*, ON *fá*, OHG *fēhen*) > *fāhjan > *fǣhjan > OE *fǣhan (early Merc., cf. *EpGl* 785, *CorpGl* 1582 pres. indic. 3sg. *fǣhit*), but see further under (1) below;
 PWGmc *faikni ‘treacherous, deceitful’ (OS *fēkni*) > *fākni > *fǣkni > OE *fǣcni* (early Merc., *EpGl* 938) > *fǣcne* (WS and Merc.).

There are at least four possible explanations for this peculiarity that are consistent with the observed regularity of sound change, as follows.

- 1) Because the velars originally following *ēa* had recently been in contact with a back offglide, they were pronounced further back in the mouth than those that had been in contact with preceding *ǣ* for some time. Since *ǣ* was not raised when followed by palatal consonants (cf. e.g.

⁴⁷ The noun *fǣhþ(u)* ‘enmity’ should also belong here, but I can find no examples of the word in Anglian texts.

Merc. *nēolācan* ‘to approach’, North. *tāca* ‘to teach’, etc.), it was not raised before fronted velars either. (Note that the *h* of *fāhit* might actually have been palatal rather than velar; if it was, that could be why its *æ* was not raised.)

- 2) The *æ* that arose by monophthongization was actually somewhat higher (or, as Ronald Kim suggests, more peripheral; see Labov 1994) than the *æ* that arose by i-umlaut but somewhat lower than inherited *ē*; in that case it is not surprising that it merged with one of the preexisting vowels, and it happens to have merged with the higher vowel.
- 3) The obvious derivational relationships between these words and *āgan* ‘to possess’, *tācn* ‘sign, token’, *fāh* ‘variegated, colorful’, and *fācn* ‘treachery, deception’ gave rise to a reanalysis that preserved or reintroduced *æ* before velars. (The details would have to be worked out.)
- 4) There was actually only one sound change, not two, as follows. At first *ēa* was variably monophthongized to *æ*. As the innovative variant of *ēa* ~ *æ* increased in frequency, it was also progressively raised—again variably—so that the variation was now *ēa* ~ *æ* ~ *ē*, with the middle variant preponderating. The shift in favor of the most innovative variant continued and the most conservative variant was dropped, so that the alternation became *æ* ~ *ē*; finally the change went to completion, so that only *ē* remained. At no time was inherited *æ* implicated, because it had never varied or alternated with *ēa*; by the time that native learners were no longer learning *ēa* as a conservative pronunciation in these words, the new phoneme was already *æ* ~ *ē*, i.e. higher on the average than inherited *æ* and converging with inherited *ē*.

The last solution makes use of what sociolinguists have learned about phonemes with widely variable phonetic realizations, especially overlapping ones; it turns out that native learners can acquire a contrast between phonemes which are sometimes pronounced identically, so long as there are enough contrastive pronunciations to convince the learners that the phonemes are not, in fact, identical. For an actually observed modern example and discussion see Milroy and Harris 1980. We will see below that not all of the above solutions are possible for the parallel change *ea* > *æ* > *e* among the short diphthongs, and our final decision as to which explanation is most probable will have to take that into account.

The following examples of the monophthongization of short diphthongs before *h* are representative:

- PGmc *ahtōu ‘eight’ (Goth. *ahtau*, ON *átta*) > PWGmc *ahtō (OF *achta*, OS, OHG *ahto*) > *æhtā > OE *eahta* (WS) > North. *æhto*, cf. Merc. *hund-æhta-tig* ‘eighty’;
- PGmc *mahtē ‘(s)he was able’ (Goth. *mahta*, ON *mátti*, OF *machte*, OS, OHG *mahta*) > *mæhtæ > OE *meahte* (WS) > Merc., North. *mæhte*;
- PGmc *sah^w ‘(s)he saw’ (Goth. *salv*, ON *sá*) > PWGmc *sah (OF *sach*, OS, OHG *sah*) > *sæh > OE *seah* (WS) > Merc. *ge-sæh*, North. *sæh*;
- PGmc *þwah ‘wash!’ (Goth. *þwah*, ON *þvá*, OHG *dwah*) > OE *þweah* (WS) > Merc. *ā-þwæh*;
- PGmc *ahs- ‘axle’ (ON *oxull*; cf. Lat. *axis*) > PWGmc *ahsu (OS, OHG *ahsa*) > *æhsu > *eahsu > OE *eax* (WS) > early Merc. *æx* (*EpGl* 13, *CorpGl* 259);
- PGmc *wahsijanā ‘to grow’ (Goth. *wahsjan*) → PNWGmc *wahsanā (ON *vaxa*, OF *waxa*, OS, OHG *wahsan*) > *wæhsan > OE *weaxan* (WS) > North. *wæxa*, cf. early Merc. pres. indic. 3sg. *wæxit* (*CorpGl* 1955);
- PGmc *tahrā, *tagra- ‘tear’ (Goth. *tagr*, ON *tár*) > PWGmc *tahr, *tagra- / *tahrā- (OF *tār*, OHG *zahar*, *zahhar*) > *teahr, *tægr- / *tæhhr- > North. OE *tæhhær- in *tæherende* ‘weeping’, dat. pl. *tæherum* ‘tears’;
- PGmc *ahaz, *ahiz- ‘ear (of grain)’ (*ahsā > Goth. *ahs*, ON *ax*) > → PWGmc *ahar, *ahir- (OS *ehir*, OHG *ahar* ~ *ehir*) > *æhær, *æhr- (?) > *æhær, *æhhr- > → *eahher > North. OE *æhher*;
- (post-)PWGmc *brahtm ‘noise, tumult’ (OS *brahtum*) > *bræhtm > OE *breahm* (WS, ~ *bearhtm*) > early Merc. *bræhtm in dat. sg. *bræchtme* (*CorpGl* 1916);
- PGmc *fehu ‘cattle, property’ (Goth. *faihu*, ON *fé*, OS *fehu*, OHG *fihu*) > → northern WGmc *feh (OF *fiā* ‘movable property’; cf. gsg. OS *fehas*, OHG *fehes*, as if from a-stem *feh) > OE *feoh* (WS) > Merc., North. *feh*;
- PGmc *seh^w ‘see!’ (Goth. *saihv*, ON *sé*) > PWGmc *seh (OS, OHG *seh*) > OE *seoh* (WS) > Merc., North. *ge-seh*;
- PWGmc *gafeh ‘rejoice!’ (OHG *gifeh*) > OE *gefeoh* (WS) > Merc. *gefef*;
- PWGmc *fehtan ‘to fight’ (OF *fiuchta*, OS, OHG *fehtan*) > OE *feohtan* (WS) > Merc. *fehtan*, North. *fehhta*;
- PWGmc *plihiti ‘risk’ (OF *pflicht* ‘responsibility, obligation’, OHG *pfliht* ‘care (for)’) > *pliohti > Merc. OE *plihht* ‘danger’;
- PWGmc *mihs ‘dung’ (OS *mehs*) > OE *miox* > *meox* (WS), but > *mix in early Merc. *mixin* ‘dung-heap’ (*LdGl* 20).

Many examples of *eoh and *ioh do not survive in WS either, because they were altered by palatal umlaut; they will be adduced when that sound change is discussed in 6.9.7. Examples of monophthongization before intervocalic *h that was subsequently lost will be discussed in 6.9.3 below.

The following examples of monophthongization before *rK*-clusters and *lh* are representative:

- PGmc *farhaz ‘piglet’ (OHG *farah*; cf. Lat. *porcus* ‘pig’) > *færh > OE *fearh* (WS) > early Merc. *færh* (*EpGl* 811, *CorpGl* 616);

- PGmc *markō ‘boundary, border’ (Goth. *marka*) > PNWGmc *marku (ON *mork* ‘borderland, woods’, OS, OHG *marka*) > *mæрку (OF *merke*) > OE *mearc* (WS, and early Merc. in *EpGl* 547 *frist-mearc* ‘interval’) > Angl. *mærc* in early Merc. *frist-mærc* ‘interval’ (*CorpGl* 1108), > *merc* in early Merc. *merc-iseren* ‘branding iron’ (*CorpGl* 362), North. *merciga* ‘to signify’;
- PGmc *wargaz ‘criminal’ (Goth. *launa-wargs* ‘ungrateful’ (*‘defaulter’), ON *vargr*, OS *warag*, OHG *warg*) > OE *wearg* (WS, and early Merc. in *EpGl* 409 *wearg-rōd* ‘gallows’) > early Merc. *wærg* in *wærg-rōd* ‘gallows’ (*ErfGl* 409);
- PGmc *mazgaz ‘marrow’ (ON *mergr*; cf. OCS *mozgŭ* ‘brain’) > PWGmc *mazg (neut.; OS, OHG *marg*) > *mærg (OF *merch*) > OE *mearg* (WS) > Angl. *mærg* (early Merc. *mærh*) > Merc. *merg* (*EpGl* 588, *CorpGl* 1249);
- Lat. *arca* ‘box, chest, ark’ → OE *earc* (WS) > Angl. *ærc > Merc. *erc*;
- PGmc *werką ‘work’ (ON *verk*, OF, OS, OHG *werk*; cf. Gk *ἔργον* /*érgon*/) > OE *weorc* (WS) > Merc. *werc*, North. *werc* ~ *wærc*;
- PGmc *berga- ‘hill, mountain’ (ON *bjarg* (neut.) ‘rock’; cf. Goth. *baírgahei* ‘hill country’) > PWGmc *berg (masc.; OF *berch*, OS, OHG *berg*) > OE *beorg* (WS) > Merc. *berg*;
- PGmc *berhtaz ‘bright’ (Goth. *baírhts*, ON *bjartr*, OS *berht*, OHG *beraht*) > OE *beorht* (WS) > Merc., North. *berht*;
- PGmc *ferhuz, *ferh^w- ‘world’ (Goth. *faírlvus*) >→ PWGmc *ferh(u?) ‘life’ (OS, OHG *ferah*) > OE *feorh* (WS) > *ferh* in early Merc. *mid-ferh* ‘youth’ (*CorpGl* 1164);
- PNWGmc *dwegaz ‘dwarf’ (ON *dvergr*, OF *dwerch*, OHG *twerg*) > OE *dweorg* (WS) > early Merc. *duerg* (*EpGl* 686, *CorpGl* 1362).

Here too the entire course of the change *earK* > *ærK* > *erK* can be followed in the early glossaries, which in addition to the examples of *earK* adduced above include, e.g., *mearh* ‘horse’ (*CorpGl* 153).

Just as the raising of monophthongized *ǣ* to *ē* failed to affect *ǣ* that had already been created by i-umlaut, so also the raising of monophthongized *ærC* to *erC* failed to affect *ærC* that had already been created by i-umlaut, e.g. in North. *wærma* ‘to warm’, *wærc* ‘pain’ (see 6.6.1). Of the four possible explanations advanced above for the former restriction, two are not available for the latter: it is highly unlikely that *r* was palatalized in the i-umlaut examples and that that could account for failure of raising (scenario (1)), since *r*-sounds strongly tend to resist palatalization; and there are no obvious lexical analogies that could account for the failure of raising in *wærc* (scenario (3)). Either monophthongized *æ* was somewhat higher than inherited *æ* from the start (scenario (2)), or *earK* > *ærK* > *erK* was a single sound change with a long period of variation (scenario (4)). The latter strikes me as the most plausible explanation.

6.9.3 Loss of intervocalic *h and contraction

After Anglian monophthongization had run its course, intervocalic *h was lost; most, but not quite all, of the resulting sequences of vowels contracted into long vowels or diphthongs. If the first of the two vowels in hiatus was a back vowel, the result was a long vowel of the same quality as that vowel. The following examples are representative:

- PNWGMc *þrūh- ‘trough’ (ON *þró*) > OE *þrūh*, dat.-inst. pl. *þrūhum > *þrūm* in early Merc. *wæter-þrūm* ‘canalibus, by water-conduits’ (*CorpGl* 372);
 PGmc *skōhaz ‘shoe’, nom. pl. *skōhōz (Goth. **skohs*, **skohos*, ON *skór*, *skóar*) > PWGMc *skōh, *skōhō (OF *skōch*, OS *skōh*, OHG *skuoh*, *skuoha*) > *skōh, *skōhās > OE *skōh, *skōhas > *scōh*, *scōs*;
 PGmc *fanhaną ‘to catch, to seize’, *fanhandi ‘they seize’, *fanhand- ‘seizing’, *fanh ‘seize!’ (Goth. *fāhan*, ON *fá*, *fá*, *fándi*, *fá*, OHG *fāhan*, *fāhant*, *fāhanti*, *fāh*) > *fāhan, *fāhāþi, *fāhandi, *fāh (OF *fā(n)*, *fāth*, OS *fāhan*, *gi-fāhad*) > OE *fōhan, *fōhaþ, *fōhende, *fōh* > WS *fōn*, *fōþ*, *fōnde*, *fōh*, Merc. *on-fōn*, *on-fōð*, *on-fōnde*, *on-fōh*;
 PGmc *þanhōn- ‘clay’ (Goth. *þāho*) > PWGMc *þāhā (OHG *dāha*) > OE *thōhæ* (early Merc., *EpGl* 3) > *thōæ* (early Merc., *CorpGl* 207) > *þō*;
 PGmc *wanhaz ‘crooked’ (cf. Goth. *unwāhs* ‘blameless’) > *wāh, weak obl. stem *wāhan-; also → *wāh ‘perversity, error’ (neut.), gen. *wāhas > OE adj. *wōh*, *wōhan and noun *wōh*, *wōhæs > *wōh*, *wōn* and *wōh*, *wōs*;
 PNWGMc *taihōn- ‘toe’ (ON *tá*, shifted into the root-nouns) > PWGMc *taihā (OHG *zēha*) > OE *tāhæ* (early Merc., *CorpGl* 141) > *tā*;
 PNWGMc *raih- ‘red deer’ (ON *rá* (fem.)) > PWGMc *raihō (OHG *rēho*) > OE *rāha* (early Merc., *CorpGl* 403) > *rāa* (early Merc., *ErfGl* 1161) > *rā*;
 PWGMc *slaihā ‘sloe, blackthorn fruit’ (OHG *slēha*) > OE *slāhæ > *slā*;
 PWGMc *faih ‘hostile’, masc. nom. pl. *faihē (OF *fāch* ‘outlawed’, OHG *gi-fēh*, *gi-fēhe*) > OE *fāh*, *fāhæ > *fāh*, *fā*.

In one case only early forms are recorded: the dat. pl. of *wlōh* ‘fringe’ is attested in its earliest form as *wlōhum* (early Merc., *EpGl* 1066) and with *h* lost as *wlōum* (also early Merc., *CorpGl* 2122), but the contracted form, which must have been **wlōm*, happens not to occur in our texts—not surprisingly, since this is a rare noun which apparently survived into the 10th century only in Northumbrian.

Diphthongs, with the exception of WS *ie*, *īe*, likewise contracted with any following vowel to yield a long diphthong that was (otherwise) identical with the first member of the input. Since monophthongization had eliminated diphthongs before intervocalic *h in the Anglian dialects, all the examples are Kent. and WS. The following are representative:

- PGmc *þinhaną ‘to thrive’, 3pl. pres. indic. *þinhandi, subj. 3sg. *þinhain, etc.
 *þinhand- (Goth. *þeihan*, *þeihand*, **þeihaina*, *þeihand-*) > PWGmc *þīhan,
 *þīhand, *þīhēn, *þīhandī (OS *gi-thīhan*, OHG *dīhan*, *dīhant*, *dīhēn*, *dīhanti*) >→
 *þīhan, *þīhāþ, *þīhæn, *þīhandī > OE *þīohan, *þīohaþ, *þīohæn, *þīohændī >
 WS *þion*, *þiōþ*, *þion*, *þionde* > *þēon*, *þēoþ*, *þēon*, *þēonde*;⁴⁸ note that the first and
 third members of the paradigm cited became homonymous in WS OE, though in
 the first *īo* contracted with a back vowel and in the third with a front vowel;
- PGmc *teuhaną ‘to pull, to lead’, pres. subj. 3sg. *teuhai, cpd. *uz-teuhaną ‘to lead
 out’, pres. subj. 3sg. *uz-teuhai (Goth. *tiuhan*, **tiuhai*, *ustiuhan* ‘to lead out; to
 complete’, *ustiuhai*) > PWGmc *teuhan, *teuhē, *uz-teuhan, *uz-teuhē (OF *tiā*,
tiā ~ *tē*, OHG *ziohan*, *ziohe*, *irziohan* ‘to raise (a child), to educate’, *irziohe*) > OE
 *tēohan, *tēohæ, *ātēohan ‘to draw out, to remove; to dispose of, to use’, *ātēohæ
 > WS *tēon*, *tēo*, *ātēon*, *ātēo*, Kent. *ātīon*, *ātīo*;
- PGmc *fleuhaną ‘to flee’, pres. indic. 3pl. *fleuhandi, subj. 3sg. *fleuhai (?Goth.
þliuhan, *þliuhand*, **þliuhai*) > PWGmc *fleuhan, *fleuhand, *fleuhē (OHG
fliohan, *fliohant*, *fliohe*) >→ *fleuhan, *fleuhāþ, *fleuhæ > OE *flēohan, *flēohaþ,
 *flēohæ > WS *flēon*, *flēoþ*, *flēo*, Kent. *flīoð*, *flīo*;
- PGmc *seh^waną ‘to see’, pres. indic. 1sg. *seh^wō, 3pl. *seh^wandi, subj. 3sg. *seh^wai,
 3pl. *seh^wain (Goth. *sailvan*, *sailva*, *sailvand*, **sailvai*, *sailvaina*) > PWGmc
 *sehwan, *sehu, *sehwand, *sehwē, *sehwēn (OHG *sehan*, *sihu*, *sehant*, *sehe*,
sehēn) >→ *sehwan, *sehu, *sehwāþ, *sehwæ, *sehwæn (OF *siā*, —, *siāth*, *sē*, OS
sehan, *gi-sihu*, *sehat*, —, *sehan*) > OE *seohan, *seohu → (southern) *seohæ,
 *seohaþ, *seohæ, *seohæn > WS *sēon*, *sēo*, *sēoþ*, *sēo*, *sēon*;
- PGmc *slahaną ‘to strike, to kill’, pres. indic. 3pl. *slahandi, subj. 3sg. *slahai (Goth.
 **slahan*, **slahand*, **slahai*) > PWGmc *slahan, *slahand, *slahē (OHG *slahan*,
slahant, *slahe*) >→ *slahan, *slahāþ, *slahæ (OF *slā*, —, *slā* ~ *slē*, OS *slahan*, *te-*
slahad) > OE *sleahan, *sleahāþ, *sleahæ > WS *slēan*, *slēaþ*, *slēa*, Kent. *slēan*, *of-slēað*;
- PGmc *hauhaz ‘high’, masc. dat. sg. *hauhammai, weak masc. nom. sg. *hauhō, acc.
 sg. *hauhanų (Goth. **hauhs*, **hauhamma*, **hauha*, **hauhan*) > PWGmc *hauh,
 *hauhummē, *hauhō, *hauhan (OHG *hōh*, *hōhemu*, *hōho*, *hōhun*) >→ OE
 *hēah, *hēahum, *hēaha, *hēahan > WS *hēah*, *hēam*, *hēa*, *hēan*;
- PGmc *ah^wō ‘river’, dat. sg. *ah^wōi, dat. pl. *ah^wōm (Goth. *alva*, *alvai*, **alvom*) >
 PWGmc *ahu, *ahwē, *ah(w)ōm (OS, OHG *aha*) >→ OE *eahu, *eahæ, *eahum
 > WS *ēa*, *ēa*, *ēaum* > *ēam*;
- PGmc *nēh^wiz adv. ‘nearer’ (Goth. *nehvis*) > PNWGmc *nāh^wiz (ON *nær*) →
 PWGmc *nāh(w)ōz → *nāhōr (with *-r* restored on the model of the adj. after the
 loss of word-final **-z*; OF *niār*, OS *nāhor*, OHG *nāhōr*) >→ OE (WS) *nēahor >
nēar, (Kent.) *nēohor > *nēor*;
- PGmc dat. *fehiwi ‘cattle, (movable) property, wealth’ (cf. Goth. *faihau* with
 remodelled ending; see vol. i 4.3.4 (i), pp. 272–3) >→ PWGmc *fehē (a-stem

⁴⁸ However, *gēþian* in a 9th-century Kent. charter (Ct. 41.40; Sweet and Hoad 1978: 214, l. 43) seems to mean ‘to accept’ and to be connected etymologically with *þicgan* ‘to accept’.

form; OF *fiā*, OS, OHG *fehe*) > OE **feohe* > WS *fēo*; so also in the *Codex Aureus* inscription, apparently written in the dialect of Surrey, probably a subdialect of Kentish;

PWGMc **andi-wrihan* ‘to uncover’, pres. indic. 3pl. **andi-wrihand* (OHG *intrihan*, *intrihant*) > OE **ondwriohan*, **ondwriohāþ* > WS *onwriōn*, *onwriōþ* > *onwreōn*, *onwreōþ*, Kent. *onwriōn*;

PWGMc **sehwa* ‘pupil (of the eye)’, acc. **sehwōn* (OHG *seha*, *sehūn*) > OE **seohæ*, **seohan* > WS *sēo*, *sēon*, Kent. acc. *sīon*;

PWGMc **auhaim* ‘uncle’ (OF *ēm*, OHG *ōheim*) > OE **ēahām* > WS, Kent. *ēam* (still scanned as two syllables, *Beo* 881);

northern WGMc nom. pl. **hweh(u)lōs* ‘wheels’, etc. ? > **hweohulās*, etc. (but see also 6.9.1 above) > WS OE *hwēolas*, etc.

In one case the diphthong might have been altered by reanalysis:

PWGMc **gafehō* ‘joy’ (OHG *gifeho*) > OE **gifeoha*, obl. cases **gifeohan* > WS *gefēa*, *gefēan*

—or was the preform actually **gafahō*, with an o-grade vowel that would be fronted and broken to **ea* in OE? (so Campbell 1962: 103).

We know that monophthongization preceded the loss of intervocalic **h* in the Anglian dialects principally because when the following vowel was front the contraction did not produce a diphthong: the preceding front vowel (by monophthongization) contracted with the following front vowel to yield a front vowel. When the following vowel was back, a diphthong did result from contraction; in some cases the outcome was what we should expect if monophthongization had never occurred, but in other cases it was different. The following are Mercian forms of those lexemes adduced above that occur in *Ps(A)*:

OE **flēohan* ‘to flee’, pres. indic. 1sg. **flēohu*, 3pl. **flēohap*, subj. 3pl. **flēohæn* > **flēhan*, **flēhu*, **flēhap*, **flēhæ* > **flēan*, **flēo* → *flēom*, *flēoð*, *flēn*;

OE **seohan* ‘to see’, pres. indic. 1sg. **seohu*, 3pl. **seohap*, subj. 3sg. **seohæ*, 3pl. **seohæn* > **sehan*, **sehu*, **sehap*, **sehæ*, **sehæn* > *ge-sian* ~ *ge-sēan*, *ge-sēo*, *ge-sīað* ~ *ge-sēað*, *ge-sē*, *ge-sēn*;

OE **sleahan* ‘to strike, to kill’, pres. indic. 1sg. **sleahu*, 3pl. **sleahap*, subj. 3sg. **sleahæ* > **slæhan*, **slæhu*, **slæhap*, **slæhæ* > **of-slēan*, *of-slēa*, *of-slēað*, *of-slē* (but *ge-slā*);

OE **hēah* ‘high’, masc. dat. sg. **hēahum*, weak **hēaha*, obl. cases **hēahan* > **hēh*, **hēhum*, **hēha*, **hēhan* > *hēh*, *hēam*, *hēa*, *hēan*;

OE **wriohan* ‘to cover’ > **wrihan* > *ofer-wrēan*;

OE **seohan* acc. ‘pupil (of the eye)’ > **sehan* > *sīan* ~ *sēan*;

OE **gæfeoha* ‘joy’, obl. cases **gæfeohan* > **gæfēha*, **gæfehān* > *gefēa*, *gefian* ~ *gefēan*;

OE **hweohul* ‘wheel’, dat. **hweohulæ* > **hwehul*, **hwehulæ* > *hwiol*, *hwēole* (unless this word contained the sequence *-hl- instead of *-hul-; see 6.9.1).

It seems clear that *īa* and *ēa* are two spellings of the same phoneme, but its offglide seems to be distinct from the offglide *o* (so Campbell 1962: 102–3). (See below for pres. indic. 2, 3sg. forms. The late Northumbrian forms are less revealing because in many cases syllabic endings have been restored, giving rise to complications which are not relevant here.)

Other cases of a front vowel contracting with a back vowel (in that order) after the loss of intervening *h are not numerous, but two certain examples can be cited:

PWGmc *pūhijan ‘to press’ (OHG *dūhen*) > OE *pȳhan > *pȳan > *pīan > *pīon > *pēon* ‘to threaten, to oppress’ (*Beo* 2736, scanned as two syllables), though this verb is usually confused with *pīewan* ‘to enslave’;
 pre-OE *rūhjǣ ‘rug, blanket’, obl. cases. *rūhjan > OE *rȳhæ* (early Merc., *EpGl* 1080) > *rȳe* (early Merc., *CorpGl* 2126), obl. *rȳhan > *rȳan > *rian > *rion > *rēon*, with backformed nom. sg. *rēowe*.

Note that the contractions yield diphthongs. In the same way *tēon* ‘to educate’ might reflect *tȳhan (see below), though it has largely been confused with *tēon* ‘to lead, to pull, to draw’ (see above).

Finally, there are other cases of front vowels contracting with front vowels upon the loss of intervening *h, nearly all of them Anglian. The result is a long vowel with the quality of the vowel preceding the *h. Note the following examples:

PGmc *slahizi ‘you strike’, *slahidi ‘(s)he strikes’ (Goth. *slahis, slahiþ*, OS, OHG 3sg. *slehit*) → *slahisi, *slahiþi (OF 3sg. *sleith*, cf. OHG 2sg. *slehis*) > OE *sleahisi, *sleahiþi > Angl. *slehis, *slehiþ > Merc. *slēs, slēð* (but WS syncopated *sliehist, sliehþ*);
 PGmc *sih^wiizi ‘you see’, *sih^wiidi ‘(s)he sees’ (Goth. *saiþvis, saiþviþ*, OS, OHG (*gi-*) *sihit*) > OE *sihisi, *sihiþi > Angl. *sihis, *sihiþ > Merc. *ġe-sīst, ġe-sīð* (but WS broken and syncopated *siehist, siehþ*);
 PGmc *fanhizi ‘you seize’, *fanhidi ‘(s)he seizes’ (Goth. **fāhis, ga-fāhiþ*, OS, OHG 3sg. *fāhit*) > *fāhisi, *fāhiþi (OF 3sg. *fēth*, OS *ant-fāhis* ‘you receive’, cf. OHG 2sg. *fāhis*) > OE *fāehisi, *fāehiþi > Merc. *on-fāest* ‘you receive’, *on-fāēð* ‘(s)he receives’ (but WS syncopated *fēhst, fēhþ*);
 PGmc *hauhizō ‘higher’, *hauhistaz ‘highest’, weak *hauhistō (ON *hær(r)i, hæstr*, OF *hāchsta*, OHG *hōhiro*, OS, OHG *hōhisto*) > OE *hēahirā, *hēahist, *hēahistā > Angl. *hēhirā, *hēhist, *hēhistā > Merc., North. *hēra*, Merc. *hēst, hēhsta* → *hēsta* (WS *hīer(r)a, hīest* → *hīehst, hīehsta*);
 PWGmc *wrihidi ‘(s)he covers’ (OHG *int-rīhit* ‘(s)he uncovers’) → Angl. OE *wrihiþi > Merc. *ofer-wrið* (but WS broken and syncopated *wriehþ*);
 PWGmc *nāhwist ‘nearest’, weak *nāhwistō (OF *nēsta*, OS, OHG *nāhisto*) > Angl. OE *nēhist, *nēhistā > Merc., North. *nēst, nēhsta* → *nēsta* (or did syncope not occur in this superlative in the Anglian dialects?; WS broken and syncopated *nīehst, nīehsta*).

Two unusual 3sg. forms occur in the late WS *LibSc*, *tȳð* '(s)he instructs' < *tȳhiþi (see above) and *ġeðrið* '(s)he represses' < *ġeþrȳþ < *ġæþrȳhiþi (cf. OHG *drūhit* '(s)he presses', and see above); a third such form, *ġewēð* '(s)he makes (it) crooked' < *ġæwēhiþi, is quotable from an apparently WS gloss (see Hedberg 1945: 47). All three forms look Anglian and might actually be Anglianisms. A somewhat different case is WS gen., dat. sg. *īe* 'of, to (a) river' with its apparently Anglian variant *ē* (Campbell 1962: 254–5). It is possible that these forms reflect a preform *eahi (> WS *iehi, Angl. *ehi), with the inherited gen., dat. sg. ending of root-nouns; but it is also possible that they were formed directly to contracted nom. sg. *ēa* by rule.

The rarer cases of hiatus caused by the loss of *w before *i contracted in exactly the same way, if the *i was not first lost by syncope or apocope. Of the examples adduced in 6.7.1, *sæi 'sea' and *æi 'law' might have become *sā*, *ā* by either apocope or contraction, and *ġæknæiþi '(s)he recognizes' and *bilēidæ '(s)he betrayed' might have become early WS *ġecnāþ*, North. *bilēde* by either syncope or contraction; the same can be said of WS *ætiede* '(s)he showed' < *ætiewidæ. But *nii- 'new-', *glii 'merrymaking', *eidi 'flock of sheep', *streidæ '(s)he spread (it) out', *ġæcēiþi '(s)he calls', etc. can only have become *nī-*, *glīg* and Angl. *ēde*, *strēde*, *ġecēð* by contraction, since that is the only way to account for their long vowels. Exactly how long after the loss of *w contraction occurred is not recoverable with certainty. If we posit a single episode of contraction after the loss of intervocalic *h, then the early Mercian form *streidæ* (*EpGl* 899) > *streide* (*CorpGl* 1910) and the disyllabic example of past ptc. *strēd* at *Beo* 2436 are easily accounted for, but in that case we must suppose that hiatus persisted for some generations. Possibly the hiatus between identical vowels in *nii-, *glii was eliminated first, and hiatus between unlike vowels was eliminated only later.

Finally, there are forms in which inherited sequences of vowels in hiatus were contracted. OE *drȳ* 'wizard' < *druī and *fȳr* 'fire' < *fuīr were noted in 6.6.1. The root-noun *cū* 'cow' likewise exhibits dat. sg., nom.-acc. pl. *cȳ* < *cūi, dat. pl. *cūm* < *cūum, and apparently gen. sg. *cū* < *cūæ. Much more important are forms of several verbs:

PGmc *frijōnā 'to love', 3sg. pres. indic. *frijōþi, past indic. *frijōdē (Goth. *frijon*, *frijop*, *frijoda*) >→ *frijōjan, *frijōþ, *frijōdæ >→ WS OE *frioġan 'to love; to free',⁴⁹ *frioþ*, *frioðe > *frēoġan*, *frēoþ*, *frēode*, Merc. 3sg. pres. *ġefriað* ~ *ġefrēað* '(s)he frees', past *ġefrioðe* ~ *ġefrēode*;

⁴⁹ This is usually held to be a single verb with a single etymology; that decision necessarily entails that the verb's meaning was altered by lexical analogy with the descendant of PGmc *frijaz 'free' at some point in its history. But it is also possible that pre-OE *frijōjan 'to free' was a new derivative of *fri 'free' that was accidentally homonymous with the inherited verb. Either way the phonological developments were the same.

PGmc *fijai- ~ *fijā- ‘hate’ (Goth. *fijan*, pres. 3sg. *fjaiþ*, OHG *fīen*) → *fijōjan, pres. 3sg. *fijōþ, past 3pl. *fijōdun >→ North. *ǣ-fīaga*, *ǣ-fīað*, *ǣ-fīadon*, Merc. —, *fīað*, *fīodun*;
 pre-OE *bijāþi ‘they will be, they (customarily) are’ > Merc., North. *bīað*, WS *bīoþ* > *bēoþ*, Kent. *bīoð*.

(Note that i-umlaut has been levelled out of the pres. stems of the first two verbs; we cannot tell whether that happened before or after contraction.) In these cases too the products of contraction are the same as those that occurred following the loss of *h.

It should be noted that, whereas the disyllabic sequence *ijæ contracted to a diphthong *ie* in WS before c.900, it is still usually disyllabic in early Anglian poetry. The numerous examples of *hīe* ‘her (acc.), they, them (acc.)’ provide little evidence because they are not usually stressed in verse, but the pres. subj. sg. of ‘be’, *sīe* < *sijæ < PWGmc *sijē, is stressed often enough in early verse to be useful. It occurs fairly often at the end of a line following a stressed syllable which alliterates, a position in which the meter forces a disyllabic reading, e.g.:

<i>thóncsnóttúrra</i>	<i>than him thárf sīē</i>	BDS 2
‘wiser in mind	than him need be’	
<i>‘nāt hē þara góða,</i>	<i>þæt hē mē onǣan slēä,</i>	
<i>ránd ǣhéawe,</i>	<i>þēah þe hē rōf sīē</i>	Beo 682
<i>nīþǣgewéorca;</i>		
‘he doesn’t know of the good [swordplay] moves,	that he might strike	
	against me,	
hew my shield,	though he be formidable	
in hostile deeds;’		
<i>‘Frīneð hē for þære mæniǣ</i>	<i>hwær sē mán sīē</i>	Dream 112
‘He will ask before the multitude	where the man may be’	

Of course it is not surprising that later poets sometimes scan it as a monosyllable; for instance, the 9th-century Mercian Cynewulf apparently uses *sīe* as a monosyllable in *El* 542 (*ǣif þū frúgnen sīē* ‘if you are asked’), though it is clearly a disyllable in *El* 675 (*hwær sēo stów sīē* ‘where the place may be’).

6.9.4 Back umlaut

By ‘back umlaut’ OE specialists mean the partial or complete velarization of a short front vowel followed by a single or geminate consonant which is in turn followed by an unstressed back vowel, i.e. *u* or *a*.⁵⁰ It is usual to distinguish

⁵⁰ Note that the *-i-* of class II weak verb endings was no longer a back vowel at the time; it had been fronted by i-umlaut long before back umlaut occurred.

between normal back umlaut, in which $i > io$, $e > eo$, $\text{æ} > ea$, and ‘combinative back umlaut’ (in German, ‘gesteigerter Velarumlaut’) in which a preceding w and a following back umlaut environment cause i to become u and e to become o (i.e., complete velarization and rounding of the nonlow short front vowels). It is also generally believed that the latter, more extreme change occurred significantly earlier than normal back umlaut, at least when the vowel affected was $*i$ and the back vowel of the following syllable was u (Luick 1914–40: 213, Campbell 1962: 92). But except for Bede’s *in Dērauuda* ‘in silva Deirorum’ (book V, ch. 2), the distribution of evidence for the two types of back umlaut is very similar: *EpGl* and *ErfGl*, from which normal back umlaut is absent (Ball and Stiles 1983: 11–14), usually have *widu*, *cwidu*, whereas *CorpGl*, in which normal back umlaut is widespread (Ball and Stiles 1983: 14), has only *wudu*, *cudu*; other diagnostic words do not occur in the early glossaries. Since the forms in *EpGl* and *ErfGl* are roughly contemporary with Bede (though the manuscripts are later; Ball and Stiles 1983: 11) and tend to preserve even older spellings, whereas those of *CorpGl* date from the second half of the 8th century and are clearly ‘modernized’, it appears that back umlaut can have been a single historical change which ran its course over about the first half of the 8th century; possibly the ‘combinative’ part of the change went to completion first, or the whole course of the change was about a generation earlier in Northumbria than in Mercia (cf. Stiles 1983). Based on an exhaustive examination of forms in the earliest glossaries, Ball and Stiles 1983 have demonstrated conclusively that back umlaut followed Anglian monophthongization, which was roughly contemporary with the loss of $*h$ in voiced surroundings (see the preceding three sections).

It is obvious that the effects of normal back umlaut were the same as those of breaking (see 6.2 above), though the triggering environment was different. But back umlaut, unlike breaking, gave rise to widespread alternations between short vowels and short diphthongs, since many lexemes which exhibited a back vowel after the root syllable in some forms exhibited a front vowel, or no vowel, in other forms. Those alternations were widely levelled in both directions, the details depending on the dialect, the date, and the specific lexeme involved; levelling between derivationally related words also occurred. Variation in the shape of specific forms is therefore widespread. The scope of back umlaut also differed from dialect to dialect and in part from vowel to vowel. I arrange the examples by vowel, giving parallel forms from all attested dialects whenever possible.

Inherited i was umlauted to io before l , r , and labials in WS, before all consonants except velars in the Anglian dialects, and before all consonants in Kentish. The umlauted vowel is often written eo , since io and eo merged before

the date of our earliest documents in WS and were undergoing merger in the Mercian of *Ps(A)* (see 6.10.1 below). Typical examples in which back umlaut would be expected in all the dialects include:

Ball and Stiles 1983:

- PGmc *silubrą ‘silver’, gen. sg. *silubras (Goth. *silubr*, *silubris* (with analogical ending), ON *silfr*, *silfrs*, OF *selover* ~ *selver*, OS *silubar*, *silubres*, OHG *silabar*, *silabres*) > OE *silubr, *silubræs > early WS *siolfor*, *siolufres*, Merc. *seolfur*, *seolfres*;
- PGmc *nemaŋą ‘to take’ (Goth. *niman*, ON *nema*, OHG *neman*) > northern WGmc *niman (OF *nima*, OS *niman*) > Kent., Merc. OE *nioman*, North. *nioma*, but WS *niman* (*i* levelled in from pres. indic. 3sg. *nimþ*, subj. *nime*, etc.);
- PGmc *skipą ‘ship’, pl. *skipō (Goth. *skip*, *skipa*) > PNWGmc *skipą, *skipu (ON *skip*, *skip*, OF *skip*, *skipu*, OHG *skif*, *skif* with levelled zero ending) > North. OE *scip*, *scīpu* ~ *sciopu*, Merc. pl. *sceopu*, but WS levelled *scīp*, *scīpu*;
- PGmc *dribun ‘they drove’ (Goth. *us-dribun* ‘they drove out’, ON *drifu*, OS *dribun*, OHG *tribun*) > North. *for-driofon* ~ *for-drifon*, WS (fully levelled) *drifon*;
- PGmc *libai- ~ *libja- ‘to live’ (Goth. *liban*, ON *lifa*, OHG *lebēn*) > northern WGmc *libjþjan but pres. indic. 3sg. *libōþ (OS *libbian*, *libod*) > early WS OE *libban*, *liofað* ~ *leofað*, North. *lifiġa* (remodelled), *liofað*, Merc. *lifġan* (remodelled), *liofað* ~ *leofað*;
- PGmc gen. pl. *hezō ‘of these’ (vol. i 4.3.6 (ii), p. 289; cf. Goth. fem. gen. pl. *izo* of the rhyming third-person pronoun) > northern WGmc *hizō ‘their’ (OF *hira*; cf. OS, OHG gen. pl. *iro* of the inherited third-person pronoun) > OE *hira > Kent., North. *hiora*, WS *hiora* > *heora*, Merc. *heora* ~ *heara*; attested un-umlauted *hira* has *i* levelled in from dat. pl. *him*, etc.;
- PNWGmc *limaz ‘limb’, neut. coll. *limą ‘limbs, branches’ (ON *limr*, *lim*) > PWGmc neut. *lim ‘limb’, pl. *limu > early WS OE *lim*, *limu* ~ *liomu* ~ *leomu*, Merc. pl. *liomu*;
- pre-OE *klipōjan ‘to call’, 3sg. indic. pres. *klipāþ, past *klipōde > OE *clipian*, *cliopaþ*, *cliopode* > early WS *clipian* ~ *cleopian*, *clipað* ~ *cliopað* ~ *cleopað*, *clipode* ~ *cliopode* ~ *cleopode*, Merc. 3sg. past indic. *cleopade* ~ *cleopude* (and pres. indic. 1sg. *cleopiu*, etc.: *eo* has been levelled through the paradigm), North. *cliopiġa*, *cliopað*, *cliopade*;
- OE *tilung ‘care’ (deriv. of *tilian* ‘to cultivate, to tend, to care for’ << PGmc *tilōŋą ‘to reach a goal’, cf. Goth. *gatilōn* ‘to attain’, OF *tilia* ‘to cultivate, to produce’, OS *tilian* ‘to attain’, OHG *zilōn* ‘to exert oneself’) > early WS *tiolung*, Merc. *teolung* ‘effort’; cf. early Merc. *tioludun* ‘they have persisted’ (*CorpGl* 1567); attested un-umlauted *tilung* has *i* levelled in from *tilian*.

Note that WS has levelled back-umlauted *io* out of the past indic. pl. of class I strong verbs (cf. *drifon* above) and out of many other paradigms. Northumbrian has also undergone some levelling; Mercian tends to level back-

umlauted *io* ~ *eo* at the expense of *i*. Examples in which back umlaut is not expected in WS, because the intervening consonant was neither *l* nor *r* nor a labial, include:

- PGmc *bidun ‘they waited’ (Goth. **bidun*, ON *biðu*, OS *bidun*, OHG *bitun*) > OE *bidun > Merc. *ā-biodun*, North. *ǵe-biodon* (but WS *ǵe-bidon*);
- PGmc *rizun ‘they rose’ (Goth. *ur-risun* with Verner’s Law alternation levelled, OHG *rirun* ‘they fell’) >→ OE *ā-risun > Merc. *āreosun*, North. *ārierson* ~ *ārison* (but WS *ārison*);
- PNWGmc *friþuz ‘peace’ (ON *friðr*, OF *fretho*, OS *fridu*, OHG *fridu*) > OE *friþu (early North. *Friðu-* in names) > Angl. *frioðo* (poetic; also early North. *Friodu-* in names; but → WS *friþ* (a-stem));
- PNWGmc *sinu, *sinwō- ‘sinew’ (ON *sin*, OHG *senawa*) > early Merc. *sionu* (*CorpGl* 1375; but WS *sinu*);
- PNWGmc *anda-wlit- ‘face’ (ON *andlit* (neut.), OHG *antlizzi* (neut.)) >→ *andæ-wlitā (masc. n-stem) > Merc. OE *ondwleota* (but WS *andwlita*, North. *ondwlita*);
- PWGmc *flitun ‘they contended’ (OHG *sih flizun* ‘they hurried’) > OE *flitun > Merc. *fleotun*, North. *fliton* (but WS *fliton*);
- PWGmc *hinan ‘from here’ (OS, OHG *hinan*) > Merc. *hionan*, North. *hiona* (but WS *hinan*);
- PWGmc *hlinē- ‘lean’ (OHG *linēn*, cf. early Merc. *onhlingu* ‘I lean’ *CorpGl* 1137) → *hlinō- (OS *hlinon*; or is this the original stem, cf. Gk κλίνω /klí:ne:n/, Lat. *inclīnāre*?) >→ OE *hlinian* ‘to lean, to lie down’, 3pl. indic. pres. *hliniaþ*, past *hlinode* (unchanged in WS) > North. —, *hliniǵað*, *hlionade*;
- pre-OE *sīþ þan ‘after that’ (cf. Goth. *þanaseiþs* ‘further, still’) > OE *sīþþan* ‘since’ (WS) > *sioððan* (Kent.) > Merc. *seoþþan* ~ *seoðan*, North. *siðða* ~ *soðða*.

When *w* preceded *i* in a back-umlauting environment, *i* often became *u* in all the dialects regardless of what consonant followed. The following examples have unproblematic etymologies:

- PGmc *widuwōn- (Goth. *widuwo*) > PWGmc *widuwā (OF *widwe*, OS *widowa*, OHG *wituwa*) > WS OE *wuduwe* ~ *widuwe*, but Merc. *widwe*, North. *widua*;
- PGmc *widuz ‘forest, woods’ (ON *viðr*, also ‘tree’; cf. OIr. *fid* (neut.)) > PWGmc *widu ‘forest, tree, wood’ (OHG *witu* ‘wood’) > OE *widu* (early Merc. *widu-*, *EpGl* and *ErfGl* 347–8,⁵¹ 430, 449) > *wudu* (early Merc., *CorpGl* 715, 717, 835, 836, 1590); the latter is the usual WS, Merc., and North. form, though mid-9th-century Kentish has *weada* ‘of wood’ (< **wioda*, with ordinary back umlaut) and Bosworth and Toller cite isolated later examples of *widu* and *wiodu*;

⁵¹ The lone example of *y* in *ErfGl*—a manuscript copied by a foreign scribe who did not know the language—is not good evidence for an intermediate stage *y* in the development of *i* to *u* in this word.

- PGmc *wikōn- ‘order, alternation’ (Goth. *wiko* ‘shift, assigned turn’; ON *vika* ‘steersman’s shift, nautical mile’) > PWGmc *wikā (OF *wike*, OHG *wehha*, both ‘week’) > OE **wice*, obl. *wican* > *wucan* and *ō*-stem nom. sg. **wicu* > WS *wucu*, North. *wicu* (see further below);
- PGmc *k^wik^waz ‘alive’ (ON *kvikr*; cf. vol. i, pp. 69, 91) > **kwikwaz*, **kwikwa*- > PWGmc **kwi/eku*, **kwi/ek(k)wa*- (OS *quik*, OHG *queh* ~ *quek*, both with *-*u* lost by levelling on the oblique forms) > OE **cwicu* > *cwic* (early sources only *cuic*- in compounds) ~ *cwicu* > *cwucu* > *cucu* (all genders); both *cwic*- and *cuc*- are widely levelled in the oblique forms, though only *cwic*- seems to occur in Anglian documents (Brunner 1965: 93; see further below);
- PWGmc **kwidu* ‘gum’ (OHG *quiti* ‘putty, glue’; see ch. 3 n. 2) > OE *cwidu* (early Merc. *hwitquidu* ‘mastic’, *EpGl* 655) > *cwudu* > *cudu* (early Merc. *huītcludu*, *CorpGl* 1287); all three forms remain current, and there is also a late WS *cweodu* with ordinary back umlaut;
- northern WGmc **witum* ‘we’re going (to ...)’ → **witum* ‘let’s’ (OS *wita*; cf. Seebold 1966: 23–6) > OE *wutum* ‘let’s’ > *wutun* (North.) > *wuton* (Kent., Sweet and Hoad 1978: 176, l. 204) > *uton* (WS).

It can be seen that most of the items cited in the last paragraph also exhibit forms with *i* or *io* (or their reflexes); either combinative back umlaut of *i* did not go to completion, or it did not occur in some (sub)dialects. In forms of ‘know’ and its derivatives there is a more or less clear dialect distribution of the outcomes:

- PGmc **witan* ‘to know’ (Goth. *witan*, ON *vita*, OF *wita*, OS *witan*, OHG *wiʒʒan*) > WS OE *witan*, Merc. **wiotan* > *weotan*, North. *wuta*;
- PGmc **witun* ‘they know’ (Goth. *witun*, ON *vitu*, OF *witen*, OS *witun*, OHG *wiʒʒun*) > WS OE *witun*, Merc. **wiotun* > *weotun*, North. *wutum*;
- PGmc **witō* ‘one who knows’ (Goth. *fulla-wita* ‘fully knowledgeable’) > PWGmc **witō* ‘wise man’, **gawitō* ‘witness’ (OHG *wiʒʒo*, *giwiʒʒo*; OF *wita* ‘witness’, OS *mēngiwito* ‘false witness’) > WS OE *wita*, *gewita*, Merc. *geweota* ‘witness’, North. *wuta* (both meanings);
- PNWGmc **witōdaz* ‘observed, determined’ (ON *vitaðr*) > PWGmc **witōd* ‘certain’ (OS *witod*) in WS, Kent. OE *witodlice* ‘certainly, truly’, Merc. *weotodlice*, North. *wutodlice*; cf. Kent. *bewiotige* ‘that he manage / oversee’.

But this last word family raises some difficult questions. The Northumbrian forms are all from late 10th-century glosses; it is possible that their *u* reflects a later development of the *io* attested in Kentish and reflected by Mercian *eo*. If that is true, it is the result of a quite different sound change, not the early change that gave rise to early North. *wudu* (in Bede’s *Dērawuda*, see above). In fact we can show that one word which acquired *io* by a very early OE change (see 6.2.4) later developed forms with *u* (pace Hogg 1992: 92 [2011: 89]):

northern WGmc *twiwō ‘twice’ (cf. OS *thriwo* ‘thrice’) > OE *twiowa > *tweowa*, but also *twuwa* > *tuwa* (all three forms are attested).

That development is beyond the scope of this volume.

Back umlaut did not affect vowels through an intervening velar consonant in the Anglian dialects. Mercian examples with *i* are few, but we can at least cite *tigule* ‘potsherd’ and dat. sg. *ðiccum*, weak obl. *ðiccan* ‘thick’ from *Ps(A)*. Northumbrian examples include *liccedon* ‘they licked’ (< *likkōdun), *nigon* ‘nine’, *sticadun* ‘they pierced’, *gestricedon* ‘they mended’ (< *gæstrikōdun), and *ēswica* ‘hypocrite’, all from *Li*, as well as *sticung* ‘strangulation’ in an early gloss (Sweet 1885: 123). The fact that Anglian documents yield examples only of *cwic* and *wicu*, not also of *cucu* and *wucu* (noticed by Brunner 1965: 93), suggests that this restriction also applies to combinative back umlaut, and that supports the hypothesis that the two changes were a single historical phenomenon. But *Ps(A)* extends the scope of ordinary back umlaut by analogy between parallel paradigms; thus corresponding to WS and North. *āstigon* ‘they ascended’ we find not the expected **āstigun*, but southwestern Merc. *āsteogun*, with *eo* < **io* as in *āreosun* ‘they arose’, *gēweotun* ‘they went’, etc.

In WS the back umlaut of *e* was even more restricted: it occurred only when the following vowel was *u* and the intervening consonant was *l*, *r*, or a labial. Examples are fairly numerous, for instance:

PGmc **sebum* ‘seven’ (Goth. *sibun*, ON *sjau*, OS *sibun*, OHG *sibun*) > WS, North. OE *seofon*, Merc. *seofen*;

PGmc **awiz* ‘sheep’ (cf. Goth. *awistr* ‘sheepfold’, Lat. *ovis*) → PNWGmc ‘ewe’ (ON *ær*, OHG *ou*) > OE **ewi* → **ewu* > WS *eowu*;

PNWGmc **eburaz* ‘wild boar’ (ON *jǫfurr* ‘chieftain’ (poetic), OHG *ebur*) > early Merc. OE *eobor* (*CorpGl* 179), Merc. *eofur*, WS *eofor*;

PNWGmc **herutaz* ‘stag’ (ON *hǫrtr*, OHG *hiru3*) > Merc. OE *heorut*, WS *heorot*, North. *heart*;

northern WGmc **hebun* ‘sky, heaven’ (OS *heban*) > WS, North. OE *heofon*, Merc. *heofen*; northern WGmc **werōd* ‘company’ (**werud*?; OS *werod*) > Merc. OE *weorud*, WS *weorod*, Kent. dat. *weorede*, North. *worud* but *comp-wearod* ‘(Roman) cohort’;

pre-OE **helustr* ‘concealment, hiding place’, pl. **helustrās* (cf. Goth. *hulistr* ‘covering’) > early Merc. OE *helostr* (*EpGl* 901), *helustras* (*EpGl* 867) > **heolustr* → *heolstr* (*CorpGl* 1838, syncope levelled in), *heolstras* (*CorpGl* 1723) > *heolstor* (WS);

pre-OE **weluru* ‘lip’ (cf. Goth. dat. pl. *wairilom*) > early Merc. OE pl. *weolure* (*LorGl* 30), Merc. *weolur*, WS *weolor* ~ *welor* ~ *weler*-.

An example which occurs only in WS is *meoluc* ‘milk’ < PGmc **meluk*- (cf. Goth. *miluks*, ON *mǫlk*, OHG *miluh*); the Anglian dialects generalized the

stem *milc-* (on which see 6.6.4). Conversely, the WS development of **ġefu* ‘gift’ to *ġiefu* by palatal diphthongization (see 6.5.1) removed that word from the inputs to back umlaut; in the other dialects, in which palatal diphthongization did not occur (or occurred much later), back umlaut did occur in that word, and we find Merc. *ġeofu*, late North. *ġeafa*, pl. *ġeofa* (with two different spellings of the same diphthong), Kent. pl. *ġiofa*. Another example that appears only in non-WS dialects is the indeclinable noun meaning ‘much, many’, Merc. *feolu*, North. *feolo* ~ *fealo*, which in WS appears in oblique form as *fela* (whose *a* does not trigger back umlaut in WS).

In the non-WS dialects back umlaut of **e* was much less restricted: it was triggered both by *a* and by *u* and operated across any intervening consonant, except that in the Anglian dialects it was blocked by velars. The following examples are typical. Back umlaut triggered by *a* with *l*, *r*, or a labial intervening:

- PGmc **nefaniz* nom. pl. ‘grandsons’ (ON *nefa*; cf. Lat. *nepōtēs*) > PWGmc **nefan* (OHG *nefon*) > Kent. OE *neofan* (WS *nefan*);
- PGmc **gebanā* ‘to give’ (Goth. *giban*, ON *gefa*, OF *ieva*, OS *geban*, OHG *geban*) > OE **ġeban* > North. *ġeafa*, Kent. *ā-ġiaban*, Merc. 3pl. *ā-ġeofað* (WS *ġiefan*);
- PGmc **webanā* ‘to weave’ (ON *vefa*, OHG *weban*; cf. Skt. *vab^h(i)-*) > OE **weban* > Merc. *weofan* (WS *wefan*);
- PGmc **beranā* ‘to carry’ (Goth. *baiṛan*, ON, OF *bera*, OS, OHG *beran*) > OE *beran* (WS) > Merc. *beoran*, North. *beara*;
- PWGmc **welō* ‘property, wealth’ (OS *welo*, OHG *wolo*) > OE *wela* (WS) > Merc. *weola*, North. *weala*, Kent. pl. *weolan* ‘riches’.

Back umlaut triggered by *a* or *u* with coronal obstruents intervening:

- PGmc **wesanā* ‘to remain, to be’ (Goth. *wisan*, early ON *vesa*, OF *wesa*, OS, OHG *wesan*) > early Merc. **weosan* in *ætweosendne* ‘at hand, looming’ (*CorpGl* 1054), North. **weosan* > *wosa* (but WS *wesan*);
- PGmc **etanā* ‘to eat’ (Goth. *itan*, ON, OF *eta*, OS *etan*, OHG *eʒʒan*) > OE *etan* (WS) > Merc. *eotan*, North. *eotta* ~ *eatta*;
- PGmc **bigetanā* ‘to get, to find’ (Goth. *bigitan*, ON *geta*, OS *bigetan*, OHG *bigeʒʒan*) > OE **biġetan* > Merc. *biġeotan*, North. *beġeatta* (WS *beġietan*); OE **andġetan* ‘to perceive, to understand’ > Merc. *onġeotan*, North. *onġeatta*, Kent. iptv. pl. *onġiotað* ‘pay attention!’;
- PGmc **k^weþanā* ‘to say’ (Goth. *qipan*, ON *kveða*, OF *quetha*, OS *quedan*, OHG *quedan*) > OE *cweþan* (WS) > Merc. *cweoðan* (but North. *cweða* > *cwæða*);
- PGmc **trudanā* ‘to step on’ (Goth. *trudan*, ON *troða*) >→ PWGmc **tredan* (OHG *tretan*) > OE *tredan* (WS) > Merc. *bi-*, *for-treodan*;
- PNWGmc **feturaz* ‘fetter’ (ON *fjoturr*) > **fetur* (WS *fetor*; also early Merc., *EpGl* 778) > *feotur* (early Merc., *CorpGl* 1552);

PWGMc nom.-acc. pl. *gabedu ‘prayers’ (OHG *gibet*, with zero ending levelled in from stems with heavy root syllables) > OE *ġebedu* (WS) > Merc. *ġebeodu*, North. *ġebeodo*.

One word underwent combinative back umlaut (variably) even in WS:

PNWGMc *weraldiz ‘world’ (lit. ‘age of men’, often shifted into the *ō*-stems: ON *verpld*, OF *warld* vs. *i*-stem OS *werold*, OHG *weralt*) >→ *weraldu > *weruld (6.3.3) > WS OE *weorold* ~ *worold* (also with *u* in the 2nd syll.), Merc. *weoruld*, North. *woruld*, Kent. *wiarald*.

The Northumbrian form could have developed through an intermediate stage *weoruld (see above). The preform of one well-attested word is somewhat uncertain:

pre-OE *switul (?) ‘clear’ > early WS OE *swutol*, but pre-OE *swetul (?) > early Merc. *s[w]eotol* (transmitted as *seotol* in *CorpGl* 770), Merc. *sweotul* in *sweotullīce* (*Ps(A)*).

That back umlaut of *e* was normally blocked by a velar consonant in the Anglian dialects is demonstrated by a number of forms, especially in Northumbrian; but in the southwestern Mercian of *Ps(A)* *eo* has been introduced into some forms, especially the present stems of strong verbs, from parallel paradigms. Note the following:

PGmc nom. pl. *wegōz ‘paths, ways’, dat. pl. *wegamaz (Goth. *wigos*, *wigam*, ON *vegar*, *vegum*, OHG dat. pl. *wegum*) >→ northern WGMc *wegōs, *wegum (OS *wegos*, *wegun*) > WS, Merc. OE *wegas*, *wegum*, North. *wægas* ~ *wegas*, *wegum*;
 PWGMc *sprekan ‘to speak’ (OF *spreka*, OS *sprekan*, OHG *sprehhan*) > WS OE *sprecan*, North. *spreca*, → Merc. (*Ps(A)*) *spreocan*;
 northern WGMc. *rekun ‘in order’ (OF *rekon*) > WS OE *recen* ‘ready, quick’, North. adv. *recon-e*, *recon-līce* ‘immediately’;
 Lat. *regula* ‘rule’ → OE **regul* (masc.) > WS *regol*, North. acc. pl. *regulas*; early WS OE *ǣrendwreca* ‘messenger’ (*CP*) = Merc., North. *ǣrendwreca*.

The most puzzling case of back umlaut is ‘sister’. It does not occur in early Anglian documents, but Kent. gen. sg. *swæstar* (a reverse spelling for **swestar*, see 6.9.7; Ct. 41.39) shows that its stressed vowel was unaffected by umlaut in that dialect, and late North. *swæster* shows that it was not affected in that dialect either. But the usual early WS form is *sweostor*; why it exhibits *eo* is completely unclear.

In most dialects *æ* did not occur by regular sound change before a single consonant or geminate followed by a back vowel (see 6.3.1). In part of the Mercian area, however, the second fronting shifted *a* to *æ* unless *l* followed

immediately (see 6.5.2), and in those subdialects *æ* could then undergo back umlaut to *ea*. The examples from *Ps(A)* given in 6.5.2 exhibit back umlaut except before the velars *c* and *g*.

6.9.5 Epenthesis

By the PWGmc loss of word-final short low vowels (see 3.1.2) numerous word-final CR-clusters arose; the apocope of short high vowels after heavy stressed syllables (see 6.8.1) created a few more. Early in the attested history of OE short vowels were inserted in some of those consonant clusters; the process is variously referred to as epenthesis, anaptyxis, syllabification, or ‘parasiting’ (Luick 1914–40: 293–7, Campbell 1962: 151–2, Hogg 1992: 237–8). Different types of clusters were treated differently, and there is a good deal of variation in the outcomes, which makes it difficult to date this process. However, spellings in the earliest glossaries and the fact that the intrusive vowels (even before *r*) often do not count as syllables in *Beo* and other early verse (see especially Fulk 1992: 66–91 with references) shows that epenthesis cannot have begun much before the middle of the 7th century and might have begun within the 8th.

In word-final *Cr*-clusters a vowel was always inserted (even after *ǰ*); spellings later than the earliest glossaries without a vowel between the consonants are anomalous, possibly errors. Normally the inserted vowel agreed in frontness with the vowel of the preceding syllable. Examples of *Cr*-clusters inherited from PWGmc are very numerous:

PGmc *akraz ‘field’, acc. *akraǰ, *akra- (Goth. *akrs*, ON *akr*) > PWGmc *akr,
*akkra- (OF *ekker*, OS *akkar*, OHG *ackar*) > *ækr > OE *æcer*;

PGmc *fōdraǰ ‘sheath’ (Goth. *fodr*, ON *fōðr* ‘sheath, lining’) > PWGmc *fōdr (OF
fōder, OHG *fuotar*, both ‘lining’) > OE *fōdor* ‘sheath, case’;

PGmc *murþraǰ ‘murder’ (Goth. *maúrþr*) > PWGmc *morþr > OE *morþor*;

PGmc *timraǰ ‘timber’ (ON *timbr*; cf. Goth. *timrjan* ‘to build’) > PWGmc *timr (OF
timber, OS *timbar*, OHG *zimbar*, all ‘dwelling’) > *timbr > OE *timber*;

PGmc *utraz ‘otter’ (ON *otr*; cf. Skt *udrás*, an aquatic animal) > PWGmc *otr,
*ottra- (OHG *ottar*) > OE *otr* (early Merc., *EpGl* 585 and *CorpGl* 1246) > *otor* ~
oter (WS);

PGmc *hafraz ‘he-goat’ (ON *hafr*; cf. Lat. *caper*) > PWGmc *hafr > *hæfr > OE
hæfer;

PGmc *hleuþraǰ ‘noise’ (cf. Skt *śrótram* ‘ear’, Av. *sraoθrām* ‘singing’) > PWGmc
*hleuþr (OHG *liodar*) > OE *hlēoþor*;

PGmc *fagraz ‘beautiful’ (Goth. *fagrs*, ON *fagr*) > PWGmc *fagr (OS, OHG *fagar*) >
*fægr > OE *fæger*, Merc. derived noun *fēger-nis*;

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- PGmc *snutraz, *snutra- ‘wise’ (Goth. *snutrs*, ON *snotr*) > PWGmc *snotr, *snottra- (OHG *snottar*) > early North., Merc. OE *snottur*, WS *snotor* ~ *snottor*;
- PGmc *hlūtraz, *hlūtra- ‘clean’ (Goth. *hlūtrs*) > PWGmc *hlūtr, *hlūttra- (OS *hlūtтар*, OHG *lūtar* ~ *lūtтар*) > OE *hlūtor* ~ *hlūtтор*;
- PGmc *legra- ‘bed, lair’ (Goth. *ligrs*) > PNWGmc *legra (ON *legr* ‘tomb’) > PWGmc *legr (OF *leger*, OS *legar* ‘sickbed’, OHG *legar*) > *legr > OE *lēger* ‘bed, lair, sickbed, grave’;
- PGmc *wulþraz (*-iz?) adj. ‘worth’ (Goth. *wulþrs*; cf. *wulþus* ‘glory’) > PWGmc *wulþr > neut. *wuldr ‘glory’ > Merc., early North. OE *wuldur*, WS *wuldor* (cf. *wuldortorhtan* ‘splendidly bright’, 3 syll. at *Beo* 1136);
- P(NW)Gmc *þunraz ‘thunder’ (ON *þórr*, name of the thunder god; cf. Lat. *tonāre* ‘to thunder’) > PWGmc *þunr (OS *thunar*, OHG *donar*) > OE *þunor*;
- PNWGmc *aitraz, *aitra- ‘poison’ (ON *eitr*) > PWGmc *aitr, *aittra- (OS *ēttar*, OHG *eitar*) > OE *ātr* (early Merc., *EpGl* 141 and *CorpGl* 297) > *ātur* (*Ps(A)*), *ātor* (WS);
- PNWGmc *hlahtraz ‘laughter’ (ON *hlátr*) > PWGmc *hlahtr (OHG *lahtar*) > *hlæhtr > *hleahtr > OE *hleahtor*;
- PNWGmc *bitraz, *bitra- ‘bitter’ (ON *bitr*) > PWGmc *bitr, *bittra- (OS *bitar* ~ *bittar*, OHG *bittar*) > Merc. OE *bitur* (but derived noun *bitternis*), WS *biter* ~ *bitter* ~ *bittor*;
- PNWGmc *galdraz ‘incantation’ (ON *galdr*) > PWGmc *galdr (OHG dat. pl. *galdrun*) > *gældr > WS OE *gealdr > *gealdor* (neut.), Angl. *galdr > Merc. *galdur-creft*;
- PNWGmc *wundra ‘marvel, wonder’ (ON *undr*) > PWGmc *wundr (OS *wundar*, OHG *wuntar*) > OE *wundor*;
- PWGmc *rōþr neut. ‘oar’ (OF *rōther*, OHG *ruodar*; cf. ON *róðr* masc. ‘rowing’) > OE *rōðr* (early Merc., *CorpGl* 2031) > *rōþor* (WS, etc.).

There are also several that arose by apocope:

- PGmc *duhtri dat. sg. ‘daughter’ (Goth. *daúhtr*) → PWGmc *dohtri (with *o from the nom. sg.; OS *dohter*, OHG *tohter*) > OE *dæhtr > Merc., North. *dæhter*, WS *dehter*;
- PGmc *wintruz ‘winter’ (Goth. *wintrus*, ON *vetr*) > PWGmc *wintru (OF *winter*, OS, OHG *wintar*) > *wintr > OE *winter*;
- PGmc *feþrō ‘feather’ (cf. Lat. *penna* < *petnā) > PNWGmc *feþru (ON *fjǫðr*) > PWGmc *feþr (OHG *fedara*), *feþrhamō ‘plumage’ (OS dat. pl. *fedarhamun*) > WS OE *feþer*, early Merc. pl. *feðrroman* (*CorpGl* 1984);
- PGmc *swegrō ‘mother-in-law’ (*swegrū?; cf. Skt *śvaśrūś*, Lat. *socrus*) > PWGmc *swegru (OHG *swigar*) > *swegr > OE *sweger*;
- PNWGmc *libru, *librō- ‘liver’ (ON *lifr*, OHG *lebara*) > OE *libr* (early Merc., *EpGl* 1057 and *CorpGl* 2119) > *lifer* (WS);
- Lat. *castra* neut. pl. ‘camp’ → *cæstru fem. ‘town’ > southwestern Merc. *cæstr > *cæster*, WS *cæstr > *cæster*.

In two cases epenthesis cooccurs with a late syncope of *u:

PGmc *silubrą ‘silver’ (Goth. *silubr*, ON *silfr*) > PWGmc *silubr (OF *selover* ~ *selver*, OS *silubar*, OHG *silabar*) > OE *siolubr, *siolbr- >→ *siolbur (syncope levelled in from inflected forms) > early WS *siolfor*, Merc. *seolfur*;
 pre-OE *helustr ‘concealment, hiding place’, pl. *helustrās (cf. Goth. *hulistr* ‘covering’) > early Merc. OE *helostr* (*EpGl* 901), *helustras* (*EpGl* 867) > *heolustr → *heolstr* (*CorpGl* 1838, syncope levelled in), *heolstras* (*CorpGl* 1723) > *heolstor* (WS).

The treatment of word-final *Cl*-clusters was less uniform. Word-final *rl* never undergoes epenthesis. Usually there is no epenthesis when *l* was preceded by a coronal obstruent—even if other consonants preceded—or a labial fricative, or palatal *ǰ*:

PGmc *hunslą ‘sacrifice’ (Goth. *hunsł*) > *hūsl > OE *hūsl* ‘eucharist’;
 PGmc *naglaz ‘nail’ (ON *nagl*; cf. Goth. *ganagljān* ‘to nail’) > PWGmc *nagl (OF *neil*, OS, OHG *nagal*) > OE *nægł*;
 PGmc *ǰislaz ‘hostage’ (ON *ǰisl*; Celtic loan, cf. OIr. *ǰiall*) > PWGmc *ǰisl (OS, OHG *ǰisal*) > OE *ǰisl*;
 PGmc *nēplō, *nēdlō- ‘needle’ (Goth. *neþla*, ON *nál*) > PWGmc *nāþlu, *nādlō- (OF *nēdle*, OS gen. *nādlun*, OHG *nādala*) >→ OE *nādl*;
 PGmc *ahslō ‘shoulder-joint’ (ON *ǰxl*; cf. Lat. *āla* ‘wing’) > PWGmc *ahslu (OF *axle*, OS *ahsla*, OHG *ahsala*) > *æhslu > *eahslu > OE *eaxl*;
 PNWGmc *segłą ‘sail’ (ON *segl*) > PWGmc *segl (OF *seil*, OS *segel*, OHG *segal*) > OE *segl* (*EpGl* 111 *seǰilǰærd* ‘sailyard’ but *CorpGl* 165 *seǰlǰærd*, etc.);
 PNWGmc *minþłą ‘bit (of a horse’s bridle)’ (ON *mél*) > PWGmc *minþl (OHG *mindil*) > *mīþl > OE *mīþl*;
 PWGmc *seþl ‘seat’ (OF *-sedel* ‘sitting’, OS *sedal* ‘rest’, OHG *sedal*) ?> OE *setl* (> *seld*), North. *sedl* ~ *seðel*;
 PNWGmc *þihslu ‘(yoke-)pole’ (ON *þisl* (poetic)) > PWGmc *þihslu ~ *þislu (OS *thisla*, OHG *dihsala*) > OE *þixl* (*ErfGl* 1043 dat. pl. *dixlum*, *CorpGl* 2007 *þixlum*, 205 *wæǰneþixl*) ~ *þisl* (*EpGl* 1043 dat. pl. *dixlum*, etc.);
 northern WGmc *kafl ‘jaw’ (OS dat. pl. *kaflun*) > *kæfl > *cæfl > WS OE *ceafl*; late Lat. *tabla* ‘(gaming) board’ → *tæblu ‘die’ > early Merc. OE *tefil* (*ErfGl* 6), *tebl* (*CorpGl* 110), WS *tæfl*.

Here also belong *ādł* ‘disease’, *botł* (> *bold*) ‘swelling’, *spātł* ‘spittle’. An example in which epenthesis is unusually common after *s* is:

PGmc *haslaz ‘hazel’ (ON *hasł*; cf. Welsh *coll*) > PWGmc *hasł (OHG *hasal*) > early Merc. OE [h]æsil (*EpGl* 50) and *hæsl* (*ErfGl* 50, *CorpGl* 243), further *hæselhnutu* ‘hazelnut’ (*CorpGl* 33), WS *hæsel* ~ *hæsl*.

After other consonants epenthesis is usual:

- PGmc *fuglaz ‘bird’ (Goth. *fugls*, ON *fugl*) > PWGmc *fugl / *fogl (OF *fugel*, OS *fugal*, OHG *fogal*) > OE *fugol*;
PGmc *tunglā ‘luminary’ (Goth. dat. pl. *tugglam* ‘elements’, ON *tungl* ‘moon’) > PWGmc *tungl (pl. OS *hebantungal*, OHG *himilzungal*, both ‘constellations’) > OE *tungul* ~ *tungol*;
PNWGmc *kumlā ‘sign’ (ON *kuml* ~ *kumbl* ‘grave monument, helmet ornament’) > PWGmc *kuml (OS *kumbl* ~ *kumbal* ‘sign (from heaven)’) > OE *cumbol* ‘banner’ (poetic), but early WS *cumbl* ‘symptom’ 2x in *CP*;
PGmc *saiwalō ‘soul’ (Goth. *saiwala*) > PWGmc *saiwalu (*-u restored after loss by regular sound change, see 3.1.4; OHG *sēola* reflects the acc. sg.) > *sāwælu > *sāwlu > *sāwl* > *sāwol* ~ *sāwol*;
PGmc *apluz ‘apple’ (?; cf. OIr. *ubull*, OCS *jablūko*) > PWGmc *applu (OF *appel*, OS *appul*, OHG *apful*) > *æpplu > *æppl > OE *æppel*;
PWGmc *spinnilu ‘spindle’ (OHG *spinnila*) > *spinlu > *spinl > OE *spinil* (early Merc., *EpGl* 967) > *spinel* (*CorpGl* 1922, WS).

Cn-clusters are a different case. Word-final *rn* never underwent epenthesis. For the most part, neither did *ln*, a cluster which arose only by syncope:

- PGmc *alinō ‘forearm, ell’ (ON *ōln*, cf. Lat. *ulna*; why *ī in Goth. *aleina*?) > PWGmc *alinu (OF *elne*, OS, OHG *elina*) > *ælinu > *elinu > *elnu > OE *eln* (*elin* in *LdGl* 42).

Superficially *elin* looks like a conservative unsyncoated form, and it might be supposed that the syncope of *eln* was levelled in from inflected forms; but since *eln* is normal (including in the compound *elnboga* ‘elbow’), it seems more likely that *eln* arose by syncope and apocope and that *elin* is an exceptional form with epenthesis. Otherwise the treatment of word-final *-Cn* was not uniform, and there is a good deal of variation in the forms of individual words. Apparently epenthesis did not usually occur after a light syllable:

- PGmc *swefnaz ‘sleep’ (ON *svefn*; cf. Lat. *somnus*) > PWGmc *swefn ‘sleep, dream’ (OS *sweþan*) > OE *swefn*;
PGmc *regnā ‘rain’ (Goth. *rign*, ON *regn*) > PWGmc *regn (masc.; OF *rein*, OS *regan*, *regin*, OHG *regan*) > OE *reġn*;
PNWGmc *þegnaz ‘retainer, follower’ (ON *þegn*) > PWGmc *þegn (OS *thegan*, OHG *degan*) > OE *þeġn*;
PNWGmc *hrabnaz ‘raven’ (ON *hrafn*) > PWGmc *hrabn (OHG *raban*) > OE *hræfn* > *hræmn*;
PGmc *stebnō ‘voice’ (Goth. *stibna*) > PWGmc *stebnu (OF *stifne* ~ *stemme*, OS *stemna*, OHG *stimna*) OE *stebn* (*CorpGl* 2164) > *stefn* > *stemn*.

In late WS we also find *swefen*, rarely *peġen* and *hræfen*; it seems likely that the epenthetic vowels in those forms are later developments. However, at least two words exhibit epenthetic *e* in early documents:

PGmc *ebnaz ‘level, even, equal’ (Goth. *ibns*, ON *jafn*) > PWGmc *ebn (OF *even*, OS *eþan*, OHG *eban*) > OE *ebn (early Merc. *ebn-wēge* ‘equal weight’, *CorpGl* 98) > *efen* ~ *efn* > *emn*; *Ps(A)* always has *efen-* in derivatives and compounds (the basic adj. does not occur in that text);

PNWGmc *ofnaz ‘oven’ (ON *ofn*) > PWGmc *ofn (OF *oven*, OHG *ofan*) > OE *ofn* ~ *ofen* (the latter in the only instance of the word in *Ps(A)*).

After heavy syllables there is considerable variation:

PGmc *wēpną ‘weapon’ (Goth. pl. *wepna*, ON *vápn*) > PWGmc *wāpn (OF *wēpin*, OS *wāpan*, OHG *wāfan*) > WS OE *wāpn* ~ *wāpen*, Merc. (*Ps(A)*) *wēpen*;

PGmc *taikną ‘sign’ (Goth. *taikn* ‘indication’, ON *teikn*) > PWGmc *taikn (OF *tēken*, OS *tēkan*, OHG *zeihhan*) > OE *tācn* ~ *tācen*;

PNWGmc *faikną ‘hostility, evil’ (ON *feikn* ‘evil omen’) > PWGmc *faikn (OS *fēkan*, OHG *feihhan*, both ‘malice, deceit’) > OE *fācn* ~ *fācen* ‘treachery’;

PWGmc *baukn ‘sign’ (OF *bāken* ‘signal fire’, OS *bōkan* ‘sign, portent’, OHG *bouhhan* ‘sign, exemplar’) > WS OE *bēacn* ~ *bēacen*, early North. *sig-bēcn* ‘trophy’, *bēcun* ‘monument’ (Sweet 1885: 124, 127, 129), early Merc. *sig-bēacn* ‘trophy’ (*EpGl* 992), *siġe-bēcn* (*CorpGl* 2043), *here-bāecun* ‘military standard’ (*CorpGl* 1971), *-bāecon* (*EpGl* 919), *-bēcon* (*ErfGl* 919), Merc. *bēcen* (*Ps(A)*);

PWGmc *wolkn ‘cloud’ (OF *wolken*, OS, OHG *wolkan*) > OE *wolcn* ~ *wolcen*;

PGmc *būsniþ ‘thing offered’ (Goth. *ana-būsns* ‘command’, ON *býsn* ‘wonder, portent’) > PWGmc *būsni (OS pl. *ambūsni* ‘commands’) > *býsni > *býsn > OE *býsen* ‘example’.

Some of the variation is dialectal; for instance, forms with *-n* after heavy syllables are current in early WS of c.900 (Cosijn 1888: 148), whereas the Mercian of *Ps(A)*, half a century or more earlier, seems to have *-en* for all examples of inherited word-final postconsonantal *-n*. (See also further below.)

Word-final *-rm* and *-lm* never underwent epenthesis; more surprisingly, none of the other word-final *Cm*-clusters exhibit epenthesis in early WS or the early glossaries. In the Mercian of *Ps(A)* inherited syllabic *-m* appears as *-em*; in later OE (beyond the scope of this volume) we usually find *-um*. Note the following examples:

PGmc *maiþmaz ‘valuable object’ (Goth. *maiþms* ‘gift’, ON pl. *meiðmar*) > PWGmc *maiþm (OS *mēdom*) > OE *māþm* > late WS *māþum*;

PNWGmc *faþmaz ‘embrace; length of outstretched arms, fathom’ (ON *faðmr*) > PWGmc *faþm (OF *fethem*, OS pl. *faðmos* ‘hands and arms’, OHG *fadum*) > OE *fæþm* (3× in *CorpGl*);

PWGmc *bōsm ‘lap, bosom’ (OHG *buosum*) > OE *bōsm* (early Merc. *seġl-bōsm* ‘bellied sail’, *CorpGl* 412) > late WS *bōsum*;
(post-) PWGmc *wahstm ‘growth, increase’ (cf. OHG *wahst, wahsamo*) > *wastm (OS *wastum*) > OE *wæstm*, early Merc. *ō-wæstm* ‘shoot, twig’ (*CorpGl* 1942), Merc. (*Ps(A)*) *westem*;
(post-)PWGmc *brahtm ‘noise, tumult’ (OS *brahtum*) > *bræhtm > OE *breahtm* ~ *bearhtm*.

Here too belongs *botm* ‘bottom ground, foundation’ (OF *bodem* (*-d-), OS *boðom*, OHG *bodam* (*-þ-), ON *botn*; preform?).

There is more than one plausible way to account for the variation both in the operation of epenthesis and among the vowels inserted. The suggestion that *e*+sonorant might sometimes have been used to spell what were actually syllabic sonorants (Luick 1914–40: 295, subsection 1) is reasonable. But it should be remembered that the epenthetic vowel was at first probably the maximally unstressed [ə], whose timbre can vary considerably; possibly the variety of epenthetic vowels written in early sources reflects that variation at a time before harmony with the preceding stressed vowel had become the rule. That *-or* might reflect original *-ru (Luick 1914–40: 294 with Anm. 1) is possible; that the epenthetic back vowel of early Angl. *bēcun* arose before the Anglian monophthongization of *ēa to ē (Luick 1914–40: 297) is also possible; but it seems rash to base chronological conclusions on those observations, since other explanations for the unexpected epenthetic back vowels can be devised. Finally, we need to acknowledge the possibility that there could have been robust, stable variation in the phonetics of these unstressed syllables between speech communities, within speech communities, and even in the speech of single individuals.

6.9.6 Mergers of unstressed vowels

As a result of the northern WGmc vowel shifts (see 5.1.2) and the shortening of unstressed vowels (see 6.8.3), early OE had a system of four fully unstressed vowels, *i*, *æ*, *a*, and *u*. In the 8th and 9th centuries the contrasts between some of these vowels began to be lost. The best summary is Campbell 1962: 153–7; Dahl 1938 is a rich source of examples with detailed discussion. Here only the main points are addressed.

The most important change was the merger of *æ* and *i* as *e* in unstressed word-final and other inflectional syllables. Early OE *æ* was the reflex of PWGmc *a, *ā, and *ē, each of which had several PGmc sources; consequently examples are numerous:

- PGmc *-as, a-stem gen. sg. (cf. Runic Norse *Gōdagas*, OF *-es*, OS *-as* ~ *-es*) > OE *-æs* (e.g. in *heafunæs* ‘of heaven’ *RuthCr* 45, *gōdæs* ‘of good’, *ylflæs* ‘of evil’, *BDS* 4) > *-es*, e.g. in *dægēs*;
- PGmc *gaburanai nom. pl. ‘born’ (Goth. *gabaúranai*) > PWGmc *gaboranē > *gæborænæ > OE *geborene*; early uninflected forms also with (levelled) *-æn*, e.g. *gibæn* ‘given’, *EpGl* 525;
- PGmc *uber ‘over’ (Goth. *ufar* with voiceless Verner’s Law alternant) > PWGmc *obar (OS *obar*, OHG *obar*) > *obær (OF *over*) > OE *ofer* (*LRid* 11) > *ofer*;
- PGmc *h^waþeraz ‘which (of two)?’ (Goth. *hvaþar*, archaic ON *hvaðarr*) > PWGmc *hwaþar > *hwæþær > OE *hwæþer*;
- PGmc *watōr ‘water’ (cf. Goth. *wato* with n-stem alternant generalized) > PWGmc *watar (OHG *waʒʒar*, OS *watar* ~ *water*) > *wætær (OF *weter*) > OE *wæter*;
- PGmc *fedwōr ‘four’ (Goth. *fidwor*) > *fewwār > PWGmc *feuwar (OS *fiuwar*) > *feuwær (OF *fiūwer*) > OE *fēowær > *fēower*;
- PGmc gen. sg. *gebōz (Goth. *gibos*, ON *gjafar*) > PWGmc *gebā (OHG *geba*) > *gebæ (OS *geba* ~ *geþe*, OF *ieve*) > OE *gebæ (cf. *Ædilburgæ* in Ct. 5.5, c. 700) > *giefe*;
- PGmc acc. sg. *gebō (Goth. *giba*) > PWGmc *gebā (OHG *geba*) > *gebæ (OS *geba* ~ *geþe*, OF *ieve*) > OE *gebæ (cf. *æriǵfæra* ‘flight of arrows’, *LRid* 13) > *giefe*;
- PGmc *satiðō ‘I set (up)’ (Runic Norse *satido*, Goth. *satida*) > PWGmc *sattā (OHG **sazza* → *sazta*) > *sættæ (OS *satta* ~ *sette*) > OE *setta > *sette*;
- PGmc acc. sg. masc. *blindanō ‘blind’ (Goth. *blindana*) > PWGmc *blindanā > *blindænæ > *blindnæ > OE *blindnæ (cf. *riicnæ*, *RuthCr* 44) > *blindne*;
- PWGmc nom. sg. *tungā ‘tongue’, *augā ‘eye’ (OHG *zunga*, *ouga*) > *tungæ, *augæ (OS *tunge* ~ *-a*) > OE *tungæ, *ēagæ (cf. *nectægalæ* ‘nightingale’, *EpGl* 857) > *tunge*, *ēage*;
- PGmc weak past indic. 3sg. *-dē (Goth. *-da*, ON *-ði*) > PWGmc *-dē (OF *-de*, OS *-de* ~ *-da*) > OE *-dæ* (e.g. *āstelidæ* ‘established’, *Cæd* 4) > *-de*;
- PGmc pres. subj. *werþai ‘it may become’ (Goth. *wairþai* with diphthong restored by levelling; ON *verði*) > PWGmc *werþē (OF *werthe*, OS *werde* ~ *werda*, OHG *werde*) > OE *weorthæ* (*BDS* 5) > *weorþe*;
- PGmc dat. sg. *dagai ‘day’ (Goth. *daga*, ON *degi*) > PWGmc *dagē (OF *deie*, OS *dage* ~ *daga* (1 × *dege* in the Merseburg glosses), OHG *tage*) > OE *dægæ (cf. dat. sg. *hringæ* ‘ring’, *ErfGl* 410, dat. sg. *gāstæ* ‘spirit’, *BDS* 4) > *dæge*;
- PGmc masc. nom. pl. *gōdai ‘good’ (Goth. *godai* with *-ai* reintroduced from *þai* ‘those’) > PWGmc *gōdē (OF *gōde*, OS *gōde* ~ *gōda*, OHG *guote*) > OE *gōdæ > *gōde*.

Early OE *i* was the reflex of PWGmc **i* and those **i* that had not been syncopated nor apocopated:

- PGmc *harjaz ‘army’ (Goth. *harjis*, ON *herr*) > PWGmc *hari (OS, OHG *heri*) > OE (-) *heri* (numerous names in Bede’s Latin text and the *Liber Vitae*, cf. Dahl 1938: 86–7) > *here*;
- PGmc *mari- ‘sea, lake’ (Goth. *mari-saiws* ‘lake’, *marei* (n-stem) ‘sea’, ON *marr* (masc.)) > PWGmc *mari (OS *meri* ‘sea’ (fem.), OHG *meri* ‘sea’ (masc. ~ neut.)) > OE *meri* (EpGl 962) > *mere* (CorpGl 1921, etc., etc.) ‘pool, lake’, poetic ‘sea’ (masc.);
- PGmc acc. pl. *mahtinz ‘powers’ (Goth. *mahtins*) > PWGmc *mahtī (OS, OHG *mahti*) > *mæhtī > *meahtī > Angl. *mehtī > *mehti* (*Cæd* 2, Leningrad MS; *mæcti* in the Moore MS appears to exhibit analogical *æ*);
- PGmc pres. indic. 3sg. *wirþidi ‘(s)he becomes’ (Goth. *wairþiþ*, OHG *wirdit*) → *wirþiþi > *wiorþiþi > Angl. (**wiorþiþ* (early North. *wiurthit*, BDS 1) > *wiorþeþ > Merc. *for-weorðeð* ‘(s)he perishes’ (*Ps(A)*) (> pre-WS *wierþiþi > *wierþ(þ)i > *wierþ* by syncope and apocope, see 6.8.1);
- PGmc pres. subj. 3sg. *skuli ‘(s)he may owe’, 3pl. *skulin ‘they may owe’ (Goth. *skuli*, *skuleina*, ON *skyli*) > PWGmc (*skuli → *skulī, *skulin (OS *skuli*, *skulin*, OHG *skuli*, *skulīn*) > OE *sýli, *sýlin > *sýle*, *sýlen*;
- PGmc past ptc. nt. *dōmida ‘judged’ (Goth. **domiþ*) > PWGmc *dōmid (OHG *gi-tuomit*) > OE *dæmid* (BDS 5) > *dēmed*;
- PNWGmc *winiz ‘friend’ (ON *vinr*) > PWGmc *wini (OS, OHG *wini*) > OE (-) *wini* (numerous names in Bede’s Latin text and the *Liber Vitae*, cf. Dahl 1938: 156–8) > *wine*;
- PNWGmc *flikkiþa ‘side of bacon’ (ON *flikki*) > *fliçci > OE *fliçci* (EpGl 774, CorpGl 1551) > *fliçce*;
- Lat. suffix *-ārius* → PWGmc *-ārī (see 4.3.4) > *-āri > OE *-æri > *-eri* (e.g. in *tebleri* ‘gambler’, ErfGl 1141, *harperi* ‘harper’, LdGl 147) > *-ere* (e.g. in *teblere* ‘gambler’, CorpGl 111, etc., etc.);
- northern WGmc *stahlī ‘steel weapon’ (OS *stehli* ‘ax’) > *stæhli > *steahli > Angl. *stehli > early Merc. *stēli* ‘steel’ (CorpGl 55); > WS *stiehlī > *stiēli > *stiēle > late WS *stýle* ‘steel’;
- pre-OE i-stem nom. pl. *hūbī or *hūfi ‘beehives’ > OE *hýfi* (CorpGl 133) > **hýfe* → *hýfa* (ō-stem form).

Other i-stem endings, as well as the early a- and ō-stem inst. sg. ending *-i*, will be discussed in 7.2.2.

The same merger occurred in various derivational suffixes; thus *ārist* ‘first’ (*Cæd* 5) > *ārest*, *dryhtin* ‘lord’ (spelled *dryctin*, *Cæd* 8) > *dryhten*, and so on. Inherited *i* adjacent to palatals generally survives, for instance in *-isc* and in *-ig* < **-iġ* (e.g. in *hefiġ* ‘heavy’). But the merger still occurred in most cases, because inherited *æ* adjacent to palatals eventually became *i*. Most strikingly, the inherited derivational suffix **-ag(-)* > **-æg(-)* > **-eg(-)* > *-ig(-)*:

- PGmc *mōdagaz ‘agitated’ (Goth. *modags* ‘angry’) > PWGmc *mōdag (OS *mōdag* ‘(emotionally) aroused, angry’, OHG *muotag* ‘brave’) > *mōdæg > *mōdeġ > OE *mōdiġ* ‘spirited, brave, arrogant’;

PNWGmc *hailagaz ‘holy’ (ON *heilagr*) > PWGmc *hailag (OF *hēlech*, OS *hēlag*, OHG *heilag*) > *hālæg > *hālēg > OE *hālig*;
PWGmc *honag / *hunag (OHG *honag*) > *hunæg > *huneġ > OE *hunig*.

Since the final stage of this development was reached long after *i*-umlaut had run its course, the suffix does not trigger umlaut. An intermediate stage *-eg-* is apparently sometimes preserved before back vowels (therefore with velar *-g-*) when a short syllable precedes, e.g. dat. pl. *monegum* ‘many’; but since inherited **i* can also appear as *e* in that position, such forms are not necessarily archaisms.

The PGmc and PWGmc prefix **ga-* must still have been **ġæ-* at the time when diphthongization by initial palatals occurred in WS, at least when it had (exceptionally) been stressed; otherwise the word for ‘weapons, gear’ would not be *ġeatwa* (see 6.7.3 ad init.). Yet in our earliest OE documents, which still distinguish unstressed *æ* and *i*, the unstressed prefix is usually spelled *ġi-*. It is conceivable that raising of unstressed pretonic **æ* to **i* after the palatal fricative occurred entirely by regular sound change, but it is also possible that the shape of the prefix was influenced by that of the only other monosyllabic prefix ending in a short vowel, namely *bi-* (Alfred Bammesberger, p.c.). Subsequently *ġi-* > *ġe-*:

PGmc **gastīganą* ‘to climb into / onto’ (Goth. *gasteigan*) > PWGmc **gastīgan* (OS, OHG *gistīgan*) > **ġæstīgan* > (→) OE **ġistīgan* > early North. *ġistīga* (*RuthCr* 40) > late North. *ġestīga*; WS *ġestīgan*;
PWGmc **gadursti* ‘boldness, daring’ (OHG *giturst*) in OE *ġidyrstīġ* ‘bold’ (*EpGl* 81) > *ġedyrstīġ* (*CorpGl* 245, etc.);
pre-OE **ġæbēataen* ‘beaten’ > (→) OE *ġibēataen* (*EpGl* 140) > *ġebēaten* (*CorpGl* 265, etc.).

So also *bi-* > *be-*, *ni* ‘not’ > *ne*.

For the most part unstressed *a* and *u* remained distinct in early OE (the latter often written *o*). However, they are beginning to be confused in 9th-century Kentish charters (see Campbell 1962: 156 with examples), and there are a few early WS examples of *-a* for expected *-u* (cf. the material in Cosijn 1886: 9–10). Moreover, the fluctuation between *-ad(-)* and *-od(-)* ~ *-ud(-)* in the past and past ptc. of class II weak verbs in early WS (Cosijn 1886: 184–90, Sprockel 1965: 223–4, 226–30) and Kentish (cf. Campbell 1962: 333) suggests that by 900 the contrast between the unstressed back vowels was breaking down in closed final syllables in Kentish and in all positions, except word-finally, in WS; we have already seen that the distribution of forms does not support the hypothesis of an early change of **ō* to **ū* before indic. pl. *-un*, dat. sg. and pl. *-um* (see 3.1.5). The variation in, e.g., early WS *folgop* ~ *folgap* ‘retinue; employment, office’ points to the same conclusion.

Finally, the first of two unstressed back vowels shows a tendency to be written *e* in early WS and the Mercian of *Ps(A)* (Campbell 1962: 158–9); thus *nafola* ‘navel’ > *nafela*, *weloras* ‘lips’ > *weleras*, *ġemedomode* ‘(s)he allotted, (s)he moderated’ > *ġemedemode*, etc. This is another indication that the contrast between word-internal unstressed *a* and *u* was collapsing; in fact, it seems likely that the product of this merger was actually [ə]. The most important consequence was the reduction of class II weak past indic. pl. *-odon* ~ *-adon* to *-edon*, from which *-e-* spread to other forms of the past tense (cf. Cosijn 1886: 184–8). This sound change was still in progress toward the end of the 9th century and is probably among the latest sound changes discussed in this volume.

6.9.7 *The Kentish front vowel mergers; palatal umlaut*

Beginning during the late 8th century, *æ*, *ǣ*, and *y* merged with *e*, and *ǣ*, *ǣ̄*, and *ȳ* merged with *ē*, in the Kentish dialect. The mergers are revealed by the use of the symbols *e*, *ǣ*, *æ*, *y* interchangeably. The earliest such forms seem to be *oncærrende* for *oncerrrende* ‘changing’ and *nymne* for *nemne* ‘except’ in a charter of 805 (Ct. 34.17) and *ġæfe* for *ġefe* dat. sg. ‘gift’, *ædlēane* for *edlēane* dat. sg. ‘recompense’, *hēla* for dat. sg. *hǣlu* ‘salvation’, *twælf* for *twelf* ‘twelve’, *forecwædenan* for acc. pl. *forecwedenan* ‘aforesaid’, *clēnra* for gen. pl. *clænra* ‘pure’, *cāses* for *cēses* ‘of cheese’, etc., in a charter datable between 805 and 831 (Ct. 37 passim). It can be seen that most of these early examples involve the merger of *æ* with *e*, and the merger of *ǣ̄* (which in Kentish reflected only the i-umlaut of **ā* < PWGmc **ai*) with *ē* (which in Kentish reflected both PWGmc **ā* and **ē* of various sources). If *nymne* is an error (as it might be; the word was apparently a Mercianism and might have been unfamiliar to the scribe), we might suggest that the unround front vowels merged with each other before merging with the round front vowels. But in a charter datable to 831 we find two examples of *yfter* for *æfter* (Ct. 38.5, 13), showing that by that date *y* = *e* = *æ*. It appears that all the mergers had taken place by the middle of the 9th century, though the conservative orthography tends to conceal them.

These mergers gave Kentish by far the simplest system of (non-diphthongal) stressed vowels of any OE dialect, with five short and five long vowels.

In WS, by the year 900, the diphthongs *eo*, *io*, and *ie* had become *i* before the clusters *ht*, *hþ*, and *hs* when the latter were word-final or (probably) followed by a front vowel; some further change seems to have occurred when *r* preceded the vowel, because in that case the outcome is spelled *y* (Campbell 1962: 129 n. 2). Since this change, called ‘palatal umlaut’, did not occur when a back vowel followed, it created alternations between *i* and the diphthongs which were often levelled in both directions. Note the following examples:

PGmc *rehtaz ‘right’ (Goth. *raihts*, ON *réttr*) > PWGmc *reht (OF *riucht*, OS, OHG *reht*) > OE *reoht > early WS *riht* (occasionally in *rihtwīs* ‘righteous’) > *ryht*;
 PGmc *sehs ‘six’ (Goth. *saihs*, ON, OF *sex*, OS, OHG *sehs*) > OE *seohts > early WS *siex*, cf. ordinal *siexta* ~ *sixta* ‘sixth’;
 PGmc *wihtiz ‘thing’ (Goth. *waihts*, ON *vætr* ‘thing, living thing’ (poet.)) > PWGmc *wihti (OS, OHG *wiht*) > *wiohti > pre-WS *wiehti > early WS *wiht*;
 PGmc *sih^widi ‘(s)he sees’ (Goth. *saihwīþ*, OF *siucht*, OS *gi-sihit*, OHG *sihit*) >→ *sihwīþi > *siohīþi > pre-WS *siehīþi > early WS *siehp* > *sihp*;
 PWGmc *kneht ‘boy’ (OF *kniucht* ‘servant’, OS, OHG *kneht* ‘boy, servant, retainer’) > OE *cneoht, nom. pl. *cneohtas > early WS *cniht* ~ *cnieht*, *cneohtas* → also sg. *cneoht* and pl. *cnihtas*.

The WS forms provide no clue about the phonetic processes of this change; it is not even clear that the last stage was *ie* > *i*, since variation between those two spellings was widespread in early WS (see 6.10.1). It might seem that the *h must have become palatal and then palatalized the preceding vocalic (hence the usual name of this sound change), but it is not immediately obvious why an *h* between *eo* and a word-final *t*, for instance, should have become palatal.

However, palatal umlaut seems to have occurred slightly later in Kentish, and from the (admittedly meager) evidence in 9th-century Kentish charters Campbell has worked out a scenario for palatal umlaut that is probably correct (Campbell 1962: 129–30). Kentish charters from the early 9th century⁵² yield forms with inherited diphthongs, e.g. *mid reohte* ‘by right’ (Ct. 38.14), *mid riahte* (Ct. 30.6), personal name *Wiahrēd* (Ct. 30.15), but some of the earlier charters also contain monophthongized forms *rehtlice* (Ct. 34.15), *rehtlicast* (Ct. 38.5), and another monophthongized *sex* ‘six’ (Ct. 41.62) beside a place name dat. sg. *Sioxslihtre* (Ct. 29.9). The shift of *e* to *i*, however, is first clearly found in the 10th-century Kentish glosses. The same pair of changes—monophthongization first, then raising—can have occurred in WS as well.

If Campbell’s hypothesis is correct, ‘palatal umlaut’ was actually a sequence of unusual, and therefore interesting, changes. Monophthongization, though evidently triggered by the following *hC*-cluster, appears to have been *inhibited* by a back vowel following the cluster. Only after monophthongization had occurred could the *h* have become palatal, because it was only then that it came into contact with a front vowel. The ‘umlaut’ caused by the palatal *h* consisted only in the raising of immediately preceding *e* to *i*.

⁵² Some charters from the 860s were granted by a king of Essex and Kent, but the dialect appears to be Kentish.

6.10 Other sound changes

I here discuss changes in the OE diphthongs and some other sound changes of various kinds, many of which are difficult to date.

6.10.1 *Developments of the OE diphthongs*

The OE long diphthongs originally developed from PWGmc u-diphthongs (6.1.2); the new diphthongs, long and short, that arose by breaking (6.2) probably also had a u-offglide at first. By the 9th century all the diphthongs seem to have reached their ‘classical’ OE shapes. In North. the diphthongs *io*, *īo* remain distinct from the others through the 10th century and beyond, but the fact that *æo*, *ǣo* were not unrounded in some areas (and so are often spelled *eo*, *ēo* in *Ru*²), whereas the second element of *eo*, *ēo* tended to be unrounded in others (so that they are often spelled *ea*, *ēa* in *Li*), leads to a good deal of confusion which may be only graphic (Campbell 1962: 117–18, 124). In the other dialects, however, various diphthongs underwent mergers as follows.

In Kentish *eo* merged with *io*, and *ēo* with *īo*, apparently in the 9th century; there is also some tendency to unround their second elements, so that spellings *ea*, *ia*, *ēa*, *īa* are also encountered (Campbell 1962: 119). By some time in the 10th century the merger products had become short *eo*, long *īo* (Campbell 1962: 126).

In Mercian the nonlow diphthongs had not merged in the earliest glosses, but they had done so by the time the glosses were inserted in *Ps(A)*; the outcomes were short *eo*, long *ēo*. In early WS of c.900 the same mergers have taken place; there are still many spellings with *io*, *īo*, but the e-symbols and i-symbols appear to be interchangeable.

The most intractable puzzle is the fate of WS *ie*, *īe*. There is a good deal of variation between *i* and *ie*, and between *ī* and *īe*, in early WS texts, but not much variation of the diphthongs with *y* and *ȳ*. On the other hand, *y* and *ȳ* are the usual late WS outcomes of *ie* and *īe*. Since mergers cannot be reversed within a single dialect (because native learners do not have the evidence they would need to reverse them), the handbooks conclude that literary early WS and literary late WS must have been based on different spoken subdialects of WS. That would not be surprising; after all, the WS speech area was one of the largest in England, and there must have been dialect differences within it. But it is also possible that the realizations of *i* and *ie*, and of *ī* and *īe*, overlapped in early WS without a complete merger occurring. Such ‘near-mergers’ are known from recent sociolinguistic work; the best-known example is the three long front vowels in the vernacular English of Belfast (see Milroy and Harris

1980). Without more evidence (of a kind unlikely ever to emerge) we cannot be certain what the status of *ie* and *īe* in early WS really was.

6.10.2 Miscellaneous sound changes

A large number of sound changes each affecting only a few words occurred in various dialects of OE, many of them variably. The change of *fn* to *mn*, encountered incidentally in 6.9.5 above, is typical; so is the loss of *w* between a consonant and a round vowel, encountered in *cwudu* > *cudu* ‘cud’ (see 6.9.4) and *cwōm* > *cōm* ‘I/(s)he came’. Good discussion (with lists of examples) can be found in Campbell 1962, especially pp. 182–96. I here discuss only those that seem important enough to be treated in a general history of the language.

The most startling OE sound change is one that has scarcely been noticed. In two words the sequence *V:ser* has become *V:re*, apparently without any intermediate stage (Warren Cowgill, p.c. c.1980):

- PGmc *unseraz ‘our’ (Goth. *unsar*, ON *várr*) > PWGmc *unsar (OHG *unser*) > *ūsær (OF *ūser*) > OE *ūser* (North., poetic; early WS neut. dat. sg. *ūssum* ‘ours’, 1x in *CP*) > *ūre*;
- PGmc *isarną ‘iron’ (Goth. *eisarn*, ON *járn*) > PWGmc *isarn (OF *īsern*, OS, OHG *īsarn*) > OE *īsern* > *īren*.

The only apparent counterexample, *cāsere* ‘Caesar, emperor’, can have been influenced by the Latin word (if it was not exempt from the sound change because its long vowel was low). The fact that *ūre* does not occur in Northumbrian, whereas it is usual in the other dialects (remodelled as *ūr* in *Ps(A)*), suggests that this was a southern OE sound change; unfortunately the apparently random distribution of *īsern* (> also *īsen*) and *īren* does not support that or any other hypothesis. The fact that *ūssum* < *ūsrum occurs once in *CP* suggests that the change occurred after syncope had run its course, and that *ūr(e)-* and *īr(e)n-* were later levelled through their paradigms. This proposed sound change seems preferable to existing attempts to explain *īren* (cf. Campbell 1962: 185 n. 3, 268–9 n. 2) both because the latter are complex and ad hoc and because they do not explain *ūre*. It is true that such a ‘saltatory’ change is surprising, but it is not completely unparalleled: as Cowgill pointed out (p.c.), a loss of *s in the same sequence is needed to explain ON *várr* ‘our’ < *úarr < *úsarr, *járn* ‘iron’ < *iarn < *isarn, *Kjárr* < *Kéarr < *Keisarr (and this proposed ON sound change is preferable to existing attempts to explain *várr* (Noreen 1923: 102) for the same reasons).

From the above discussion it can be seen that after general syncope had occurred (6.7.3), *ūs- assimilated to *ūss-*. The same sound change affected gen. pl. *þisra and fem. gen., dat. sg. *þisre, which assimilated to *þissa* and

þisse. Those are the usual forms in all the early documents; in late WS the endings *-re* and *-ra* were restored analogically.

In 3.3.1 it was noted that word-final **-n* was lost after **ī* widely, but not uniformly, in WGmc. In the ancestor of OE that occurred late enough to affect an early Latin loanword:

Lat. *pulvīnus* ‘pillow, cushion’ → pre-OE **pulwīn* > **pylwī* > **pylī* > OE *pyle*.

Two inflectional endings were also affected. The past subj. pl. **-īn* > **-ī* > **-i* > *-e*, and the consonantless ending was then levelled into the pres. subj. pl. (Cosijn 1986: 120, Bloomfield 1930, Campbell 1962: 189); but levelling of *-æ*, pl. *-æn* into the past subj. also occurred and eventually prevailed (see 7.1.1). As noted in 3.3.1, the oblique caseforms of fem. n-stem nouns in **-īn* likewise > **-ī* > **-i*, thus becoming identical with the nom. sg., so that when nom. sg. **-i* was replaced by *-u* the same replacement occurred in the oblique cases as well (cf. already *meniu* ‘host, multitude’ *CorpGl* 685, *wlenču* ‘pride’ 846).

The North. loss of word-final *-n* in unstressed syllables is probably unconnected with the preceding change. It is variable in the early 8th-century documents (Campbell 1962: 189); in late North. is has become categorical in most forms, though not in all.

An early change of **ni wi-*, with unstressed **ni* ‘not’, to *ny-* (Campbell 1962: 113) is attested in forms of *nyllan* ‘not to want’ and *nytan* ‘not to know’ (**ni willan*, **ni witan*). It is difficult to date this change because the contracted forms can have been adjusted later to fit the corresponding non-negated forms; thus *Ps(A) neoton*, *Li nuton* ‘(they) do not know’, for example, can have replaced **nytun* by levelling of the vowels from *Ps(A) weoton*, *Li wuton* ‘they know’. Forms such as *Li nyste* ‘((s)he) did not know’ show that the change was pan-OE (so Campbell 1962: 113).

A change which had some impact on the surface contrasts among OE vowels was the common, but variable, metathesis of *r* with short vowels. As might be expected, not all instances of metathesis occurred at the same time. The intransitive strong verbs meaning ‘burn’ and ‘run, flow’ seem to have undergone metathesis in the Anglian dialects before breaking occurred (Stanley 1952: 104–6 with references):

PGmc **brinnaną* ‘to burn (intr.)’ (Goth., OS, OHG *brinnan*) > **birnan* > Angl. OE **biornan* > Merc. *beornan*;

PGmc **rinnaną* ‘to run, to flow’ (Goth. *rinnan*, ON *rinna*, OS, OHG *rinnan*) > **irnan* > Angl. OE *iornan* (9th-century Martyrology, Sweet 1885: 178, l. 18; dialect?) >

Merc. *eornan*, North. *iorna*.

In WS, however, metathesis in these words did not occur until after breaking, with the result that the same verbs are early WS *birnan* ~ *biernan* ~ *byrnan*, *irnan* ~ *iernan* (Cosijn 1886: 134; Stanley 1952: 104–6). Other examples with front vowels in the root also underwent metathesis after breaking; typical examples are *þerscan* ‘to thresh’, *berstan* ‘to burst’, *gærs* ‘grass’, North. *birdas* ‘young birds’. In a few cases we can be more specific. The WS causatives *bærnan* ‘to burn (trans.)’ and *ærnan* ‘to gallop (a horse)’ must have undergone metathesis before the sequence *æn* (which arose by i-umlaut) became *en*:

PGmc *brannijana ‘to burn (trans.)’ (Goth. *ga-brannjan*, ON *brenna*, OHG *brennen*) > *brannijan > OE *brænnan > *bærnan*;

PGmc *rannijana ‘to cause to run’ (Goth. *ur-rannjan* ‘to cause (the sun) to rise’, ON *renna*, OHG *zesamine-rennen* ‘to melt together, to fuse’) > *rannijan > OE *rænnan > *ærnan* ‘to make (a horse) gallop’.

Merc. *bernan* ‘to set on fire, to burn (trans.)’, North. *berna* could have undergone metathesis at the same time if the raising of the i-umlaut product *æ to *e* occurred before *r* in the Anglian dialects (so Stanley 1952: 107), but it seems more straightforward to suppose a development *brannj- > *brænn- > *brenn- > *bern-* (Stanley 1952: 106–7). For much further discussion see Stanley 1952, with references.

Metathesis also affected the cluster *tl* (in word-final position only?); for instance, *botl* ‘dwelling’ > *bold*, *setl* ‘seat’ > *seld*.

Finally, a word must be said about the consonant clusters which were input to the last change discussed. It is generally held that *þl, *þm became *tl*, *tm* in WS but remained unchanged in the Anglian dialects (Campbell 1962: 171). It is true that there is a dat. sg. *boðle* in the OE translation of Bede (which reflects Mercian influence), and *sedel* occurs widely in Anglian and Anglian-influenced sources; in addition, *bothem* is attested in ME (cf. OE *botm*). But *fæþm* ‘embrace, armspan, fathom’ never exhibits *t* in any dialect, and both *sedl* and *setl* are well attested in Anglian sources too (e.g. in *Li*). The most prudent conclusion is that we cannot recover in any detail what happened to these words. On the (complex) facts see especially Weyhe 1905: 67–75.

7

The separate prehistory of Old English: morphological changes

This chapter will discuss the morphological changes that OE underwent in its separate development after the changes discussed in 5.2 above. It will be seen that changes in verb inflection were relatively modest, while changes in nominal inflection were more extensive.

7.1 OE changes in verb inflection

7.1.1 Stem formation of strong verbs

Strong verbs exhibit little change in OE other than regular sound changes. The Verner's Law alternation was eliminated by sound change in verbs with roots ending in *f (word-final fricative *-b became [-f], while word-internal *-f- became [-v-], leading to a complete merger of the two fricatives; see 6.7.2, 6.8.2). In verbs with roots ending in *h the alternation survived intact. Otherwise it survived in some verbs but was lost in others; the relevant verbs are the following (given with principal parts):

VL alternation surviving	VL alternation eliminated
class I	
<i>līþan, lāþ, lidon, liden</i> 'go'	<i>mīþan, māþ, miþon, miþen</i> 'hide'
<i>snīþan, snāþ, snidon, sniden</i> 'cut'	<i>wriþan, wrāþ, wriþon, wriþen</i> 'wrap'
	<i>scriþan, scrāþ, scridon, scriþen</i> 'go, pass'
	<i>ārisan, ārās, ārison, ārisen</i> 'rise'
class II	
<i>sēoþan, sēaþ, sudon, soden</i> 'boil'	<i>ābrēoþan, ābrēaþ, ābruþon, ābroþen</i>
<i>čēosan, čēas, curon, coren</i> 'choose'	'disintegrate'
<i>drēosan, drēas, druron, droren</i> 'fall'	
<i>frēosan, frēas, fruron, froren</i> 'freeze'	
<i>hrēosan, hrēas, hruron, hroren</i> 'fall'	
<i>forlēosan, forlēas, forluron, forloren</i> 'lose'	

class III

weorþan, wearþ, wurdon, worden ‘become’

class V

cweþan, cwæþ, cwædon, cweden ‘say’ *lesan, læs, lāson, lesen* ‘gather’
wesan, wæs, wæron ‘be’ *ġenesan, ġenæs, ġenāson, ġenesen*
‘survive’

class VI

sceþþan, scōd, scōdon, sceaþen ‘hurt’

(Relevant verbs whose default past stems and past participles are unattested are *ætclīþende* ‘clinging’ and *hwōsan, hwēos* ‘to cough, ((s)he coughed’.) The alternation in *wriþan* might have been lost already in PWGmc, since OHG levels in the same direction (and the other WGmc languages have lost the verb; Seebold 1970: 567), and *lesan* might have been levelled while the northern WGmc dialects were still in contact, since both OF and OS level in the same direction (Seebold 1970: 332); but levelling is such a natural change that parallel development is equally likely. From the pattern of partial levelling in *scriþan* and *sceþþan* we might guess that the derived alternant was usually lost first in past participles.

Note the redistribution of Verner’s Law alternants in *sceþþan*, so that the entire finite past exhibits the voiced alternant (see 3.3.2). The same innovation appears in all strong verbs of classes VI and VII with root-final *h:

āflēan, āflōg, —, āflæġen ~ āflagen ‘skin’
lēan, lōg, lōgon, lagen ‘blame’
slēan, slōg, slōgon, slæġen ~ slagen ‘strike, kill’
þwēan, þwōg, þwōgon, þwæġen ~ þwagen (late WS *þwogen*; North. *ġeþwāen* but *unþweġen*) ‘wash’
hliehhan ~ hlihhan, hlōg, hlōgon ‘laugh’
fōn, fēng, fēngon, fangen ‘take, seize’
hōn, hēng, hēngon, hangen ‘hang (trans.)’

In one verb this innovation eliminated the alternation entirely, since the present stem already contained the voiced alternant:

standan, stōd, stōdon, standen ‘stand’ (cf. OF *stōd, stōden*, OS *stōd, stōdun*, OHG *stuont, stuontun* (with *-n-* from the pres.) vs. Goth. *stop, stopun* with levelling in the opposite direction).

The spread of the voiced alternant to the past indic. sg. in at least some of these verbs might have been an early innovation, since it is shared with other NWGmc languages; but such a change in all relevant verbs of classes VI and

VII cannot be attributed even to PWGmc, since a surviving voiceless alternant in the past indic. sg. is needed to account for the innovative OHG present *heffen* ‘to lift’ (see 3.3.2). There are also a few other verbs in which the voiced alternant has been generalized throughout the paradigm:

- , *hrēad* ‘he covered’, —, *hroden* ‘adorned’ (poet.; cf. *bordhrēoþa* ‘shield ornament’)
- findan*, *fand*, *fundon*, *funden* ‘find’ (cf. OF *finda* vs. Goth. *finþan*, ON *finna*, OHG *findan* (*-þ-); OS *fīdan* ~ *findan*)
- hladan*, *hlōd*, *hlōdon*, *hladen* ‘load’ (cf. OS *hladan*, OF past ptc. *hleden* vs. OHG *ladan* (*-þ-), Goth. past ptc. *afhlaþans*; ON *hlaða* is ambiguous)
- scādan*, *scēd*, —, *scāden* ‘separate’ (cf. Goth. *skaidan* vs. OF *skētha*, OHG *skeidan* (*-þ-); OS mostly *skēdan*, but *scēdan* 1 × in MS C of the *Heliand*)

The levelling in *findan* was apparently a northern WGmc innovation. A somewhat different case is

- gewegan* ‘to fight’, —, —, *forweġen* ‘slain’ (see Seebold 1970: 545–6).

PGmc *wiganą ‘to fight’ has been extensively remodelled in all the languages; OE happens to preserve the unusual voiced VL alternant in the pres. stem, though the vowel has been replaced (see 2.3.1 (ii)). A verb in which both VL alternants occur in the pres. stem is *wīdan* ~ *wriþan* ‘to grow’ (no past or past ptc. attested; the only cognate is OHG past ptc. *garidan* ‘arisen’, with *-þ-).

In WS, though not in the other dialects (so far as forms are known), sound changes gave rise to extensive levelling between ablaut alternations of the first three classes with roots ending in *h (called ‘contract presents’ because the loss of intervocalic *h was followed by contraction of the vowels in hiatus; see 6.9.3). The following are the attested paradigms, with forms analogical on class II underlined:

- class I (originally)
- lēon* ‘to lend’, *lāh* (verse, WS, Kent.; *on-lēah* *Jud* 124), —, *on-liġen*
- sēon* ‘to filter; to ooze’, *sāh* (WS; *burh-sēah* *Bede* V.12), —, *ā-siwen* ~ *ā-seowen* (*bi-sēon* *ChristC* 1086)
- tīon* ~ *tēon* ‘to accuse’ (*ġe-tēon* ‘to grant’, *of-tēon* ‘to deny’, etc.), *tēah* (verse, early WS), *tugon* (early WS), *togen* ~ *of-tiġen* ~ *be-tyġen*
- wriōn* ~ *wrēon* ‘to cover’ (Merc. *ofer-wrēan*, North. *wriġa*), *wrāh* (verse, Merc.) ~ *wrēah* (verse, WS), *wriġon* (verse, WS, Merc., North.; Merc. *on-wreogon*) ~ *wrugon* (verse), *wriġen* (verse, WS, Merc., North.) ~ *be-*, *ofer-wrogen* (WS) ~ *on-wreogan* (late WS)

class II

fleon ‘to flee’, *fleah*, *flugon*, *flogen* (all diall., with characteristic sound changes)
teon ‘to pull’, *teah*, *tugon*, *togen* (all diall., with characteristic sound changes)

class III (originally)

bion ~ *bēon* ‘to thrive’, *bāh* (verse, WS) ~ *bēah* (verse, WS) ~ *ġe-þong* (late WS),
þungon (verse, WS) ~ *þugon* (WS), *ofer-þungen* (early WS; Merc. *ġe-ðungen*
 ‘virtuous’) ~ *ġe-þiġen* (early WS) ~ *ġe-þogen* (WS)

It can be seen that class II forms made to verbs originally belonging to classes I and III occur exclusively in WS and in verse; and since almost all verse survives in WS transcription, we should probably conclude that the partial transfer of these verbs into class II was a development only of the WS dialect. On the other hand, WS preserves the original class III forms of ‘thrive’ fairly well, with the result that the WS paradigm of that verb exhibits massive variation. The variation in all these verb paradigms must have been conditioned both geographically and socially (and have shifted over time), but we do not have enough evidence to reconstruct any of the distributions.

Note that, of the verbs with root syllables originally ending in *h^w, ‘filter’ preserves the voiced Verner’s Law alternant *w*, but ‘lend’ has levelled *ġ* in by rule. The other verb in *h^w, ‘see’, preserves its inherited alternations fairly well:

sēon ‘to see’ (Merc. *ġe-sīan* ~ *ġe-sēan*, North. (*ġe-*)*sēa*), *seah* (Merc., North. *ġe-sæh*),
sāwon (Merc., North. *ġe-sēgun*, -on), *sewen* (Merc., North. *ġe-seġen*)

WS has levelled *w through the default past stem, while the Anglian dialects have levelled *g through that stem and into the past participle. It might be suggested that the WS levelling occurred very early, since the root-syllable vowel of the WS default past stem exhibits the expected outcome of *-āw- followed by a non-front vowel (see 5.1.2), which can only have been indic. pl. *-u-. However, note that a development *sāgun > *sægun (by fronting, see 5.1.2) > *sāgun (by retraction, see 6.3.3) → *sāwun will also yield the observed result.

The paradigm of the only present of class III in *lh exhibits various morphological reanalyses:

fēolan ‘to get across’ (and cpds., verse, early WS; Merc. *æt-fēalan* ‘to cling’, 3sg. *æt-fileð*, subj. *fēle*; see 6.9.1), *fealh* ‘she came in, he underwent, he betook himself’ (and cpds., verse, early WS; Merc. *æt-falh* ‘he clung’), *fulgon* ‘they burst in, they hastened’ (early WS, also *æt-fulgon* ‘they applied themselves’) ~ *be-fulon* ‘they continued’ (*ū*?; late WS) ~ *æt-fēlun* ‘they clung’ (Merc.), *be-folen* ‘granted’ (*ō*?; verse, also late WS *ġeond-folen* (*ō*?) ‘permeated’)

Other morphological reanalyses have affected individual verbs. The default past stem *c(w)ōm-* ‘came’ has been levelled into the 1, 3sg. indic. in all dialects, so that the entire finite past exhibits *ō* in the root; it is possible, but not demonstrable, that the lexical influence of class VI *faran* ‘to go’ (past *fōr*, *fōron*) is partly responsible for that levelling (cf. Hogg and Fulk 2011: 244–5). The same pattern has spread to *nīman* ‘to take’ in the Anglian dialects, in which we consistently find *nōm*, *nōmun*, but in early WS that new paradigm is still in competition with *nam*, *nāmon* (on which see 6.3.3). The only past tense form of *stenan* ‘to groan, to roar’ seems to be late WS *ā-sten* ‘I yelled’, with *e* apparently for **æ*; if the form is correctly interpreted, it shows that the *æ* of *bær* ‘I carried’, etc. was levelled into the past of the only class IV verb with a root ending in *n*.

Three verbs with a nasal suffix in the pres. stem have levelled it through the paradigm:

- frīġnan* ‘to ask’ (verse, early WS, Merc.; North. *frēġna* ~ *fræġna*), *fræġn* (verse, early WS, North.), *frugnon* (verse, WS, Merc., North.), *frugnen* (verse, WS; North. *ġefrogenen*)
- spornan* (verse, early WS) ~ *spurnan* (verse, WS) ‘to kick, to reject’ (3sg. *æt-spyrnþ*, Kent. *et-spernð*), *spearn* (verse, WS), *æt-spurnon* (WS), *un-æt-spornen* ~ *un-for-spurned* (both late WS)
- murnan* ‘to lament’ (verse, WS), *mearn* (verse), *murnon* ~ *murndon* (both verse)

Forms of the first verb with loss of *ġ/g* and lengthening of the preceding vowel also occur in WS; in addition, there is an alternative pres. *frīcġan*. See Seebold 1970: 208–9 for discussion of ‘ask’, Seebold 1970: 453 for discussion of ‘kick’.

A few strong verbs have been shifted into weak class I. WS examples consistently declined weak are *streġdan* ‘to spread out’ and *þicġan* ‘to accept’ (neither of which happens to be attested in the past in early WS). In early WS strong *slēp* ‘slept’ and weak *slæpte* are already in competition; in late WS *rædan* ‘to read’ and *ondrædan* ‘to dread’ also become weak (though in early WS the only pasts attested are strong *rēdon*, *ondrēd*, *-on*). A surprising early WS weak past is 1, 3sg. *funde* ‘found’, backformed to pl. *fundon*. Various strong verbs exhibit weak forms in various dialects; see Campbell 1962: 308–20.

The most important development in the stem formation of OE strong verbs is the fact that most of the classes have been fragmented by sound change and morphological reanalysis. Leaving aside verbs attested only in glosses, those attested only in the present tense or as past participles, those attested only once or twice in verse, and irregular poetic forms, the membership of the strong classes and subclasses can be tabulated as follows (the figures are of course approximations):

class and subclass, with example	membership
I	
majority	51
with VL	3
contract	3
contr. (with <i>w</i>)	1
total	58
II	
majority	27
with VL	6
contract	2
with <i>ū</i>	15
total	50
III	
with <i>iNC</i>	36
", with metath.	2
", contract	1
with <i>eIC</i>	9
", pal. diph.	3
with <i>eoCC</i>	14
", VL	1
", in *lh	1
with <i>reCC</i>	2
"	2
with <i>orn/urn</i>	2
with <i>ign</i>	1
total	74
IV	
majority	7
with pal. diph.	1
with <i>im</i>	1
with <i>um</i>	1
total	10
V	
majority	13
with VL	2
with pal. diph.	2
contract	2

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class and subclass, with example	membership
(III cont.)	
contr. (with <i>w</i>) <i>sēon, seah, sāwon, sewen</i> ‘see’	1
j-present <i>licgan, læg, lægon, legen</i> ‘lie’	4
past with <i>ǣ</i> <i>etan, ǣt, ǣton, eten</i> ‘eat’	2
total	26
VI	
majority <i>faran, fōr, fōron, faren</i> ‘travel’	16
contract <i>slēan, slōg, slōgon, slægen</i> ~ <i>slagen</i> ‘hit, kill’	4
n-infix <i>standan, stōd, stōdon, standen</i> ‘stand’	1
n-suffix <i>wæcnan, wōc, wōcon</i> ‘wake up’	1
j-present <i>hebban, hōf, hōfon, hafen</i> ‘lift’	1
", with VL <i>sceþþan, scōd, scōdon, sceaþen</i> ‘hurt’	1
", in *hj <i>hliehhan, hlōg, hlōgon</i> ‘laugh’	1
", with pal. diph. <i>scieppan, scōp, scōpon, sceaþen</i> ‘create’	1
", with <i>ǣ</i> <i>stæppan, stōp, stōpon, stapen</i> ‘step’	1
", in *rj <i>swerian, swōr, swōron, sworen</i> ‘swear’	1
total	28
VIIa (past with <i>ē</i>)	
with <i>ǣ</i> <i>lǣtan, lēt, lēton, lāten</i> ‘let go, allow’	4
with <i>ā</i> <i>hātan, hēt, hēton, hāten</i> ‘call, command’	3
with either <i>slāpan</i> ~ <i>slāpan, slēp, slēpon, slāpen</i> ‘sleep’	1
contract <i>fōn, fēng, fēngon, fangen</i> ‘take, seize’	2
total	10
VIIb (past with <i>ēo</i>)	
with <i>ō</i> <i>grōwan, grēow, grēowon, grōwen</i> ‘grow’	14
with <i>ā</i> <i>cnāwan, cnēow, cnēowon, cnāwen</i> ‘recognize’	8
with <i>ēa</i> <i>hlēapan, hlēop, hlēopon, hlēapen</i> ‘leap’	3
with <i>eaCC</i> <i>feallan, fēoll, fēollon, feallen</i> ‘fall’	8
with <i>anC</i> <i>bannan, bēonn, bēonnon, bannen</i> ‘announce’	2
j-present <i>wēpan, wēop, wēopon, wōpen</i> ‘weep’	1
total	<u>36</u>
total of strong verbs in general use	292

(On the failure of palatal diphthongization to apply to *sceþþan* see 6.4.1. Note that the assignment of verbs to class VIIa and VIIb is not completely automatic, since the past of *swāpan* ‘to sweep’ is *swēop*, not expected **swēp*. I do not list *gangan* ‘to go’, since its past in prose is suppletive *ēode*.)

By this reckoning the 292 OE strong verbs that are not marginal are inflected according to 51 different patterns, so that the average membership of a subclass is a bit less than 6. Moreover, since some subclasses are in fact quite large, many of the remaining subclasses are very small, and uniquely inflected verbs are fairly common. Most striking are the fragmentation even of tiny class IV and the fact that each of the six *j*-presents of class VI exhibits its own idiosyncrasies of inflection.

Of course a different analysis might result in a less extreme estimate of fragmentation; for instance, verbs with palatal diphthongization would not constitute separate subclasses in most dialects, some characteristics of subclasses might be held to be the results of productive phonological rules, and the assignment of verbs to classes VIIa and VIIb might be partly rule-governed. But any serious attempt to minimize the fragmentation of OE strong verb inflection will have to posit rules that native learners would find it more difficult to learn than simply memorizing the stems.

In sum, it appears that OE had already developed to the point at which many strong verbs (though by no means all) were just ‘irregular verbs’ whose inflection had to be memorized. That fact had important consequences for the further development of the language. For instance, the two largest subclasses of OE strong verbs—the majority type of class I and the normal class III type with nasals in the syllable coda—are the two that survive best in Modern English: the latter has been split into the type *drink, drank, drunk* (9 members), the type *swing, swung, swung* (12 members), and the type *bind, bound, bound* (4 members), while the former is the ancestor of the type *drive, drove, driven* (7 members). For the most part the history of strong verbs after the OE period has been one of increasing fragmentation.

7.1.2 *The 2sg. and 3sg. forms of strong and class I weak presents*

I-umlaut (6.6 and vol. i, pp. 126–8) affected all 2sg. and 3sg. pres. indic. forms of strong verbs and all forms of class I weak verbs. Syncope (6.7.3), apocope (6.8.1), and the assimilation of consonants that followed syncope (6.8.2) led to opaque consonant alternations in the 2sg. and 3sg. of those verbs, but only when the root syllable was heavy (or, possibly, ended in a voiceless obstruent; see 6.8.1). This situation was disturbed by morphological remodelling differently in the different dialects.

In the Anglian dialects the unsyncopated endings of light stems were generalized to heavy stems, and i-umlaut was levelled out of strong verbs; a handful of exceptions to both levellings demonstrates that the sound changes listed above did affect the relevant forms in the prehistory of those dialects. WS levelled the syncopated endings of heavy stems into light-stem paradigms,

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but inconsistently: verbs with light roots ending in *h* or a voiceless stop nearly always exhibit syncopated endings; those with light roots ending in *r* that have *j*-presents (i.e., *swerian* ‘to swear’ and the weak class I presents to light roots in *r*) never do; otherwise there is some variation. Hedberg 1945 gives a complete collection of material with good discussion; Ringe 2002: 132–4 gives a brief summary of the WS situation, while Hogg and Fulk 2011: 217–18 adds further details.

The scope of these changes can be appreciated from a list of 2sg. and 3sg. pres. indic. forms of frequently occurring relevant verbs from WS sources, Mercian sources (*Ps(A)* unmarked), and the Northumbrian glosses (*Li* unmarked). Examples from heavy-stem verbs, listed by inflectional class (strong classes in numerical order, then weak class I), include the following:

	WS	Merc.	North.
<i>drifan</i>	<i>drifst, drifþ</i>	<i>ādrifes, ādrifeð</i>	—, <i>drifeð</i>
<i>ārisan</i>	—, <i>ārist</i>	—, <i>ārīseð</i>	—, <i>ārīseð</i>
<i>stīgan</i>	<i>āstīhst</i> (late), <i>oferstīgð</i>	<i>āstīges, āstīgeð</i>	—, <i>stīgeð</i>
<i>bēodan</i>	<i>bebýtst</i> (late), <i>bebīet</i>	—, <i>bibēadeð</i> (Ct. 41.64)	<i>bēadas, forbēades</i>
<i>ċēosan</i>	<i>ġecȳst</i> (late), <i>ġecīst</i> ~ <i>ġecīesð</i>	—, <i>wiðċēoseð</i>	—
<i>tēon</i>	<i>tȳhst</i> (late), <i>tīehð</i>	—, <i>ātīð</i>	—, <i>ġitēð</i> (<i>RitGl</i>)
<i>drincan</i>	<i>drincst, drincþ</i>	—, <i>drinceð</i>	<i>dringes, drinceð</i>
<i>weorpan</i>	<i>wyrpst</i> (late), <i>tōwierpð</i>	<i>āweorpes, āweorpeð</i>	<i>worpes, āworpeð</i>
<i>weorþan</i>	<i>wyrst, wierð</i>	—, <i>forweorðeð</i>	—, <i>worðes</i> (early <i>wiurthit</i> , <i>BDS</i>)
<i>standan</i>	<i>stentst, stent</i>	<i>ætstondes, stondeð</i>	—, <i>stondeð</i>
<i>hātan</i>	<i>hāetst, hāet</i>	—, <i>hātaþ</i> (<i>Ru</i> ¹)	<i>hātes, hāteð</i>
<i>lāetan</i>	<i>lāetst, lāet</i>	<i>forlētes, forlēteð</i>	<i>forlētas, forlēteð</i>
<i>fōn</i>	<i>underfēhst, underfēhð</i>	<i>onfāest, onfāeð</i>	<i>onfōas, onfōað</i> ~ <i>-eð</i>
<i>cnāwan</i>	<i>ġecnāwst</i> (late), <i>ġecnāweð</i> (6.7.1) → <i>ġecnāwþ</i>	<i>oncnāwes, oncnāweð</i>	<i>oncnāwas, oncnāweð</i>
<i>feallan</i>	<i>fealst</i> (late), <i>āfielð</i>	—, <i>falleð</i>	<i>fallas, falleð</i>
<i>healdan</i>	<i>hylst</i> (late), <i>hielt</i>	<i>ġehaldes, haldeð</i>	<i>haldes, ġehaldeð</i>
<i>weaxan</i>	<i>wyxt</i> (late), <i>wihst</i> ~ <i>wixst</i> ~ <i>wiexð</i>	—, <i>wæxit</i> (<i>CorpGl</i>)	—, <i>wæxað</i> ~ <i>wæxes</i>
<i>bringan</i>	<i>bringst, bringð</i>	—, <i>tōbringeð</i>	—
<i>wendan</i>	<i>wentst, went</i>	<i>onwendes, onwendeð</i>	—, <i>ymwēendes</i> (<i>RitGl</i>)
<i>wyrċan</i>	<i>wyrcest, wyrċð</i>	<i>wirċest</i> (<i>Ru</i> ¹), <i>wirċeð</i>	<i>wyrċes, wyrċeð</i>
<i>fylġan</i>	<i>fylġst</i> (late), <i>fylġð</i>	—, <i>efterfylġeð</i>	—, <i>fylġeð</i>
<i>hieran</i>	<i>ġehȳrst</i> (late), <i>ġehȳerð</i>	<i>ġehēres, ġehēreð</i>	<i>ġehēres, ġehēreð</i>

	WS	Merc.	North.
<i>cierran</i>	<i>ġécyrst</i> (late), <i>ġécierð</i>	<i>ācerres</i> , <i>ċerred</i>	<i>ċerras</i> , <i>ġecerred</i>
<i>dēman</i>	<i>dēmst</i> , <i>dēmð</i>	<i>dāemes</i> , <i>dāemeð</i>	<i>dāemest</i> (RitGl), <i>dāemeð</i>
<i>cennan</i>	<i>censt</i> , <i>cenþ</i>	—, <i>cenneð</i>	<i>āccennes</i> , <i>ġecennes</i>
<i>ċieġan</i>	<i>ġēcȳgst</i> (late), <i>ġēcīġð</i>	—, <i>ġēcēð</i>	—, <i>ċeiġeð</i>

Examples from light-stem verbs include the following:

	WS	Merc.	North.
<i>beran</i>	<i>byrst</i> (late), <i>birð</i> ~ <i>bireð</i>	—, <i>bireð</i>	—, <i>bered</i>
<i>niman</i>	<i>nimst</i> , <i>nimð</i>	<i>ġenimes</i> , <i>nimeð</i>	<i>nimes</i> , <i>nimeð</i>
<i>cuman</i>	<i>cymst</i> , <i>cymð</i> ~ <i>cymeð</i>	<i>cymes</i> , <i>cymeð</i>	<i>cymes</i> , <i>cymeð</i>
<i>ġiefan</i>	<i>ġifst</i> , <i>ġifþ</i>	<i>āġefes</i> (Ru ¹), <i>āġefeþ</i> (Ru ¹)	<i>forġefes</i> , <i>forġefes</i>
<i>onġietan</i>	<i>onġitst</i> , <i>onġitt</i>	—, <i>onġiteð</i> ~ <i>onġeteð</i>	<i>onġettes</i> , <i>onġetteð</i>
<i>cweþan</i>	<i>cwiſt</i> , <i>cwið</i>	<i>cwiðst</i> (Ru ¹), <i>cwið</i>	<i>cwæðes</i> , <i>cwæðes</i>
<i>sprecan</i>	<i>spricst</i> , <i>spricð</i>	<i>spreces</i> (Ru ¹), <i>spriceð</i>	<i>spreces</i> , <i>spreceð</i>
<i>liċġan</i>	<i>liſt</i> , <i>liġeð</i> ~ <i>liþ</i>	—, <i>liġeþ</i> (Ru ¹)	—, <i>liġes</i>
<i>biddan</i>	<i>bitst</i> , <i>bitt</i> ~ <i>bideð</i>	<i>ġebiddes</i> (Ru ¹), <i>ġebideð</i>	—, <i>ġebiddeð</i>
<i>faran</i>	<i>færſt</i> , <i>færð</i> ~ <i>færeð</i>	—, <i>ġeondfereð</i>	<i>færes</i> , <i>færeð</i>
<i>hebban</i>	<i>hefſt</i> , <i>hefeð</i> ~ <i>hefð</i>	<i>ūpāhefes</i> , <i>hefeð</i>	<i>āhefes</i> , <i>āhefeð</i>
<i>swerian</i>	<i>swerest</i> , <i>swereþ</i>	—, <i>swereð</i>	—, <i>sweras</i> ~ <i>swerias</i>
<i>settan</i>	<i>setst</i> , <i>sett</i>	<i>setes</i> , <i>seteð</i>	<i>settis</i> , <i>setteð</i> ~ <i>seteð</i>
<i>reċċan</i>	<i>recſt</i> , <i>recð</i>	<i>reċes</i> , <i>reċeð</i>	—
<i>sellan</i>	<i>selſt</i> ~ <i>seleſt</i> , <i>selð</i> ~ <i>seleð</i>	<i>seles</i> , <i>seleð</i>	<i>selles</i> , <i>selleð</i> ~ <i>seleð</i>
<i>fremman</i>	<i>fremſt</i> , <i>fremeþ</i>	—	—

In WS the incidence of syncopated forms to presents with light roots increases over time, but *fremman* never syncopates except in a couple of very late texts, and presents of the type *swerian* never syncopate at all. Forms of strong heavy-stemmed presents with syncope but no umlaut, or umlaut but no syncope, occasionally occur (Brunner 1965: 286). (See also further below.) Late Northumbrian has eliminated umlaut from strong presents almost completely (not counting j-presents like *liċġa*, *bidda*, *hebban*, in which all forms exhibit umlaut). For that reason the present of *cuma* is all the more striking: unlauded *y* has largely been levelled through the paradigm, so that we find 1sg. *cymo*, pl. *cymað* ~ *cymas* (beside *cumað* ~ *cumas*), subj. *cyme*, iptv. *cym*, ptc. *cymende* (beside *cumende*; see Cook 1894: 31–2, Lindelöf 1901a: 122–3, 1901b: 134–5). The early southwest Mercian of *Ps(A)* retains the original alternation in *cuman* (*u* ~ *y*), in strong verbs of classes IV and V (*e* ~ *i*), and occasionally elsewhere;

the late northern Mercian of *Ru*¹ usually does not. Syncopated forms are rare in the Anglian dialects, but *Ps(A)* consistently has *cwið* ‘says’ (possibly an allegro form) and a few syncopated forms to roots in *h (Campbell 1962: 300). Note that *ġecēð* reflects an early contraction (see 6.7.1).

Early WS documents contain a non-negligible number of forms with neither syncope nor i-umlaut (Campbell 1962: 301, Brunner 1965: 286). They are almost certainly Mercianisms, reflecting Mercian literary dominance in the 8th and 9th centuries (cf. Hogg and Fulk 2011: 217–18). That necessarily complicates our assessment of the Kentish data. Of more than 130 relevant forms in the late 10th-century Kentish glosses, barely ten fail to syncopate (and one of those is *fremeð*); it is as clear as it can be that Kentish agreed with WS in its treatment of these forms by AD 1000. On the other hand, in the 9th-century Kentish charters (Sweet 1885: 441–51) we find only five forms, all without syncope (*limpeð* twice in Ct. 37; *bibēadeð*, *forġifeð*, and *sæleð* in Ct. 41), and in the lone 9th-century charter from Surrey (Ct. 45), which might be expected to fall on the same side of this isogloss, there are four more, again all without syncope (*ġehaldeð*, *weorðeð*, *ġelið* (from *lion* ‘to lend’), and *forðcymeð*). It is perhaps not completely impossible that the isogloss shifted between the dates of the earlier and later documents. But the fact that *bibēadeð*, *ġehaldeð*, and *weorðeð* all also fail to exhibit umlaut suggests strongly that the verb forms in these charters are Mercian, and Hedberg treats them as Mercian without discussion. On the other hand, he treats *limpeð* in a ‘Saxon-Kentish’ charter of 858 (Ct. 28.25) as a genuine Kentish form, probably correctly, as the dialect of the charter appears to be Kentish (cf. *Eðelbearht*, *sealtern*, *healf*, *sealde*, dat. sg. *wioda* ~ *wiada* ‘wood’, *mēda* ‘meadow’, *siondan* ‘are’, pl. *bæc*, etc.).

Two groups of presents deserve separate treatment. Class I weak verbs in *-ettan* behave like verbs with heavy root syllables, usually syncopating in WS and Kentish but not in the Anglian dialects. Early WS examples and examples in unmixed texts of other dialects are few, but the following can be cited: early WS *licet* ‘pretends’, *ōnet* ‘hastens’, *scofett* ‘drives hither and thither’ (~ *scofeð*), *ondetteð* ‘confesses’; Kent. *hafet* ‘claps’; Merc. *sicetit* ‘sighs’ (*CorpGl* 1857), *hospetet* ‘ridicules’ (1963), *borettið* ‘brandishes’ (2147, = *borettit EpGl* 1092), *brogdetteð* ‘vibrates’ (*CorpGl* 2132); (*Ps(A)*) *roccetteð* ‘belches forth’, *ondetteð* ‘acknowledges’, *sporetteð* ‘kicks’; North. (*Li*, *Ru*²) *ġiōnetað* ‘occupies’, *ondeteð* ‘confesses’, (*Li*) *loceteð* ‘belches out’. Except for the levelling of *-tt-* into these forms (in which *t was followed by *i, not *j, in pre-PWGmc), the attested pattern could conceivably be the result of sound change alone, since the environment for syncope need not have been identical in all the dialects; but it could also reflect levelling in any or all of the dialects.

Verbs ending in CR-clusters do not normally syncopate in any dialect. Examples from early WS and unmixed texts of other dialects include: early WS *onwæcneð* ‘wakes’, *bīcneð* ‘signals’, *ātiefreð* ‘depicts’, *gediegleð* ‘conceals’, *nemneð* ‘names’, *timbreð* ‘builds’, *hyngreð* ‘hungers’; Kent. *hinrað* (sic) ‘will hunger’; Merc. *tebleth* ‘gambles’ (*CorpGl* 497, = *teblith EpGl* 178); (*Ps(A)*) *frōfres* ‘(you) console’, *ārefneð* ‘sustains, supports’, *timbres* ‘(you) build’, *timbreð* ‘builds’; (*Ru*¹) *nemnest* ‘(you) name’, *nemneð* ‘names’; North. (*Li*) *bēcneð* ‘indicates’, *efnefræfres* ‘consoles’, *hræfneð* ‘sustains’, *nemneð* ‘names’, *drysnes* ‘extinguishes’, *timbras* ‘(you) build’, *hyncgreð* ‘hungers’. An example ending in a three-consonant cluster, early WS *wyrmeð* ‘corrupts’, should perhaps be mentioned here as well. It is possible that these forms escaped syncope, but that cannot be taken for granted, since the conditions for syncope seem to have been met (the stem vowel was in an open syllable and preceded by a heavy syllable). An alternative explanation is that the vowel before the ending has been levelled into some presents from the finite past (see 7.1.4 below), into which it had earlier been levelled from the endingless forms of the past participle; lexical analogy between verbs of this type can then have contributed to the exceptionless outcome. In late WS syncopated forms *nemst*, *nemð* begin to compete with unsyncopated *nemnest*, *nemneð*; that seems to be the result of remodelling based on other class I weak verbs with heavy root syllables.

7.1.3 Other changes in verb endings

The northern WGmc syncretism of persons was carried further in OE: not only was there a single form for the plural in every category, there was also now a single form for the subjunctive sg. of each tense. To some extent that was already true in PWGmc, since the 1sg. had undergone syncretism with the 3sg. and the loss of *-z in the 2sg. made it identical to the other sg. forms. But the survival of 2sg. subj. -s in OS and OHG strongly suggests that some verbs had retained a distinctive ending in that category; in the development of OE the subj. 2sg. ending *-s was levelled out. The loss of *-n in *-īn (see 3.3.1) made the subj. pl. identical as well in the past tense, but the contrast was restored by replacement of the endings with pres. subj. -æ, -æn (see the end of this section). Subsequently the loss of -n in Northumbrian by regular sound change did lead to syncretism of all subj. endings in that dialect.

The tables above show that the pres. indic. 2sg. sometimes ended in -s and sometimes in -st. The -t is clearly an innovation in most verbs, and it has traditionally been ascribed to recutting of forms in which the 2sg. subject pronoun *þū* followed the verb, the allegro form -es *þū* > -estū (actually

attested) being reinterpreted as underlying *-est þū* (Campbell 1962: 297, Brunner 1965: 271; for the parallel development in OHG, Braune and Reiffenstein 2004: 261). This explanation has at least two fatal flaws. On the one hand, subject pronouns follow pres. indic. verbs in few syntactic environments in OE (Ringe 2002: 127–9 with references); that native learners reanalyzed such sequences and then generalized the reanalysis to the vast majority of clauses in which such a sequence had never occurred is not a convincing hypothesis unless further support for it can be found. On the other hand, the traditional explanation does not account for the distinctive distribution of the innovative ending. A much better explanation based on that distribution has been offered by Lühr 1984: 29–30 (for OHG) and Sihler 1986 (for OE and OHG); the following account is based on Sihler's.

2sg. forms ending in **-st* by sound change alone included a few PGmc strong pasts such as **uz raist* 'you rose' and the preterite-present **darst* 'you dare'; in those the **-s-* was unambiguously part of the stem, and the ending was **-t*. But when pre-PGmc strong past and pret.-pres. 2sg. **-ss*—the sound-change outcome of a root-final coronal obstruent and the ending **-t*—was replaced by **-st*, it became possible for learners to abduce a 2sg. ending **-st*, e.g. in strong past **baist* 'you waited' = **/baid+st/*, **baist* 'you bit' = **/bait+st/*, **warst* 'you became' = **/warþ+st/*, and preterite-present **waist* 'you know' = **/wait+st/* and **mōst* 'you may' = **/mōt+st/* (see vol. i, pp. 192, 260–1; cf. also Hill 2003: 83–8). It is the preterite-presents that are crucial in this context, because they are the only verbs in which PWGmc inherited a pres. indic. 2sg. ending in *-st*. That ending subsequently spread to the pret.-pres. verbs with roots ending in nasals in the WGmc dialects, since we find OE *canst* = OS, OHG *kanst* 'you know how' and OE *ġemanst* 'you remember' ≈ OS *farmanst* 'you despise'; but because the **ns* cluster did not lose its nasal in the northern dialects (see 5.1.1), this innovation must be substantially post-PWGmc. (**munan* is not attested in OHG, and the 2sg. of **unnan* 'to grant' does not seem to be attested anywhere. OF *thurst* 'you need' is a separate innovation, cf. OE *pearft* = OS *tharft* = OHG *darft*). It seems clear that 2sg. **-st* had also spread to **bi-*, the perfective present of 'be' (see vol. i, p. 263), at a comparatively early date, since the 2sg. of that stem is *bist* in OE, OS, and OHG (Sihler 1986: 194), though it is functionally distinct from the normal present only in OE. In OS 2sg. *-st* spread no further. Both in OE and in OHG it spread next to other monosyllabic present stems. In the early southwest Mercian of *Ps(A)* that spread is still in progress: we find *gēst* '(you) go', the contract presents *onfāest* '(you) will accept', *ġesīst* '(you) see', *forsīst* '(you) despise', and the class I weak present *ūphēst* '(you) lift up', but also *slēs* '(you) kill', *ðwēs* '(you) will wash', and variation in *dāes* ~ *dāest* '(you) do'. Northumbrian has even fewer

forms in *-st*, though that might be because syllabic endings have been widely restored in our late Northumbrian glosses. In the late northern Mercian of *Ru*¹ *-st* has spread to other stems and is widely in competition with *-s* (Campbell 1962: 301). In the late 10th-century Kentish glosses the situation is apparently similar, though there are so few examples that we can say nothing further: we find *slehst* '(you) smite', *ālēst* '(you) will set free', *georwēnst* '(you) despair' beside *āgelts* '(you) repay', *onāsets* '(you) will sow'.¹ In early WS, however, *-st* is already universal in the pres. indic. and has begun to compete with *-s* in the weak past indic.; in later WS *-st* is universal in the latter as well.

Another salient difference between the dialects is the pres. indic. 1sg. ending, which is inherited *-u* (~ *-o*, analogically restored after heavy syllables) in the Anglian dialects but innovative *-e* in Kentish and WS. The most convincing explanation for this innovation is that of Cowgill 1965, which can be summarized as follows. In all dialects the pres. indic. 1sg. and pres. subj. 1sg. were originally identical in *willan* 'to want' (1sg. *wille*) and *gān* 'to go' (1sg. *gā*), in the former because the indic. form was etymologically a subj. (vol. i, p. 263), in the latter because indic. **-u* and subj. **-æ* had disappeared by contraction with the preceding stem vowel (at least if *-ā-* was generalized before contraction occurred). In all dialects contraction likewise led to accidental syncretism of moods in the 1sg. of *fōn* 'to take' (*fō*) and *hōn* 'to hang' (*hō*). But in the other contract verbs the products of contraction were identical only in the southern dialects, because in the northern dialects the Anglian monophthongization preceded contraction, and the monophthongized front vowels yielded different contraction products with **-u* and with **-æ* (Cowgill 1965: 45–6). Thus in WS and Kentish there were an additional 14 verbs with accidental syncretism of indic. and subj. in the pres. 1sg. (see 7.1.1), and two of them, *sēo* 'I see / may see' and *slēa* 'I hit / may hit' were about as basic and common as *gā* 'I go / may go'. Thus it is less surprising that in the southern dialects native learners reinterpreted this accidental syncretism as systematic and generalized it to all present tenses except 'be' (including *dō* 'I do / may do', replacing indic. *dōm*, which is preserved in the Anglian dialects). The subj. form was generalized probably because it was reinforced by subj. 2sg., 3sg. *-e* (note that a new subj. 1sg. *-u* would have been very odd) and by *wille* 'I want / may want', possibly also by *hätte* 'I am called' (Cowgill 1965: 49 with references). That the progressive reduction of word-final unstressed vowels was also a factor (Cowgill 1965: 48) seems less likely.

¹ It seems possible that these last two forms actually reflect a reduction of **-tst* to *-ts* by regular sound change, though we do not have enough material to evaluate that hypothesis.

In the Anglian dialects contract strong verbs occasionally exhibit a pres. indic. 1sg. in *-m*; thus in *Ps(A)* we find *flēom* ‘I flee’ (but *ġesīo* ‘I see’, *befōo* ‘I grasp’, *onfō* ~ *onfōu* ~ *onfōo* ‘I take’). The same ending is found more frequently in the perfective present of ‘be’; *Ps(A)* has *biom* (~ *bēom* ~ *bēam*) ‘I (always) am, I shall be’ more than 40×, but *bīo* only once. The ending can only have spread from *dōm* ‘I do’, in which it was both inherited and analyzable (Hogg and Fulk 2011: 233). Note that this confirms Sihler’s and Cowgill’s hypotheses of analogical influence between different classes of vowel-final monosyllabic present stems (see above).

An odd quirk of OE grammar is that when the subject pronoun *wē* ‘we’, *ġē* ‘you (pl.)’, *wit* ‘we two’, or *ġit* ‘you two’ immediately follows the verb, the verb ending can be replaced by *-e*, regardless of tense or mood. The best discussion of this peculiarity is Brunner 1965: 276–7 (with references), which I follow here. Early WS *hæbbe wē* ‘we have’ suggests that these forms were originally subjunctives (since the indic. pl. is *habbað*, with an unfronted vowel in the root). Since inversion of a pronoun subject with its verb is characteristic of questions and negated clauses, a subjunctive origin is plausible; native learners must have generalized the forms first to indicatives in such clauses, then to examples introduced by *þonne*, *þā* ‘then’ and *nū* ‘now’ (the only other type of clause in which this inversion occurs). For further discussion and numerous references see especially Benskin 2011: 159–65.²

Finally, it should be noted that the expected i-umlaut of the root is absent from the entire past subjunctive paradigm (though not from the present subjunctives of some preterite-present verbs; see 7.1.6). Apparently this did not result from a change in the scope of i-umlaut; the few forms recorded in the early glossaries show that the pres. subj. stem vowel **-æ-* was generalized to the past subjunctive as well, presumably before i-umlaut occurred (Bammesberger 1982: 414–15 with references).

7.1.4 Stem formation of weak verbs

In general the stem formation of class I and class II weak verbs has not been disturbed in early OE. Issues that merit discussion are syncope (or its absence) in the finite past and past ptc. of class I weak verbs, the past stems of a few irregular class I weak verbs, the transfer of a few class I weak verbs into class II, levelling in the pres. ptc. and inflected inf. of class II weak verbs, and weak verbs with loss of **h* or **j* and contraction.

² While Benskin’s discussion is in general excellent, his suggestion that the vowel of 3pl. **-anþ* could have become nasalized **ṅ* early enough to be fronted in northern WGmc is inconsistent with the phonological facts; see 5.1.1, 6.6.1, and 6.7.1 above.

The sequence *-id- underwent regular syncope after heavy syllables in the class I finite past and those forms of the past ptc. with vowel-initial nominal endings, but not after light syllables. Documents from before the end of the 9th century, including *Ps(A)*, preserve that distribution well. For instance, we find *fæddæ* '(she) fed' on the Franks Casket, *cend[æ]* '(it) produced' in *LRid* 2 vs. *[ond]gæredæ* '(he) prepared' at *RuthCr* 39, ptc. *bistēmi[d]* 'drenched' *RuthCr* 48, *gīdræ[fi]d* 'distressed' *RuthCr* 59; further *āstelidæ* '(he) established' in *Cæd* 4, ptc. *dæmid* 'judged' in *BDS* 5; in *Ps(A)* we have *cende* 'begot' (*cennan*), *ācerde* 'turned back, removed', *forçerde* 'turned away, brought back' (*-çerran*), *gēhērde* 'heard', *onwende* 'removed' (*onwendan*), *lædde* 'led' with past ptc. *ācenned*, acc. *ācennedne*, pl. *ācende*, *ācerred*, *forçerred*, pl. *forçerde* (once *forçerrede*, once fem. *forçerredu*), *dæmed* 'judged', *inwended* 'changed', pl. *inwende*, etc., but *ðenede* 'stretched out', *bisceredes* '(you) deprived', *gēcnysedes* '(you) cast down', *gēfremede* 'perfected', *generede* 'saved', *smirede* 'anointed', etc., past ptc. *hered* 'praised', pl. *herede*, etc. There was an incipient tendency to level the *-e-* of the uninflected past ptc. of verbs with heavy root syllables into the inflected forms (cf. the forms of *forçerred* cited above); in early WS of about 900 that process has progressed further, and there is widespread variation between *-d-* and *-ed-* after heavy root syllables when vowel-initial endings follow (Cosijn 1886: 166 with numerous examples)—except after roots ending in *-t-* and *-d-*, which always retain the syncopated form (see further below).

Class I weak verbs with root syllables ending in CR-clusters are a special case (Cosijn 1886: 162–3). In early WS the suffix syllable *-ed-* is unsyncopated if the syllable ending in the cluster is heavy: *āfrēfredon* '(they) have comforted', *mē hyngrede* 'I was hungry', *timbrede* 'built', *gēbiēcne* 'signified', *symblede* 'feasted', *wrixleden* '(that they) exchanged', but usually syncopated if the syllable ending in the cluster is light: *nemde* 'named' (inf. *nemnan*), *him eglde* 'he was angry', cf. *Ps(A)* *ārefnde* '(I) have waited for'. But there is some variation in favor of the unsyncopated suffix: *prysmde* ~ *prysmede* 'choked', *siglde* ~ *siglede* 'sailed', *bytlede* '(they) built', *ofersylefredon* '(they) covered with silver'. Though the absence of syncope after heavy syllables of this type is exceptionless, it can reflect levelling from the endingless past ptc., no doubt encouraged by the unusual consonant clusters produced by syncope.

Syncope of *-i- that had occurred in PWGmc (see 3.2.1) or in the northern WGmc dialects (see 3.3.2) was not usually reversed in any OE dialect. Thus WS *sellan*, *sealde*, *seald* 'give, sell' corresponds to Merc. (*Ps(A)*) *sellan*, *salde*, *sald* and in North. (*Li*) to *sella*, *salde*, *sald*; WS *āweccan*, *āweahte*, *āweaht* 'wake up' (trans.) corresponds to Merc. (*Ps(A)*) *āweccan*, *āwæhte*, *āwæht*; and so on. However, vowel alternations in some verbs of this type tend to be levelled. For

instance, though North. partly preserves the PWGmc alternation in (*Li*) *ġesetta*, *ġesætte* ~ *ġesette*, *ġeseted* ~ *ġesetted* ~ *ġesatted* ‘set’, the other dialects have *settan*, *sette*, *seted* ~ *sett* (see below); while northern Merc. (*Ru*¹) preserves a past *ālæġde* ‘laid’, *læġdun* ‘(they) laid’, the usual inflection of ‘lay’ is *leġġan*, *leġde*, *leġd*; and in the type *weġġan* the *e* of the present tends to spread into the past at the expense of *ea* or (in Anglian, monophthongized) *æ* (Campbell 1962: 330). In ‘teach’, ‘reach’, and ‘latch onto’ WS was already levelling around AD 900, but the Angl. dialects never did:

early WS (*ġe*)*tæġan* ‘to demonstrate, to teach’, *betæġan* ‘to entrust’, past (*ġe*)*tæġhte*, *betæġhte* ~ *betæġhte*, ptc. *ġetæġht* ~ *betæġht*
 vs. northern Merc. *ġetæġan*, past *ġetæġhtæ*, North. (*Li*) *tæġa*, past *tæġhte*, ptc. *betæġht*
 early WS *ġeræġan* ‘to reach’, past *ġeræġhte* ~ *ġeræġhte*
 vs. northern Merc. *ġeræġan*, past *ġeræġhte*, North. (*Li*) *ræġa*, past *ræġhte*
 WS *læġġan* ‘to seize’, past *læġhte*
 vs. North. (*Li*) *læġġa*, past *tōġelæġhte*

In WS a tendency to level the syncopated suffix throughout the past participles of weak class I verbs with roots in *-t-* and *-d-* is apparent already around AD 900. For instance, whereas in *Ps(A)* the past participle of *ġesettan* ‘to set’ is *ġeseted*, pl. *ġesette*, and that of *wiðlædan* ‘to carry off’ is *wiðlæded*, pl. *wiðlædde*, in early WS we already find *ġelæded* ~ *ġelæd* ‘led’, and only *ġesett*. In fact all class I verbs with light roots in *-t-* or *-d-* exhibit only syncopated forms in WS; attested in early WS are also *oftredd* ‘trampled to death’, *āhwett* ‘excited’, and *ġelett* ‘hindered’ (Cosijn 1886: 154), later also *āhredd* ‘saved’ and several others.

A further WS innovation is the progressive shift of class I weak verbs with light root syllables into class II. That development has just begun in early WS (Cosijn 1886: 152–3): in the forms of the pres. stem that exhibit gemination in class I and *-i-* in class II, we find *trymman* ~ *trymian* ‘to strengthen’, and only forms with *-i-* in *gremian* ‘to make angry’ (← **gremman*, cf. Merc. (*Ps(A)*) *ġegremman*), *lemian* ‘to subdue’ (← **lemman* ‘to disable, to lame’), *temian* ‘to tame’ (← **temman*), *behelian* ‘to conceal’ (← **behellan*), *sylian* ‘to get dirty’ (← **syllan*), *ādenian* ‘to stretch out’ (← **āðennan*, cf. Merc. (*Ps(A)*) *āðennan*), *wreðian* ‘to support’ (← **wreððan*). It can be seen that all the examples are from verbs with light roots ending in sonorants and *þ*. Verbs with light roots ending in other consonants are not affected; moreover, the common *fremman* ‘to accomplish, to make’ shows no sign of this innovation, and neither do verbs of the type *sellan*, past *sealde* ‘give, sell’. It seems likely that the change actually began among verbs with light roots in *r*; there are enough early spellings with *-iġ-* in place of *-i-* or *-ġ-* to suggest that the nonsyllabic /j/

of these verbs had begun to be replaced by the syllabic /i/ characteristic of class II weak presents (cf. Cosijn 1886: 152), which occurred in all and only the corresponding forms of the paradigm. The past stems of these verbs still regularly exhibit the suffix *-ed-* (not class II *-ad-* ~ *-od-*) in early WS, and the pres. indic. 3sg. still ends in *-eð* (Cosijn 1886: 171). However, note the curious fact that the past of *behelian* is regular *behelede* (not **behealde*, like most verbs in *-ellan*). If that is an innovation (cf. 3.2.1), given that the present stem is also innovative, we might suggest that the verb was in fact being shifted into class II, the progressive merger of unstressed vowels in medial open syllables having largely eroded the contrast between the two regular weak past suffixes (cf. Hogg and Fulk 2011: 265). Such a conclusion is perhaps too speculative for early WS, but in later WS texts a majority of class I verbs with light roots in sonorants or fricatives do shift into class II (Brunner 1965: 311).

The late syncope of the outcome of **-ōj-* in participles and inflected infinitives (see 6.7.4) has largely been eliminated by levelling in the Mercian of *Ps(A)* and completely so in early WS. In the inflected infinitive *i*-umlaut of the suffix syllable survived in the southern dialects but had been levelled out already in early North., to judge from *tō ymbhycggannaæ* ‘to consider’ (*BDS* 3).

Only two class I weak verbs with roots in **h* seem to be attested in early OE, both in Mercian documents. Two forms of **fæhan* ‘to paint’ occur in the early glossaries, pres. indic. 3sg. *fæhit* (*EpGl* 785, *CorpGl* 1582) and past indic. pl. *fædun* (*EpGl* 797, *CorpGl* 1504); it is possible that past ptc. *āfægde* ‘painted’ (acc. sg. fem.) in the OE translation of Bede is simply a 10th-century spelling for **āfæde* (and that the word itself is a Mercianism). In *Ps(A)* occur two forms of **hēhan* ‘to raise, to exalt’ (= WS **hīehan* < **hēahjan*), pres. indic. 2sg. *ūphēst* and 3sg. *gehēð*. All these forms exhibit loss of **h* and the expected absorption of a following **i* by contraction with a preceding front vowel. The other half-dozen verbs of this type occur only in later documents (or later copies of early works), but some of the attested forms must have been current in the period covered by this volume. By far the commonest are the pres. indic. 3sg., past indic. 3sg., and past ptc., all of which exhibit the same contraction as the forms just mentioned: *þyð* ‘threatens, oppresses’, past *þyde*; *týð* ‘instructs’, past *týde*; *rýð* ‘roars’; ptc. *āþrýd* ‘extorted’; *gewēþ* ‘makes crooked’, past *gewēde*, ptc. *gewēd* (**wēhan* < **wōhjan*); *scýþ* ‘persuades’, past *scýde*. The umlaut product *ý* tends to be levelled through the paradigm, but there are some later forms with diphthongs that must be old, e.g. *tēon* ‘to instruct’, pres. indic. 1sg. *tēo*, *hēan* ‘to raise’ (if the latter is a Mercianism in the OE translation of Bede, as it might be). Especially striking are two forms in *Beowulf*:

þe mec gúðwínum grétan dórste,
égesan þéon. Beo 2736
 ‘who me with weapons dared to greet,
 to threaten with terror.’

‘ *Gif ic þæt gefrícge ofer flóða begáng*
þæt þec ýmsittend égesan þýwaþ, Beo 1827
 ‘If I learn (from) over the course of the seas
 that (your) neighbors threaten you with terror.’

The inf. *þéon* is the sound-change outcome of **þýan* (see 6.9.3), and for the pres. indic. 3pl. we expect **þéoþ*. But the 8th-century poem clearly still had disyllabic forms—probably **þýan* and **þýaþ*—since they must be read as disyllables in order to scan. The attested 3pl. *þýwaþ* is probably not an archaic survival, but a remodelling of **þéoþ* on the basis of the 3sg. *þýð*; the *w* is probably an automatic offglide following the round vowel in hiatus—like the *g* after a front vowel in *hēgan* ‘to exalt’ in *Dan* 207, remodelled from monosyllabic *hēan* (see above) < **hēhan* < **hēahjan* (cf. Hogg and Fulk 2011: 272–3).

Class II weak verbs with roots in **h* are well attested in early OE; they appear to have developed almost entirely by regular sound change (cf. Flasdieck 1935: 38–43). Most of the attested examples originally had a front vowel or a diphthong in the root, and in them the sound changes operated as follows. Front vowels had been diphthongized before the root-final **h* (see 6.2.1), but diphthongs had subsequently been monophthongized before **h* in the Anglian dialects (see 6.9.2). Since **h* was lost after i-umlaut had occurred, the suffix **-ōj-* in the longer forms of the present stem (see 5.2) contained a front vowel (probably **-e-*), which contracted with the preceding vocalic nucleus; in WS and Kentish it contracted with a diphthong to yield a (long) diphthong, but in the Anglian dialects it contracted with a front vowel to yield a (long) front vowel. However, in the pres. indic. 2sg., 3sg. and imperative 2sg. (with endings *-as(t)*, *-aþ*, *-a* respectively) and in the past and past participle (with suffix *-ad-* or *-od-*), the result of contraction was a diphthong in all dialects. The **j* of the longer present-tense suffix survived unchanged and is usually written *ǵ(e)*. The following forms of *smēaġan* ‘to meditate on’ (< pre-OE **smauhōjan*) and *þrēaġan* ‘to threaten, to rebuke’ (< pre-OE **þrauhōjan*) illustrate the regular outcomes.

	early WS (and Kentish)	early Mercian (<i>Ps(A)</i>) unless marked
pres. indic.		
1sg.	<i>ðrēaġe</i>	<i>smēġu</i> ; [ð] <i>rēġu</i>
2sg.	<i>ðrēast</i>	
3sg.	<i>smēaġað</i> ; <i>ðrēaġ</i>	<i>ðrēaġ</i>
pl.	<i>smēaġaġað</i> ; <i>ðrēaġaġ</i>	<i>smēġaġ</i>
pres. subj.	<i>smēaġe</i> , <i>-n</i> ; <i>ðrēaġe</i> , <i>-n</i>	<i>smēġe</i> ; <i>ðrēġe</i>
pres. iptv.		<i>ðrēa</i>
pres. ptc.	<i>ðrēaġende</i> ; (Kent.) <i>smēaġende</i>	<i>smēġende</i> ; <i>ðrēġende</i>
past	<i>ðrēade</i> , <i>-on</i>	<i>ðrēade</i> , <i>-es</i> , <i>-un</i>
past ptc.	<i>ġeðrēad</i>	<i>smēad</i> ; pl. <i>þrēade</i> (<i>CorpGl</i> 180)

Less well attested at an early date are three other verbs of this type:

WS **twēoġan* ‘to doubt’ (< **twhōjan*, cf. OS *twehon*, OHG *zwehōn*): pres. indic. 3sg. *twēoð*, ptc. *un-twēoġende*, past ptc. (pl.) *twēode*; early Merc. ptc. *twiġendi* (*CorpGl* 175);

WS **scōġan* ‘to shoe’ (< **skōhōjan*): pres. iptv. pl. *sceōġeað*, subj. pl. *anscōġen*, past ptc. *an-*, *ġe-*, *un-scōd*;

Angl. **tihej-* ~ **tiho-* ‘to create, to fashion, to arrange’ (< **tihōjan*, cf. OHG *gizehōn* ‘to arrange’): early North. past *tīadæ* (*Cæd* 8); Merc. (?) ptc. *ġetēod* (Surrey, late 9th century; Ct. 45.45); past *tēode*, ptc. *ġetēod* in verse and in the OE translation of Bede.

Two verbs with rather different histories also merit discussion here. We would expect ‘to love; to set free’ to have been pre-OE **frijōja-* ~ **frijō-* and ‘to hate’ to have been **fijōja-* ~ **fijō-* (see 6.9.3 with n. 39). The shorter stems underwent contraction in the usual way. The longer stems should have become **frijeja-* and **fijeja-* or the like. In early Merc. they have contracted to *frīġa-* and *fīġa-*, probably by regular sound change. In early WS, however, the stem *frīo-* of the pres. indic. 2sg., 3sg., iptv. 2sg., which is supported by past *frīo-d-*, has been levelled into the rest of the present paradigm, giving a longer stem *frīoġa-* (Hogg and Fulk 2011: 287–8). (The rhyming verb meaning ‘hate’ is not attested in early WS and perhaps does not occur in purely WS documents.) The result is the following partial paradigm:

	early WS	early Mercian (<i>Ps(A)</i>)
pres. inf.	<i>frēoġan</i>	
pres. indic.		
1sg.		<i>ġefrīġu</i>
2sg.		<i>ġefrēas</i>
3sg.	<i>ġefrīoð</i>	<i>ġefrīað</i> ~ <i>ġefrēað</i> ~ <i>ġefrēoð</i> ; <i>fīað</i>

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pl.	<i>ġefrēogað</i>	<i>ġefrīgað</i> (iptv.); <i>fiġað</i>
pres. iptv.		<i>ġefria ~ ġefrēa</i>
pres. ptc.		<i>fiġende</i>
past	<i>ġefrēode, -on</i>	<i>ġefrēade ~ -ēo ~ -īo-, -es; fiode ~ -īe-, -es, -un</i>
past ptc.		<i>ġefriad ~ ġefrēad</i>

7.1.5 Class III weak verbs

The fundamental reference on this class of OE verbs is still Flasdieck 1935: 3–108, which discusses all earlier work. Though Flasdieck’s conclusions are not necessarily correct, any viable hypothesis concerning the development of this class must give a plausible account of the pattern of facts that Flasdieck lays out.

The four verbs of the minority class that are reconstructable for PWGmc (see 3.3.2) survive in OE without drastic change. However, each has developed some peculiarities of its own. In the following sections I do not usually discuss the (very few) Kentish forms, since they normally agree with the WS forms aside from special Kentish sound changes; an important exception will be noted at the appropriate place.

The class I present *hyċgan* ‘to think’ is paired with a class III past *hogde*, probably reflecting the PWGmc situation. In early WS that paradigm is not disrupted.³ However, in the early Mercian of *Ps(A)* the situation is more complex; we find:

	‘think, understand’	‘despise’
pres. indic. 3sg.		<i>forhogað</i> (2×)
pres. indic./iptv. pl.	<i>hogiað</i> (1×)	<i>forhyċgað</i> (1×)
past indic.	<i>hogade, -edon</i> (2×)	<i>forhogde, -es</i> (7×)
past ptc.		<i>forhogað</i> (1×)

as well as a derived noun *forhogdnis* (1×) ~ *forhogadnis* (5×) ‘contempt’. Apparently the simplex has been shifted completely into class II (so Kuhn (ed.) 1965, glossary s.v. *hogian*), and even the compound has a class II pres. indic. 3sg. and—to judge from the derived noun—variably a class II past ptc. In later WS and Northumbrian documents the past ptc. is consistently class II *hogod*, and it is not impossible that that was the form from which class II endings were levelled into the rest of the paradigm. On the other hand, the appearance of class II pres. indic. and iptv. forms of *secċgan*, *habban*, and

³ The lone pres. indic. 3sg. *forhogað* ‘despises’, against *forhyċeð* (1×) and *oferhyċð* (3×; Cosijn 1886: 193), could be a Mercianism or could reflect incipient influence of class II; in later documents class II forms, especially in the past tense, are more widespread.

libban, none of which developed a class II past ptc., strongly suggests that class II forms entered class III paradigms at first in those forms, though it is not clear why that should have happened. OS pres. indic. 3sg. *lēbot* ‘lives’ raises the possibility that that process (whatever it was) began early, though parallel development is also a plausible hypothesis.

Weak class III *secgan* ‘to say’ reflects a more nearly uniform paradigm in early OE. On etymological grounds we expect to find *sægd(-)* < PWGmc **sagd(-)* in the finite past and the past participle, *sæge(-)* < PWGmc **sagē(-)* in the pres. iptv. sg. and the pres. indic. 2, 3sg., and *secg-* < PWGmc **sag^ggⁱ-* in all other forms, and to a first approximation that is what we find. In early WS the only change is syncope in 2sg. *sægst*, 3sg. *sægþ*. (See further below.) In the Anglian dialects syncope never appears in those forms. In the early Mercian of *Ps(A)* the only changes are the regular second fronting of *æ* to *e* and a single class II form *āsagas* ‘you declare’ (beside 3sg. *segeð*, multiply attested—see further below); in verse too there are several instances of *sagast*, *sagaþ* and many of iptv. sg. *saga*. In later OE various levellings occur, but the paradigm is never restructured.

The case of *habban* ‘to have’ is similar, except that in the prehistoric period there occurred morphological changes shared by all the dialects. We expect, parallel to the paradigm of *secgan*, a stem *hæfd(-)* in the past, *hæfe(-)* in the pres. indic. 2, 3sg. and iptv. sg., and **hebb-* everywhere else. We do find past *hæfde*, ptc. *hæfd* (or, with the second fronting, Merc. *hefde*, *hefd*); *hæfe(-)* also appears in late North. *hæfes*, *hæfeð*, iptv. *hæfe*, and similar forms also occur in late northern Mercian (though WS syncopates the indicative forms and replaces the iptv. with class II *hafa*, and *Ps(A)* has class II indic. *hafast*, *hafað*—see further below). But the stem **hebb-* survives nowhere unaltered.⁴ In WS it appears as *habb-* before a back vowel (thus inf. *habban*, pres. indic. pl. *habbað*) and *hæbb-* before a front vowel (pres. ptc. *hæbbende*, indic. 1sg. *hæbbe*, special pl. *hæbbe wē* (see 7.1.3), subj. *hæbbe*, *-en*). For the most part the other dialects agree: we find inf. North. *habba*, northern Merc. inflected *habbanne*, and pres. indic. pl. *habbað* in all Anglian dialects; North., northern Merc. pres. subj. *hæbbe*, ptc. *hæbbende* (though negated *næbbende* in *Ps(A)*) and inverted *habbe wē* in northern Merc., both with *a* from the inf.). Only in the pres. indic. 1sg. do the Anglian dialects present a different form: late North. has *hafu* ~ *hafo*, and the same form occurs 7× in verse (3× in *Beo*).

⁴ The pres. indic. pl. *hefbað* in a Kentish charter of 831 (Sweet 1885: 445, no. 38, l. 6) can reflect **hæbbað* (← *habbað* by levelling) with the usual Kentish sound change of *æ* to *e*—if it is not simply an error, *hebban* ‘to lift’ having been written for *habban* (so Sweet and Hoad 1978: 210; cf. Flasdieck 1935: 22).

We need to explain these etymologically unexpected forms. Pres. indic. 1sg. *hafu* can have been constructed to 2sg. *hæfes*, 3sg. *hæfeþ* directly, using the strong verb ending; the *a* might suggest that that occurred before general retraction of *æ (see 6.3.1), but that is not a secure inference, since the *æ* ~ *a* alternation probably remained productive for some generations after the sound change (cf. Flasdieck 1935: 23). The stem *hæbb-* must have replaced **hebb-* by levelling from sg. indic. *hæfes*, *hæfeþ*, *hæfe*, apparently because j-presents are expected to have the same vowel in the root throughout the paradigm; the *æ* ~ *a* alternation would then yield *habban*, *habbaþ* (so Bammesberger 1992: 147–9, who however suggests the influence of *libban* rather than of j-presents generally; this is roughly the reverse of a scenario suggested in Flasdieck 1935: 21). Note that these changes cannot have occurred before i-umlaut unless the geminate *bb* had somehow been depalatalized (Flasdieck 1935: 21), which does not seem possible (Bammesberger 1992: 145); that they actually occurred after i-umlaut is argued by the *æ* of pres. ptc. *hæbbende*, which is followed in the next syllable by the umlaut of **ǣ* and should therefore be **habbende* if the *æ* ~ *a* alternation in this verb arose by the (very early) regular sound change of retraction. *Ps(A) nabbende* could be an archaism, the *hæbbende* of other dialects reflecting later levelling; but assessment of this form is complicated by a startling quirk shared with *hafast*, *hafað*, and *āsagas* (see above): they show no trace of the Mercian second fronting (Flasdieck 1935: 20)! Flasdieck suggests that the forms of **habban* escaped that sound change because they were unstressed, but it seems impossible to account for the participle, or for *āsagas*, in that way; dialect mixture is another possible explanation (Flasdieck 1935: 26 on *āsagas*). But it seems almost equally unlikely that forms of such common and basic verbs could have been borrowed into southwestern Mercian. A more plausible explanation is that they are actually the result of dialect shift. The area that we think of as southern Mercian, because it was ruled by Mercia in the 8th century, had originally been settled by other tribes, and it seems reasonably likely that the southwestern areas were originally West Saxon in speech; if that is true, forms like *hafað* can be the last surviving vestiges of the area's original dialect.

The inflectional quirks of *libban* 'to live' are partly similar and partly very different. Except for late North. pres. indic. 3sg. *lifeð*, which must be an archaism because the verb has largely been remodelled as a class II weak verb in that dialect, we find only class II pres. indic. 2, 3sg. and iptv. sg. forms: attested are early WS *leofast*, *liofoað* ~ *leofað*, Merc. *leofað*, late North. *liofoað* (in competition with *lifeð*), and late WS *leofa*. Evidently this verb has been less resistant to incursions of class II forms. Its past *lifde*, ptc. *lifd*, has remained unaffected, and in other forms WS normally has a stem *libb-* that matches OS

libbian perfectly and is parallel to *secġ-* and **hebb-*. But the Anglian dialects seem to have no trace of such a stem; instead they present us with *lifġ-*, i.e. [livj-], with a nonsyllabic /j/ that appears to contrast with the syllabic /i/ of (most of) the corresponding class II weak forms. Attested in early Merc. are pres. ptc. *lifġende*, indic. 1sg. *lifġu*, pl. *lifġað*, subj. *lifġe*, *-en*; late North. (*Ru*²) adds inf. *lifġa*. The pres. ptc. gen. sg. *libġendes* in a Kentish charter of 832 (Ct. 40.17) is probably a further example of this stem. Because these forms are distinctive, they have often been taken to be archaisms. But it needs to be emphasized that no other Germanic language presents us with any similar phenomenon. As noted above, the corresponding OS forms agree with WS; so does OF *libb-*; even the southern OHG relics pres. indic. *libis*, *libit*, past *libita* presuppose a paradigm in which some forms were identical with class I weak forms—i.e., exhibited a palatalized geminate.⁵ The Anglian forms are innovations, and we must find a way to account for them that is consistent with the inferable prehistory of OE.

The only plausible source of /j/ in these verb forms is the source of /j/ in weak class II (see 5.2): just as class II **-ō-* was remodelled as **-ō- ~ *-ōja-* on the model of the class I stem vowel complex **-i- ~ *-ija-* (Cowgill 1959: 8), so also class III **-ǣ-* must have been remodelled as **-ǣ- ~ *-ǣja-* in at least part of the northern WGmc dialect continuum. The very common and basic verbs **hab^bʲan*, **sag^jʲan*, **lib^bʲan* (underlyingly **/habjan/*, **/sagjan/*, **/libjan/*) were not remodelled at that time, but other surviving class III verbs were, at least in the dialects ancestral to OE (not only Anglian—see below). The further Anglian innovation was the spread of the default class III suffix to the basic verb ‘live’.

The subsequent history of the suffix complex **-ǣja-* differed from that of **-ōja-* in one significant way: the front vowel was shortened early enough to undergo syncope (see 6.7.1). Moreover, consideration of another class III weak verb reveals a further point of relative chronology (cf. Flasdieck 1935: 61–2). ON *fata* ‘to find (the way)’, OHG *sih faʒʒōn* ‘to get up’ permit the reconstruction of PNWGmc **fatōnǫ* ‘to bring, to fetch’ (apparently a different verb from PWGmc denominative **fatōn* ‘to grasp’, reflected in OF *fatia* ‘to seize’, OHG *faʒʒōn* ‘to arm, to prepare’; see Flasdieck 1935: 61–2, Seebold 1970: 196). We expect the OE cognate to be class II **fatian*. But though a pres. indic. 3pl. *fatas* ‘they marry’ is attested in late Northumbrian and could reflect remodelling of normal class II **fatiġað*, the early WS verb is *ġefeccan* ‘to

⁵ ON *segja* ‘to say’, *þegja* ‘to be silent’ reflect levelling of non-geminate *g* into position before *j*, not old forms in which gemination never occurred (Noreen 1923: 203–4); note that *seggja*, *þeggja* are also attested.

bring, to fetch', past *gefette*, ptc. *gefett*. Given the shape of the past stem, the *-cc-* of the present can only reflect **-tj-*; therefore the WS verb must belong to weak class III. But note that the vowel of the root syllable has undergone i-umlaut. In the past stem there was no phonological trigger for i-umlaut, since there was no vowel between the stem and the suffix; the umlauted vowel must have been levelled into the past from the present, where it can only have been triggered by a high front vocalic in the following syllable. It follows that the development was either **fætæj-* > **fætæj-* > **fætij-* > **fetij-* > **fetj-* (with regular syncope following i-umlaut) or **fætæj-* > **fætæj-* > **fætj-* > **fetj-* (with early syncope; cf. Flasdieck 1935: 34–8).

Is it possible that unstressed **æ* in general was shortened early enough to undergo syncope? There does not seem to be any evidence one way or the other. Pres. indic. *hæfes*, *hæfeð*, *sægēs*, *sægeð* should not have had a third syllable after the PWGmc loss of word-final **-i* after unstressed syllables with nonhigh vowels (see 3.1.4); the syncopated WS forms must therefore be analogical, like strong *birst*, *birþ*, *cymst*, *cymb*, etc. The potentially relevant strong adjective forms in **-aiz-* (which would have become PWGmc **-ēz-* and northern WGmc **-ær-*) seem to have been remodelled at the PNWGmc stage (see 2.2); note that they exhibit a short vowel in OHG, though in general OHG did not shorten unstressed vowels which were not word-final. I have not been able to find other relevant examples. The most we can say is that unstressed **æ* was shortened before **j* early enough to undergo regular syncope, and that if syncope affected that sequence so late, then the short vowel had already been raised to **i*, since the sequence triggered i-umlaut in preceding root syllables.

Only one other verb seems to be inflected consistently like *feccan* (see Flasdieck 1935: 57–8), namely North. *wæcca*, northern Merc. *wæccan* 'to stay awake, to wake up' (in the first meaning translating WS *wacian*, south-western Merc. *wæcian*, both class II; cf. OHG class III *wahhēn*). This largely stative verb is confused in the texts with causative North. *wecca* ~ *wæcca*, northern Merc. **weccan* 'to wake (someone) up', so that care is needed in assessing examples, but the stative/fientive meaning is common enough that many secure examples can be cited. Best attested is iptv. pl. (*Li*) *wæccad̃* ~ *-as*, (*Ru*¹) *wæccap* 'stay awake!'. Also secure are inf. (*Li*, *Rit*) *wæcca*, (*Ru*¹) *āwæccan*; pres. ptc. (*Li*) *wæccende*, (*Ru*¹) *wæcende*; past indic. (*Li*) *āwęhton* 'they awoke', subj. (*Li*) *gęwæhte* '(that he) should stay awake'. We expect a paradigm pres. **wecca(n)*, past **wæhte*, but the vowel of the past has been levelled through the paradigm.

Unfortunately this original default type of class III weak verbs, with early OE **-æ-* in the pres. indic. 2, 3sg. and iptv. sg. but **-j-* in all other forms of the present, survives mostly in relic forms in our OE texts. The better examples are

collected in Flasdieck 1935: 45–58, 62–4, but some weeding out is necessary: note especially that participles in *-Cgēnde* can be class II forms with special syncope (see 6.7.4), and that isolated forms spelled with *-ġ-* in place of expected *-i-* or *-iġ-* are not probative. That leaves principally (1) early forms with *-ġ-* (not varying with *-i(ġ-)*) before endings other than *-ende* and *-enne ~ -anne*, (2) past stems with no vowel between a light root syllable and *-d-* that cannot reasonably be suspected of being errors, (3) forms with *-ġ-* or *-i(ġ-)* that exhibit i-umlaut of the root syllable, and (4) verbs that exhibit more than one of these characteristics. The clearer examples are the following:

- early Merc. *onhlingu* ‘I lean’ *CorpGl* 1137, therefore also *widerhlingēnde* 1098 (= *EpGl* 537 *widirhliniendæ*; otherwise OE *hlinian*, but cf. OHG *linēn*);
- early Merc. (*Ps(A)*) *wē ðiwġen* ‘we may serve’, *ðeawde* ‘(it) served’, *ðeowdun* ‘they served’; though the verb is usually (in this text and others) class II *ðeowian*, these class III forms support one another;
- North. past *swiġde*, *swiġdon* ‘was, were silent’ (*-i-?*), multiply attested in *Li* (beside rarer *geswigade*, *swigadon*) and twice in *Ru*² (beside more frequent *-ad-*, *-ed-*); the rest of the paradigm shows forms characteristic of both class I and class II: inf. *tō swiġennæ*, pres. ptc. *swiġendæ* ‘mute’, pres. indic. 3pl. *swigas*, iptv. sg. *swiga* and *foreswiġe* (otherwise OE *swiġian ~ sugian*, but cf. OHG *swiġēn*);
- North. (*Li*) *plæġ-* ‘dance’ (cf. southwestern Merc. *plægian* ‘to clap; to play (an instrument)’, class II with the second fronting): the diagnostic forms are past 3sg. *plæġde*, pl. *plæġde ġē* (beside *plæġede*, *plægade ġie* and *Rit* *plæġede*);
- early Merc. *soer[ġ]endi* ‘anxious, worried’ *EpGl* 79 (but *sorgendi* *ErfGl* 79, *CorpGl* 169; otherwise OE *sorgian*, but cf. OHG *sorgēn*);
- North. (*Ru*²) *ðælġe* ‘to suffer’, iptv. pl. *ðæliġas*, pres. indic. 3sg. *ðælġas* (beside *ðolas* and 1sg. *ðolo*), (*Rit*) pres. subj. pl. *ġiðæliġa* (beside several forms with *ðol-*; otherwise OE *þolian*, North. *ðoliġa*, but cf. OHG *dolēn*);
- North. (*Ru*²) *læs(i)ġa* ‘to be lost’, pres. indic. 3sg. and pl. *læs(i)ġe* (beside more numerous forms with *o*, including all past forms), (*Rit*) inf. *læsia* (but past *losade*; otherwise OE *losian*, North. *losiġa*);
- northern Merc. (*Ru*¹) pres. indic. pl. *wyniġap* ‘(we) remain’ (beside numerous class II forms with *wun-*); perhaps North. (*Ru*²) pres. 3sg. *wuneð* and late 10th-century Merc. (?) 2sg. *wunæst* in MS C of the OE Boethius (classed as ‘West Saxon–Kentish’ by Hedberg 1945: 29) (otherwise OE *wunian*, but cf. OHG *wonēn*);
- perhaps North. (*Rit*) *spæria* ‘to spare’, pres. iptv. sg. *spær*, past *spærede*: we expect **speria*, **spære*, **spearde* by regular sound change, but levelling could account for these late 10th-century forms, and the front vowel of the root is unexpected in a class II weak verb (otherwise OE *sparian*, but cf. OHG *sparēn*);
- conceivably North. (*Ru*²) *bi[ʃ]ġedon* ‘trembled’—though such a form must be the result of multiple morphological remodellings—and therefore perhaps also northern Merc. (*Ru*¹) *bifġende* (otherwise OE *bifian*, but cf. OHG *bibēn*).

The extremely variable spellings of North. (*Li*) *giwiga* ~ *giuge* ‘to ask for’ (cf. OHG *giwēn*) are difficult to interpret, partly because it isn’t always clear what preforms they could reflect by regular sound change; the forms in other documents seem to be weak class II. See Flasdieck 1935: 46–7 for discussion.

It is striking that all the more or less certain examples listed above except *feccan* are Anglian. Other potential early WS examples are very doubtful; for instance, past indic. 2sg. *ḡā fortrūwdes ḡū ḡē* ‘then you became arrogant’ appears to fit OHG *trūēn* ‘to trust’ perfectly, but the OE verb is otherwise class II *trūwian*, with 15 examples of normal class II present forms and 18 of normal class II past forms in early WS alone—raising a strong suspicion that the apparent class III form is just an error. Apparently in WS OE, as in OS, most class III weak verbs were shifted into class II. (The original situation in Kentish cannot be reconstructed, both because there is too little evidence and because first Mercian, then WS influence on Kentish was clearly strong.) It therefore makes sense that ‘live’ should have been shifted into the old default paradigm only in the Anglian dialects—the only ones in which the old default paradigm survived as a viable class of verbs.

7.1.6 Preterite-presents and anomalous verbs

The inflection of preterite-presents in early OE remained conservative. Aside from the new pres. indic. 2sg. forms *ḡemanst* ‘you remember’, *canst* ‘you know how’, **anst* ‘you grant’, and the replacement of **dars* ‘I dare, (s)he dares’ by **darr* > *dearr*, both pan-WGmc changes (see 3.3.2 and 7.1.3), the most significant change was the elimination of i-umlaut from the present subjunctive. But that change was still in progress around AD 900. In early WS we find pres. subj. *durre* ~ *dyrre* ‘may dare’, *scule* ~ *scyle* ‘may be obliged’, *ḡurfe* ~ *ḡyrfe* (mostly the latter) ‘may need’, and (no doubt by accident) sg. *ḡemyne* ‘may remember’ but pl. *ḡemunen*; in early Merc. (*Ps(A)*) the last appears as *ḡemynen*. The rare PWGmc past participles in **-an* are relatively well attested in OE: in early documents we find *witen* ‘known’ (early WS; also later WS, northern Merc., and North.) and *oncunnen* ‘recognized, notatus’ (early Merc., *CorpGl* 1389); in later documents *ḡeunnen* ‘granted’ and *ḡemunen* ‘remembered’ also appear. In place of the pres. iptv. sg. the pres. subj. sg. is normally used, but in early WS we once find an innovative *ḡemun* ‘remember!’ (Cosijn 1886: 196), and two innovative iptv. pl. forms in *-aþ* are widespread, namely *witað* ‘know!’ (early WS) ~ *weotað* (early Merc.), *ḡemunað* ‘remember!’ (early WS, early Merc.).

Other changes have affected individual verbs, as follows. In early WS indic. pl. *ḡemunað* ‘remember’ appears beside inherited *ḡemunon*, and in early Merc. (*Ps(A)*) the indicative of this verb has apparently been remodelled: we find

pres. indic. 1sg. *ġemunu*, 2sg. *ġemynes* beside normal subj. pl. *ġemynen*, iptv. *ġemyne*, pl. *ġemunað*, and past indic. 2sg. *ġemundes* (with a past ptc. *ġemynd* which may or may not belong to this verb). The unlauded vowel of the subj. seems to have been levelled into North. pres. indic. pl. *scylun* (*Cæd* 1). Finally, the Kentish pres. ptc. *dugunde* ‘serviceable’ (Ct. 37.18) is simply a phonological variant with progressive assimilation of vowels across the velar fricative *g* (cf. e.g. early Merc. inst. sg. *ġetogone* ‘drawn’, *CorpGl* 1927). Later developments are beyond the scope of this volume.

The anomalous verbs require more discussion. Whatever the remote antecedents of ‘do’ were, it seems clear that in PWGmc it had an athematic present with **ō* throughout. To judge from the well-attested OE and OHG paradigms (cf. Braune and Reiffenstein 2004: 310, Brunner 1965: 357), the pres. indic. was sg. 1 **dōmi*, 2 **dōsi*, 3 **dōþi*, 3pl. **dōnþi*; the subjunctive vowel had already contracted with the vowel of the root, yielding a stem **dō-*, and the inf. and pres. ptc. were **dōn* and **dōndī* respectively. The entire pres. indic. and the pres. ptc. should therefore have undergone i-umlaut, but that is not the attested pattern; the most conservative OE paradigm is pres. indic. sg. 1 *dōm*, 2 *dǣs*, 3 *dǣð*, pl. *dōð*, subj. sg. *dō*, pl. *dōn*, iptv. sg. *dō*, inf. *dōn*, ptc. *dōnde*, with i-umlaut confined to the pres. indic. 2, 3sg.—the usual strong verb pattern. It makes sense to suppose that the effects of i-umlaut were levelled out of the ptc., and perhaps also the pres. indic. 1sg. and pl. For the pres. indic. 1sg. that is probably the best solution, in spite of the fact that the resulting form *dōm* was more or less unique, because the only viable alternative is early loss of the *-i in this form—but not in the homonymous class I weak iptv. sg. *dǣm* ‘judge!’ < PWGmc **dōmi*. For the pres. indic. pl., however, there is another alternative: that form could have been remodelled as **dōanþ*, with the syllabic ending that regularly lost, or had lost, its *-i (see 3.1.4), and subsequent sound changes, including contraction, would yield OE *dōþ*. Aside from the regular unrounding *ǣ* > *ē* in the southern dialects, the only changes that this paradigm underwent were the replacement of *dōm* with *dō* south of the Thames (see 7.1.3) and the restoration of syllabic endings in some dialects (e.g. early Merc. (*Ps(A)*) subj. *dōë*, *-ēn*, inf. *dōän*).

It is the finite past stem of this verb that causes real difficulties. The usual form is *dyde* (> Kent. *dede*), with a completely unexpected vowel in the stem syllable (originally the reduplicating syllable, see vol. i, pp. 157–60). The only conceivable source for *y* is the past subjunctive (so Flasdieck 1937: 53); thus OE *dyde*, *-en* must reflect pre-OE **dudī*, *-*in*. Unfortunately no other Gmc language has an **u* in these forms. Two explanations seem worthy of consideration: either **u* (or *y*, after i-umlaut?) was introduced into these subjunctives on the model of the preterite-present verbs (Prokosch 1939: 222) and then

levelled through the paradigm, or else the (pre-)PGmc nonsg. indic. stem *ded-u- was replaced by *du-du- during the period when the stem was still felt to be reduplicated, and the resulting first-syllable *u was then levelled into the subjunctive (Kim 2009: 16; other possibilities are discussed and rightly dismissed, Kim 2009: 10–11; the suggestion of Hogg and Fulk 2011: 315, positing a present stem */du-/ < prevocalic *dō-, creates more problems than it solves). In either case the new vowel was not quickly levelled through the whole paradigm, because competing forms occur. Beside the usual stem late Northumbrian has a plural spelled <dedon>; it is unclear whether the first-syllable vowel is short or long. Late WS transcriptions of this Anglian stem as <dæd- > in verse suggest the latter (since Angl. ē = WS æ), and while Campbell 1962: 348 cautions that this is not reliable, it cannot be completely discounted (so Kim 2009: 9). On the other hand, it seems reasonably clear that the corresponding vowel of *wit deodan* ‘we two did’ in the *Codex Aureus* inscription is short, since it underwent back umlaut (Campbell 1962: 348; see 6.9.4).⁶ Either alternative is etymologically consistent with OHG *tet-* ~ *tāt-*, given that extensive levelling in the OE paradigm must be posited. Examples of <ded- > for expected *dād- in other early WGmc documents can reflect levelling from the 3sg., since it should always have been possible for native learners to construct a unitary stem for a past tense that had ordinary weak endings; on the other hand, they could just as well be archaisms (Kim 2009: 9). It seems fair to say that this is an unsolved problem.

The development of ‘go’ was even more involved. The inherited present stem must have been PWGmc and PGmc *gai- ~ *gā- < pre-PGmc *gaji- ~ *gaja- (Þórhallsdóttir 1993: 35–7 with references), with a pres. indic. 1sg. PWGmc *gau (?) < PGmc *gaō < *gajō and various other complications entailed by the loss of intervocalic *j. An attempt to put the expected preforms through the regular sound changes of OE and a comparison of the results with the actually attested OE paradigm will show how much remodelling has taken place:

	pre-PGmc	PGmc	PWGmc	OE
inf.	*gajana	> *gāna	> *gān	> *gān → *gāan > <i>gān</i>
indic.				
1sg.	*gajō	> *gaō (*gō?)	> *gau (*gō?)	> *gēa → *gāu > <i>gā</i>
2sg.	*gajisi	> *gaisi	> *gaisi	> *gāsi > *gæsi > <i>gæs</i>

⁶ Unfortunately there is an alternative hypothesis (Brunner 1965: 358): since (eo) in this inscription can spell ē (cf. <béc> ~ <beoc> = acc. pl. *bēc* ‘books’ within a few lines), the form might conceivably exhibit a long vowel; but the hypothesis of a short back-umlauted vowel seems simpler and therefore more probable.

3sg. *gajiþi	> *gaiþi	> *gaiþi	> *gāþi	> *gæþi	> <i>gæþ</i>
3pl. *gajanþi	> *gānþi	> *gānþi	> *gāþi	→ *gāþ	> <i>gāþ</i>
subj.					
3sg. *gajai	> *gāi	> ?	→ *gaē?	>→ *gāæ	> <i>gā</i>
3pl. *gajain	> *gāin	> ?	→ *gaēn?	>→ *gāæn	> <i>gān</i>

The actually occurring forms can be accounted for if we suppose that, at some time after the monophthongization *ai > *ā but before i-umlaut, a stem *gā- followed by the normal strong present endings was levelled through the paradigm, leaving the pres. indic. 3sg. (the basic member of the paradigm, and therefore the source of the levelled stem) and the closely associated 2sg. untouched. This seems better grounded etymologically than the solution of Hogg and Fulk 2011: 318–19.

The finite past tense of ‘go’ is a largely unsolvable mystery. The stem in all dialects is suppletive *ēode*, inflected as a normal weak past. It presumably reflects PGmc *ijj-, the stem extractable from Goth. *iddja*, plus a further vowel and the weak past suffix; by regular sound change *ijj- would have become PWGmc *ij-, and contraction with a following back vowel would give *īo- in OE, whence *ēo-* in WS and Mercian (cf. the examples in 7.1.4). But aside from early Merc. *gihīodum* (i.e. *gīiodun*; *EpGl* 76) there seem to be no early spellings with ⟨io⟩—nor any of any date in Northumbrian, which usually does not lower the first element of this diphthong (Hogg and Fulk 2011: 319 with references). The solution of Cowgill 1960, which derives OE *ēo-* < *eō < pre-PGmc perfect *eóye, is ruled out by the reconstructable chronology of sound changes. I have argued that the apocope of inherited *-e must have preceded Verner’s Law in order to account for the voiceless fricative of PGmc *uns ‘us’ (vol. i 3.2.4 (ii), p. 104). But even if that does not hold, apocope must have preceded the raising of unstressed *e to *i, since inherited word-final *-i survived while *-e did not (vol. i 3.2.5 (i), pp. 116–18, and 3.2.5 (iii), pp. 122–5); and that raising must have preceded the loss of intervocalic *j in order to account for the pattern of loss (vol. i 3.2.6 (i), pp. 128–31). It follows that the *-e of *eóye would have been lost before it could contract with the preceding vowel, and the only possible reflex of such a form would have been *eai, which clearly does not underlie OE *ēode*. More than that cannot be said, since there is no other evidence.

Changes in the inflection of *willan* ‘to want’ largely involve the influence of other verbs. In WS and Mercian the anomalous pres. indic. 3sg. *wile* < PWGmc *wili < PGmc *wīli remains unaltered; Northumbrian has *wil* (so already *LRid* 11), either with an irregular apocope (an allegro form?) or by remodelling on preterite-present *sceal*. In all dialects the 2sg. has been

remodelled as *wilt* under the influence of *scealt*. The 1sg. might originally have been **willu* in all dialects (cf. late North. *willo* and perhaps early Kent. *willa*, Ct. 40.3),⁷ but the spread of 1sg. *-e* in the southern dialects (see 7.1.3) is easier to understand if the indic. 1sg. of this verb was originally *wille* in all dialects, replaced in some by **willu* on the model of strong verbs. The finite past, which must originally have been **welde*, has been remodelled as *wolde* in WS under the influence of *scolde*. In the Anglian dialects this verb has been conflated with **wellan* ‘to choose’ (= OHG *wellen*; see 3.2.1). As a result, the usual Anglian past tense is *walde* (so already *RuthCr* 40 and *Ps(A)*); early Merc. (*Ps(A)*) also has a pres. ptc. *wellende*, and in later Anglian dialects other present-tense forms beginning *well-* and *wall-* are common (the latter apparently backformed from the past stem).

The OE verb ‘be’ is multiply suppletive. As in all other Gmc languages, the past is supplied by the strong verb *wesan* (past indic. 1, 3sg. *wæs*, default stem WS *wǣr-*, other dialects *wēr-*); it requires no further comment. The ordinary pres. indic. and subj. are supplied by two roots; the forms attested early are the following:

	Kent.	WS	Merc.	North.
pres. indic.				
1sg.		<i>iom ~ eom</i>	<i>eam</i>	
2sg.		<i>eart</i>	<i>earð</i>	
3sg.	<i>is</i>	<i>is</i>	<i>is</i>	<i>is</i>
pl.	<i>siondon</i>	<i>sint ~ sindon</i>	<i>sind ~ sindun ~ earun</i>	
pres. subj.				
sg.	<i>sīe</i>	<i>sīe</i>	<i>sīe</i>	<i>sīe</i>
pl.	<i>sīen</i>	<i>sīen</i>	<i>sīen</i>	<i>sīen</i>

Later Northumbrian forms usually agree with Mercian, modulo phonological differences: the 1sg. is *am*, the 2sg. *arð*, the pl. *sint ~ sind ~ sindon ~ aron*. The 2sg. *earð*, *arð* and the pl. *earun*, *aron* are forms of a preterite-present verb that is otherwise attested only in Old Swedish *aru*; the 2sg. preserves the most archaic PGmc ending *-þ, the outcome of PIE *-th₂e by regular sound change.⁸ In WS the ending has been replaced by *-t*, as in all other preterite presents. The pl. form *sindon* likewise owes its ending to the preterite-presents; the inherited form was *sind*. Why WS *sint* consistently exhibits

⁷ However, in Sweet 1885: 452, no. 45 (Surrey, late 9th century), l. 44, the conjunction *willio* ₇ *wille* shows that the first form belongs to another verb, probably weak class II *willian* ‘to desire’ (thus ‘I desire and intend’).

⁸ This ending must also have been present in ON *skall* < **skalþ*, *munn* < **gamanþ* (Patrick Stiles, p.c. 17 April 2010). See also Bammesberger 2000 and the corrigenda to vol. i.

word-final devoicing is unclear (Brunner 1965: 353 suggests that it was an unstressed form). Anglian 1sg. *am*, *eam* has evidently adopted the vowel of the 2sg. The WS form must be more conservative, but though *iom* is clearly a reflex of PGmc *immi, the source of its diphthong is unclear. One might consider a preform *immu (with the strong 1sg. ending introduced) were it not for the fact that back umlaut can be shown to have followed apocope (see 6.9.4), so that the ending would no longer have been present to trigger it.

The perfective pres. indic. exhibits the following forms in early documents:

	Kent.	WS	Merc.	North.
pres. indic.				
1sg.			<i>bīom</i>	
2sg.	<i>bist</i>	<i>bist</i>	<i>bist</i>	
3sg.	<i>bið</i>	<i>bið</i>	<i>bið</i>	
pl.		<i>bīoð ~ bēoð</i>	<i>bīoð</i> (<i>bīað CorpGl</i> 180)	<i>bīað LRid</i> 5

The fact that the Mercian forms of *Ps(A)* are not usually written with *ēo* suggests that they were still disyllabic in the 9th century; in verse such forms must often be scanned as two syllables (Brunner 1965: 355). Later Northumbrian forms usually agree with early Mercian, except for an innovative pl. *biðon*. The *-m* of the Anglian 1sg. must have been added by analogy with *am* ~ *eam* and *dōm* (see 7.1.3 above); later WS *bēo* < *bīo < *bīu must be the more conservative form, though it happens not to be attested early. It has retained its inherited ending because after contraction occurred it fit the usual pattern of contract verbs (1sg. *bīo*, pl. *bīoþ* parallel to *wrīo* ‘(I) cover’, *wrīoþ* ‘(they) cover’, etc.). Early WS has subj. forms made to this stem, sg. *bīo* ~ *bēo*, pl. *bīon* ~ *bēon*; the other dialects do not.

The remaining forms of the paradigm of ‘be’ are made partly from the perfective pres. stem and partly from *wesan*. In the southern dialects the infinitive is usually a ‘b-form’: Kent. *bīon* ~ *bīan*, WS *bīon* ~ *bēon*, Merc. *bīon*; the *Codex Aureus* inscription (in the dialect of Surrey?) yields *bēon*. But *wesan* appears once in an early Mercian gloss (*CorpGl* 819); in later Northumbrian the infinitive is uniformly *wosa*, and in later WS *wesan* also occurs. The pres. ptc. also appears in early Merc. as *ætweosendne* ‘inminente(m)’ (*CorpGl* 1054); in later WS both *wesende* and (very late) *bēonde* occur. The iptv. is early WS sg. *bīo* ~ *bēo*, pl. *bīoð* ~ *bēoð*; early Merc. has corresponding *bīo*, *bīoð*, but also sg. *wes*, which reappears in late WS with a pl. *wesaþ*. Late North. has *wes*, *wosað*.

Finally, mention should be made of two fossilized forms. Early WS preserves the passive *hätte* ‘is called’ < PGmc *haitadai; it is also used for the 1sg., and for the past as well as the present. A pl. *hätton* also occurs, evidently

constructed on the model of the past or preterite-pres. indic. Completely isolated is *wuton* ~ *uton* ‘let’s’. It is usually claimed to be a form of *witan* ‘to know’, but the semantics of the form are difficult to explain on that hypothesis. It is much more likely to be an allegro form of PWGmc 1pl. *gawitum ‘we’re going, we’ll go’ with an ending that escaped replacement by the 3pl. ending in OE (and OS *wita*) because it had already been reanalyzed as a separate lexeme (Seebold 1966: 23–6). The ending has been remodelled on that of the past and preterite-pres. plural.⁹

7.2. OE changes in noun inflection

7.2.1 *Syncretism and the syntactic merger of cases*

In PWGmc the instrumental case had already undergone syncretism with the dative in the plural; that could have begun as a phonological accident, but if it did, it was evidently reinterpreted as a systematic syncretism by native learners (see 3.1.4). In OE the instrumental underwent syntactic merger with the dative. That process was facilitated by regular sound change, as follows.

In the earliest documents there are a handful of a-stem and \bar{o} -stem forms ending in *-i* which appear to be instrumental singulars (Dahl 1938: 46–8, 61, 123, Hogg and Fulk 2011: 16–17 with references). Some appear to translate Latin ablatives with no preposition and are presumably meant to be instrumental in meaning:

regnante *Ōsrēdi* filio eius ‘while his son Osred was ruling’ (Bede, Moore MS, cited in

Dahl 1938: 46–7)

aere alieno *geabuli* ‘by means of debt’ (*CorpGl* 96) = *gæbuli* (*EpGl* 115)

amiculo *hręgli* ‘with a garment’ (*CorpGl* 155) = *hræcli* (sic, *EpGl* 84)

opere plumario *bisiudi werci* ‘with featherwork’ (*CorpGl* 1450) = *bisiwidi werci*

(*EpGl* 699)

(etc.: there are several other examples like these in the oldest glossaries)

apparatione *gitiungi* ‘by preparation / arrangement’ (*EpGl* 97; *CorpGl* 185 -e)

quocumque modo *gihwelci wegī* ‘in whatever way’ (*ErfGl* 842; but *EpGl* has *wæga* and *CorpGl* 1700 *wega*—why?)

Note also:

tō Wīi ‘(subordinate) to Wye’, Ct. 28.4 (‘Saxon-Kentish’, 858)

⁹ It seems possible that late North. *wutum* (beside *wuton*, etc.) preserves the original ending, as Seebold (1966: 23–6) seems to hint; but the pattern of attestation argues caution.

Others are clearly locative in meaning:

- horno *thȳs gēri* ‘(in) this year’ (*EpGl* 494) = *þȳs gēre* (*CorpGl* 1028)
on bergi ‘on a hill’ (*Thornhill Cross*, fragm. 3, Sweet and Hoad 1978: 104)
in Rōmæ cæstri ‘in the city of Rome’ (*Franks Casket*)
on rōdi ‘on the cross’ (*RuthCr* 56)

All the examples are Anglian, but there is no reason to believe that the same ending did not occur in the other dialects. Note that this *-i* never triggers umlaut. The source of this ending will be discussed in 7.2.2. The merger of *-i* and *-æ* as *-e* by regular sound change (see 6.9.6) made this ending homonymous with the dat. sg. in both inflectional classes, and since there were no other distinctive inst. sg. endings among nouns, from that point forward the inst. sg. was marked only on strong adjs. and determiners in the masc. and neut. The disappearance of the functional distinction between dative and instrumental (that is, their syntactic merger) is clearly already under way in early WS, since dative forms are already in competition with the few distinctive instrumental forms that survive; by late WS times the instrumental survives only in fixed phrases.

Much more salient was the syncretism of nom. pl. and acc. pl. in OE nouns. Though such a syncretism had been characteristic of neuters since PIE, it was not characteristic of non-neuters and should not have occurred by sound change alone in most inflectional classes. The expected endings would be the following, listing the stem classes in the conventional order of IE grammars and giving first the nom. pl., then the acc. pl. for each (see vol. i, pp. 269–76):

	PIE		PGmc		PWGmc		early OE
*o	*-oes	>	*-ōz	>	*-ō →	*-ōs	> -as
	*-ons	>	*-anz	>	(*-ā >)	*-ā (?)	> *-a? *-æ?
*eh ₂	*-eh ₂ es	>	*-ōz	>	*-ō	>	-a
	*[-ās]	>	*-ōz	>	*-ā	>	-æ
*i	*-eyes	>	*-īz	>	*-ī	>	-i
	*-ins	>	*-inz	>	(*-ī >)	*-ī	> -i
*u	*-ewes	>	*-iwiz	>	*-iwi	> →	*-au > *-ō > -a
	*-uns	>	*-unz	>	(*-ū >)	*-ū	> -u? (see below)
*n	*-Vnes	>	*-Vniz	>	*-Vn (*-ini)	> →	-an
	*-Vnŋs	>	*-Vnunz	>	*-Vnū	> →	*-nu
root	*-es	>	*-iz	>	*-i	>	o(w/ i-umlaut)
	*-ŋs	>	*-unz	>	(*-ū >)	*-ū	> *-u
*r	*-eres	> →	*-(i)riz	>	*-(i)ri	>	*-Vr (w/ i-umlaut)
	*-erŋs	> →	*-(e)runz	>	*-arū	>	-ru

Only in the *i*-stems—an inflectional class already largely dismembered in early OE (see 7.2.3 below)—should nom. pl. and acc. pl. have merged by regular sound change; yet except in the *ō*-stems, syncretism of those two forms has occurred in all classes of nouns. The details are largely obscure, but at least the following can be said.

It is conceivable that fem. root-nouns and most *n*-stems underwent this syncretism already in PGmc, since for the most part they have done so even in Gothic (cf. Goth. nom.-acc. pl. *brusts* ‘breasts’, *ahmans* ‘spirits’, *qinons* ‘women’, *manageins* ‘crowds’, etc.). On the other hand, it is not likely that masc. root-nouns had eliminated acc. pl. **-unz*, given that Goth. *footus* ‘foot’ and *tunþus* ‘tooth’ have become *u*-stems and that acc. sg. **-u*—the only other ending shared by *u*-stems and consonant stems—seems too small a basis for remodelling of these nouns frequently used in the plural. In all other Gmc languages, including OE, surviving consonant-stem acc. pl. forms have been replaced by nom. pl. forms,¹⁰ with the possible exception of some kinship terms in *-r* (on which see 7.2.2). In those classes, then, syncretism might have occurred in PNWGmc.

In the WGmc languages the nom. and acc. pl. of *u*-stems (insofar as they survive), *i*-stems, and *a*-stems have also undergone syncretism; but in the *a*-stems, at least, this must have been a parallel innovation, since OHG preserves acc. pl. *-a* in both functions while OS *-os* and OE *-as* appears to be the (northern) nom. pl. form (see 4.2.2 and 5.2). In OE and OF it is likewise the nom. pl. form that survives among *u*-stems, though in OE the syncretism might be recent; the lone possible example of early OE acc. pl. *duru* is not entirely secure (see the discussion of Dahl 1938: 184–5), but cf. also *bordwudu beorhtan* ‘shining shields’ *Beo* 1243. In OS and OHG *u*-stem plurals were remodelled as *i*-stem plurals, in which the nom. and acc. underwent phonological merger, just as in OE.

Only among the *ō*-stems do distinctive nom. pl. and acc. pl. endings clearly survive in OE, and only in the southern dialects. OHG has generalized nom. pl. *-o* in adjectives and acc. pl. *-a* in nouns; in OS and Anglian OE the acc. pl. ending (OS *-a*, early OE *-æ*) has been generalized (with a few possible Mercian exceptions; see Dahl 1938: 124–9). But in WS OE the syncretism is still incomplete at the time of our earliest documents: the nom. pl. virtually always ends in *-a* (the inherited ending), whereas the acc. pl. varies between *-e* (the inherited ending) and *-a* (the nom. pl. ending; see Dahl 1938: 129–31).

¹⁰ The ON distinction in masc. *n*-stems (nom. pl. *gumar* ‘men’, acc. pl. *guma*, etc.) is secondary, modelled on the *a*-stem endings; the acc. pl. ending does not reflect PGmc **-anunz*.

It should be emphasized that, regardless of when the syncretism of nom. pl. and acc. pl. occurred in a particular inflectional class, it was not produced by regular sound change, with the single exception of the *i*-stems. The ambiguities that led to incipient syncretism must have been syntactic, not phonological. Since these syncretisms must have begun as learner errors, almost certainly on the part of small children still acquiring their native language, that is not particularly surprising.

7.2.2 Changes in inflectional endings

It will be convenient to discuss first two homonymous endings, then several endings which have spread widely among paradigms, and finally the endings of individual inflectional classes. The fate of the *i*-stems will be discussed in section 7.2.3.

Both the nom. sg. of (fem.) *ō*-stems and the nom.-acc. pl. of neut. *a*-stems ended in PWGmc **-u*, which underwent apocope after stressed heavy syllables late in the prehistory of OE (see 4.2.2, 6.8.1 above). The result was an alternation *-u* ~ \emptyset in both morphological categories. In the case of the *ō*-stem nom. sg. this alternation was never disturbed by subsequent remodelling; we find *-u* after a single stressed light syllable and \emptyset everywhere else, including polysyllables such as *fīren* ‘crime’, *yfes* ‘eaves’, *weorold* ‘world’, etc. and former polysyllables such as *sāw(o)l* ‘soul’, *eln* ‘forearm, ell’, and *mīl* ‘mile’. In the neut. nom.-acc. pl., however, *-u* has spread widely, partly because regular sound change had created morphologically odd forms. At the time of apocope neut. *ija*-stems must have been inflected according to the following pattern, exemplified by ‘kingdom’ (3.1.2, see 6.7.1, and 6.8.1):

	sg	pl
nom.-acc.	*rīcī	*rīcju
gen.	*rīcjæs	*rīcjā
dat.	*rīcjæ	*rīcjum

(Postconsonantal **j* might already have been lost, but that will not affect the following argument.) By loss of **j*, apocope, the shortening of unstressed vowels, and the merger of unstressed *i* and *æ* in *e* the following paradigm should have resulted:

	sg	pl
nom.-acc	rīce	*rīc
gen	rīces	rīca
dat.	rīce	rīcum

That is the attested early WS paradigm, except in one particular: the peculiar nom.-acc. pl. **rīc*, which appears to be constructed by subtracting the stem vowel of the endingless nom.-acc. sg., has been replaced by *rīcu*, with a ‘normal’ overt ending. That is exactly what we should expect, given the rarity of subtractive inflectional processes and the tendency of native learners to remodel forms which seem to them dysfunctional or mistaken; this is a classic example of remodelling which, because of its unusually strong motivation, was exceptionless (and might therefore be mistaken for sound change, Ringe 2002: 150–1). Syncope and apocope should likewise have yielded paradigms like that of ‘head’:

	sg	pl
nom.-acc.	<i>hēafod</i> (~ <i>-ud</i>)	* <i>hēafd</i>
gen.	<i>hēafdes</i>	<i>hēafda</i>
dat.	<i>hēafde</i>	<i>hēafdum</i>

Again the nom.-acc. pl. appears anomalous; but in this case there are more ways to analyze it (Ringe 2002: 150–1) and more ways to obviate the problem: a native learner might decide that the nom.-acc. pl. should be identical with the sg. *hēafod* (~ *-ud*), as in *word*, *wīf*, *dēor*, *hors*, *hūs*, etc.; or that the ending should be overt *-u*, which would trigger syncope like other overt endings, thus *hēafdu*; or that *-u* should not trigger syncope (since there are no other instances in which it does), thus *hēafodu* (~ *-udu*). In early OE we find ALL THREE alternatives in competition, in various proportions in the different dialects—and that too is not surprising, if the above reconstruction of the prehistory is correct. Finally, it seems likely that the spread of *-u* was facilitated by its survival in forms like *nīetenu* ‘beasts of burden’, in which it can have survived by regular sound change; see 6.8.3 above for discussion.

Some endings have spread between inflectional classes in early OE. The a-stem gen. sg. ending *-æs* > *-es* has spread to most masc. consonant stems other than the n-stems (though not to *brōþor*, and only variably to *fæder*); other a-stem endings have spread to a few relatively isolated nouns. The *ō*-stem gen. sg. ending *-æ* > *-e* has spread to fem. root-nouns, where it is in competition with the inherited endingless form with i-umlaut (cf. the catalogue and discussion of Campbell 1962: 252–5). All dat.-inst. pl. forms end in *-um* (inherited in the a-stems and u-stems, probably in masc. and neut. n-stems, perhaps also in some other classes). In early WS this ending is occasionally replaced by *-un* and more frequently by *-an*, though there is no regular replacement of word-final *-m* by *-n* (even in unstressed syllables); the motivation for the replacement remains unclear.

In the preceding section were listed examples of early inst. sg. *-i*, mostly from masc. and neut. a-stems, but including the three fem. \bar{o} -stem forms *caestri*, *rōdi*, and *ġitiungi*. It is often asserted (following Sievers 1882) that this reflects an archaic PIE thematic loc. sg. in **-ey* (actually attested only in Oscan, e.g. in *teerei* ‘territory’). The distribution of the form is strongly against that. The ordinary PGmc a-stem dat. sg. was almost certainly **-ai*, reflecting late PIE loc. sg. **-oy*, and one would not expect both forms of the loc. sg. ending to persist in a single daughter; moreover, OS and OHG have an inherited a-stem and \bar{o} -stem inst. sg. *-u* —the latter having acquired dat. sg. function by syncretism— < PGmc **-ō* < PIE **-o-h₁* and (apparently) **-eh₂-h₁* (cf. Lith. *-ù* and *-à* respectively), and two competing inst. sg. endings in PGmc and PWGmc are not expected. OE *-i* must be an innovation, and in fact there is an obvious source. The masc. and neut. inst. sg. of the default demonstrative *þȳ* has obviously been remodelled on interrogative *hwȳ*;¹¹ it would not be very surprising if its ending had spread to masc. and neut. strong adjectives (see 7.3.1) and from there to masc. and neut. a-stem nouns. The fact that the dat. sg. both of a-stems and of \bar{o} -stems ended in *-æ* could have prompted some native learners to spread *-i* to the \bar{o} -stems as well, though it appears that that change had not progressed very far before the merger of word-final unstressed front vowels in *-e* terminated the experiment. Of course we must explain why the noun ending is not ‘*-y*’, but there are two reasonable explanations for that. Possibly unstressed **-y* was unrounded to *-i* by regular sound change; a possible parallel is ‘duck’: PWGmc **anudiz* (OHG *anut*) > **anudi* > **ænydi* > *ænid* (*EpGl* 17) > *ened*. On the other hand, the inst. sg. of the demonstrative must originally have been **hwī* (cf. ON *hví*, neut. dat. sg. by syncretism); possibly the original transfer was **hwī* → **þī* → **ī* > *-i*, and the rounding of *hwȳ* and consequent adjustment of **þī* to *þȳ* were subsequent developments.

A striking peculiarity is the appearance of endingless dat. sg. forms where an overt ending *-e* would be expected. Following Walde 1900: 3–8, many scholars have posited a PGmc dat. sg. ending **-ē* to account for these forms. But we cannot accept that proposal without multiplying alternative endings for PGmc case-and-number categories, which is not good methodology; moreover, the weak past 3sg. shows that PGmc **-ē* became OE *-æ* > *-e*. Once again we need an alternative explanation; in this case there are two sets of forms which can be accounted for by complementary explanations. The dat. sg. *dæg*, which competes in locative function with inherited *dæge* (Dahl 1938: 49–50) and typically occurs in set phrases (*tō dæg* ‘today’, etc.), can owe

¹¹ Cf. the remodelling of the ON neut. dat. sg. default demonstrative as *þvi* on the model of *hvi*. Evidently this is a natural and repeatable type of change.

its lack of ending to lexical analogy with dat. sg. *niht* < PWGmc, PGmc *nahti; the analogy that led to endingless *dæg* probably occurred after the ending of *nahti had been lost by regular sound change, though we need to remember that the attested form *dæg* could have replaced an earlier form ending in *-i which was analogical on 'night'. (This is no more unnatural than the spread of gen. sg. *-es* from *dæg* to *niht* in adverbial function; cf. early WS *nihtes*, *dægēs* 7 *nihtes*, Cosijn 1886: 50 with citations.) Note especially that endingless dat. sg. *dæg* appears to have spread to new phrases over time (Hogg and Fulk 2011: 17–18 with references). From those two nouns the zero ending could naturally have spread to *morgen* 'morning' (Dahl 1938: 51) and *æfen* (Hogg and Fulk 2011: 17–18). A quite different case is *hām* 'home', which never has an ending in the dat. sg. in early OE. Since it is clear that the instrumental was used in locative function (see above), dat. sg. *hām* can reflect PWGmc inst. sg. *haimu (so Boutkan 1995: 382); note that none of the examples predates the 9th century, when syncretism between the dat. sg. and inst. sg. was well advanced. The neuter nouns which regularly exhibit endingless dat. sg. forms, compounds of *wīc* 'dwelling, town', *mynster* 'monastery', and *ærn* 'house' (Dahl 1938: 61–3), as well as compound place names (Hogg and Fulk 2011: 17) and fem. *ceaster* (Cosijn 1886: 56–7), likewise refer to dwelling places and can either have undergone the same syncretism as *hām* or have been modelled on it; only compounds of masc. *mōr* 'hill' (Cosijn 1886: 56–7) require an extension of the lexical analogy beyond the narrowest limits. (Again, none of the examples predates the 9th century).

An unusual transfer of endings gave rise to a new inflectional class of nouns. Inherited fem. abstract nouns in *-īn had lost the *-n of the oblique sg. caseforms and the nom.-acc. pl. at some point after PWGmc had become a diversified dialect continuum (see 3.3.1); since the nom. sg. already ended in *-ī, they thereby became uninflected in the singular and the direct cases of the plural. The ending of all those forms became *-i (see 6.8.3) > *-e* by regular sound changes. But at some point after i-umlaut had occurred (Hogg and Fulk 2011: 54–5) native learners began to replace *-i in the nom. sg. by *-u, the fem. *ō*-stem nom. sg. ending. Once the variation *-i ~ *-u had become entrenched in the nom. sg., it spread to the rest of the sg. and the nom.-acc. pl.; that probably happened when *-u was still a comparatively rare variant, so that native learners could regard the ending in all the forms affected as 'basically' *-i. But over time *-u increased in frequency and 'won' the competition with *-i > *-e*. In the early Mercian of *Ps(A)* the change has almost gone to completion. For instance, we find *hǣlu* 'health, salvation' for all cases of the singular (more than 50 examples); so also *ældu* 'old age', *birhtu* 'brightness', *fyrhtu* 'fear', *hǣtu* 'heat', *strengu* 'strength', etc. The only exceptions are a few

examples of gen. sg. and dat. sg. *-e* (e.g. two examples of dat. sg. *mēnge* ‘multitude’, as against twelve of dat. sg. *mēngu*). In early WS the replacement has not advanced so far; though a majority of relevant examples do end in *-u* ~ *-o* (~ *-a*, by the incipient merger of word-final unstressed back vowels), a substantial minority of tokens of the oblique cases still end in *-e* (Cosijn 1886: 32–3), and there are even a few examples of nom. sg. *hæte* in *Or* (though they might be n-stem forms, cf. Bately 1980: 367).¹²

The ending *-u* for all cases of the sg. then spread to the fem. abstracts in *-þ* (< PGmc **-iþō*) as well, but in *Ps(A)* that change is not yet nearing completion: Dahl counts eleven forms in *-u* (including one nom. sg.), but six oblique caseforms in *-e* (Dahl 1938: 143–5) —clearly different from the overwhelming preponderance of *-u* in the **in*-stems, even though the numbers are small. In early WS the development of this class lags behind that of the **in*-stems, and behind *Ps(A)*: by Dahl’s count there are five endingless nom. sg. forms vs. four in *-u* ~ *-o* (~ *-a*); in the acc. sg. the new ending is overwhelmingly preponderant, but in the dat. sg. it occurs only once (out of more than 35 examples), and in the gen. sg. the old ending *-e* is still the majority ending (though not by a wide margin; Dahl 1938: 143–5). The early WS nom.-acc. pl. always exhibits an ending with a back vowel, but most of the forms end in *-a*, which could in fact be the inherited ending (Dahl 1938: 146; Cosijn 1886: 26–7, 33 takes the innovative direct caseforms to be plurals or **in*-stem forms). This distribution of endings strongly suggests that the **in*-stems do not owe their ending *-u* to the **iþō*-stems (as is often asserted); the reverse is much more likely.

Much more puzzling is the development of *ō*-stem nouns with the suffix *-ung* (see especially Dahl 1938: 134–43). In early WS, but not in early Mercian, the inherited gen., dat., and acc. ending *-e* is in competition with an innovative *-a*, and in *CP* (though not in other early WS texts) the new ending is roughly as common as the old; no such development has affected the (much less common) nouns in *-ing*, which are normal *ō*-stems. (See also Hogg and Fulck 2011: 31.) Dahl (1938: 143 with references) suggests that early OE *-æ* became *-a*, instead of the usual *-e*, by regular sound change after *-ung* in WS; that is hard to believe, but it has to be admitted that no better explanation is available.

The case endings of the kinship terms in *-r* present a number of puzzles. PWGmc nom. sg. **-er* and acc. **-ar* should both have become *-æ*r > *-er* in OE; that ending appears to be preserved in early Merc. nom. sg. *stēupfæder* ‘stepfather’ (*EpGl* 1070; = *CorpGl* 2124 *stēopfæder*), nom.-acc. sg. *feder* (*Ps(A)*), early WS nom.-acc. sg. *fæder* ‘father’, and in early Merc. *stēopmōder*

¹² Occasional endingless nom. sg. forms must reflect transfer into the class of OE *bend* ‘fetter’, reflecting PGmc nom. sg. **-ī* (~ obl. **-ijō-*).

‘stepmother’ (*CorpGl* 1390). But in the lexemes with back vowels in their initial syllables the vowel of the suffixal syllable has generally been replaced by *u* or its later reflex; thus we find early Merc. *mōdur* ‘mother’, *brōður* ‘brother’, *dohtur* ‘daughter’ (all *Ps(A)*), early WS *mōdor* ~ *-ur*, *brōdor* ~ *-ur*, *dohtor*, *sweostor* ‘sister’, and early Kent. *mōdar*, *dohtar* (Ct. 38.12). Conversely, the original gen. sg. ending *-ur* (< PWGmc, PGmc **-urz*) survives unchanged not only in early Merc. *feadur* ‘father’s’ (*Ps(A)*) and early North. *wuldurfadur* ‘glorious father’s’ (Cæd 3), but also in gen. sg. *mōdur* (~ *-or*), *brōður* (~ *-or*), etc. (and note Kent. *brōðar* in the passage cited above and *swæstar* at Ct. 41.39). But in early WS **fadur* has been replaced by *fæder*, homonymous with the nom.-acc. sg. It looks as though native learners, deducing correctly that *-r* was part of the stem (i.e., the lexically distinctive part of the word), found themselves confronted with rare vowel alternations and levelled them in various directions; we probably cannot prove that, but no other explanation seems plausible. (The solution of Boutkan 1992 violates known sound laws, so far as I can see; note also that the numerous lexemes like *ōþer* mentioned by Boutkan, 1992: 20, are in fact counterexamples to his scenario, though he does not present them as such.) Early Merc. dat. sg. *mæder*, *brēðer*, *dæhter* (= early WS *mēder*, *brēðer*, later *dehter*) can only reflect the inherited forms in **-ri* with no suffixal vowel; early WS dat. sg. *fæder* and *sweostor*, and probably also early Merc. (*Ps(A)*) *feder*, must reflect the levelling of vowel alternations.

R-stem gen. pl. *-ra* and dat. pl. *-rum* are the expected forms. The consistent lack of a suffixal vowel in *Ps(A)* *fedra* and *feadrum* matches the lack of a suffixal vowel in Goth. *-re*, *-rum* (though unstressed *æ* would have been syncopated even after a light syllable, see 6.7.3). But the OE nom.-acc. pl. forms are unexpected. ON *feðr*, *mæðr*, etc. must reflect PGmc nom. pl. **-ir-iz* (< PIE **-ér-es*, cf. Skt *pitáras*, Gk *πατέρες* /*patéres*/ ‘fathers’, etc.) or **-r-iz*, with zero grade of the suffix generalized (cf. Lat. *patrēs*). Goth. acc. pl. *brōþrun*s (< pre-PGmc **-r-ŋs*), to which nom. pl. *brōþrjus* has been back-formed on the model of the *u*-stems, suggests the latter. But the OE forms cannot reflect any PGmc form with **i* in the ending. Leaving aside early WS *fæderas* ~ *fædras*, early Merc. (*Ps(A)*) *fedras*, which has adopted the *a*-stem ending, we find early Merc. (*Ps(A)*) *mōdur*, *brōður*, early WS *mōdor* ~ *-ur*, *brōdor* ~ *-ur*, *dohtor*, *sweostor*, early Kent. *brōðar* (Ct. 41.36)—identical with the nom.-acc. sg. forms. It seems unlikely that *i*-umlaut was levelled out of these forms, given that it survived in the dat. sg. and that among root nouns it survived both in the dat. sg. and in the nom.-acc. pl. The inherited acc. pl. in **-r-unz* should have yielded *-ru* (Boutkan 1992: 10, Hogg and Fulk 2011: 56, pace Brunner 1965: 230), and it is at least possible that later WS *brōþru* ~ *-ra* and *mōdru* ~ *-ra* reflect the inherited acc. pl. (which presumably survived in

some subdialect not attested around 900), but that does not help with the endingless forms. A possible explanation is that in northern WGmc the nom. pl. was remodelled to *-ar, parallel to n-stem *-an < *-an-i (see 3.1.4) < PGmc *-an-iz; in that case the ending should have become -ær and could then have been subject to the same levelling of alternations as the sg. forms (since there would have been no i-umlaut).

On the reflexes of PGmc z-stems see the following section.

7.2.3 Changes in inflectional classes

Of the classes of nouns reconstructable for PWGmc, OE has maintained the a-stems, \bar{o} -stems, n-stems (majority type), r-stems, and root nouns as functioning inflectional classes. The PGmc * \bar{i} ~ *ij \bar{o} -stems have merged with the \bar{o} -stems mainly by sound change, and the *in-stems have become a subclass of the \bar{o} -stems by a combination of sound change and morphological change (see 7.2.2); on the other hand, the \bar{o} -stems have themselves been split into several diverging paradigms (see 7.2.2). The following changes have also occurred:

- i-stems have almost been eliminated, though the process gave rise to a new subclass of a-stems;
- u-stems have been reduced to relics (chiefly a few very common nouns);
- z-stems have almost been eliminated;
- a new class, nd-stems, has been created from substantivized present participles.

This section will discuss these latter changes.

Masc. and neut. i-stems had almost lost their identity as an inflectional class by the time of our earliest documents, to judge from Dahl 1938: 156–67, 177–8. The nom.-acc. sg. in *-i* > *-e* is well attested, especially in names ending in *-wini* ‘friend’; but since it was identical with the corresponding ending of ija-stems, there is no reason to suppose that native learners recognized anything distinctive in it. (The fact that i-stem *-i* occurs only after light root syllables and ija-stem *-i* only after heavy root syllables might actually have encouraged native learners to analyze them as a single subclass.) For the oblique cases of the sg. we find almost exclusively a-stem gen. sg. *-es* and dat. sg. *-e* (Dahl 1938: 160–3). The very rare instances of gen. sg. *-is* in names are not distinguishable from errors; early Merc. *sume dæli* ‘in part’ (*EpGl* 731 = *CorpGl* 1471) could preserve an inherited i-stem dat. sg., but *-i* could also be an innovative inst. sg. (see 7.2.2). The neut. nom.-acc. pl. forms already end in *-u* in the early glossaries, like those of ija-stems.

It is in the masc. pl. that this inflectional class preserved a recognizable identity. The dat. pl. **-im* was completely replaced by *-um*, and aside from gen. pl. *winigea* ~ *winia* ‘of friends’ and *Denig(e)a* ~ *Denia* ‘of (the) Danes’,

preserved as poetic archaisms, the gen. pl. has the default ending *-a*. But the direct cases of the plural had a different history. Though nom.-acc. pl. *-i* > *-e* is attested for few common nouns in the glossaries and in *Ps(A)* (Dahl 1938: 163–4), being usually replaced by a-stem *-as* even in early documents (Dahl 1938: 165–6), a substantial number of names of peoples continue to end in *-i* > *-e*, including compounds in *-wari* > *-ware* ‘-dwellers’, as does *lēode* ‘people’ and its compounds (Dahl 1938: 165–6). Early WS examples include *Mierce* ‘the Mercians’ (early North., Merc. *Merci*), *Westseaxe* ‘the West Saxons’ (and other compounds of *-seaxe*), *Cantware* ‘the Kentishmen’ (early North. *Cantuari*), *Norþhymbre* ‘the Northumbrians’, *Sumorsæte* ‘the people of Somerset’, *burglēode* ‘citizens’, etc. Though some of these lexemes were originally *i*-stems— notably *Mierce*, *Norþhymbre*, *Engle* ‘the English’, probably the compounds in *-sæte*, and the noun *lēode* (cf. OS *liudi*, OHG *liuti*, ON *lýðir*), whose *-ēo-* for expected *-īe-* reveals it to be a Mercianism—a good many nouns have been attracted into this class by lexical analogy based on semantics, as their lack of *i*-umlaut shows. Thus the inherited masculine *i*-stems survived in part and expanded modestly as a semantically coherent subclass of the masc. *a*-stems.

Feminine *i*-stems fared less well (Dahl 1938: 167–77). The only two with light root syllables, *denu* ‘valley’ and *fremu* ‘benefit’, inflect as *ō*-stems. The rest lost their nom. sg. ending **-i* by apocope, just as *ō*-stems lost their nom. sg. ending **-u*, and that must have contributed to confusion between them. But the *i*-stems also lost their acc. sg. ending **-i*, whereas *ō*-stem acc. sg. *-æ* survived, and it should be possible to distinguish between the two classes on that basis. In fact dozens of endingless fem. *i*-stem acc. sg. forms are attested, but there are also a significant number with innovative *ō*-stem *-e*, though none is earlier than the 9th century (Dahl 1938: 168–70); evidently the distinction between the two classes had begun to break down by then. In the gen. sg. the only ending attested is *ō*-stem *-æ* > *-e*; in the dat. sg. *ō*-stem *-æ* > *-e* predominates, though some of the examples in *-e* might reflect earlier **-i*, and there is one actual example in *-i*, *EpGl* 945 *eornęsti* ‘in earnest’ (= *CorpGl* 1845 *eornisti*)—if it is not an innovative instrumental (see 7.2.2). The gen. pl. and dat. pl. are default *-a* and *-um* respectively. The nom.-acc. pl. in *-i* remains recognizable in the earliest sources; unproblematic examples are *Cæd* 2 *mæcti* ‘powers’, *EpGl* 605 *flēti* ‘curds’ (= *CorpGl* 1205 *flēte*), *ErfGl* 1132 *brysti* ‘bristles’, *CorpGl* 133 *hýfi* ‘hives’. But there are also early examples in *-æ*, e.g. *ErfGl* 1182 *brystæ* ‘bristles’, *EpGl* 764 *wyrðæ* ‘the fates’ (= *CorpGl* 1480 *wyrde*). With the merger of unstressed *-æ* and *-i* as *-e* this ending became indistinguishable from the inherited *ō*-stem acc. pl., which was already acquiring nom. pl. function as well by syncretism (see 7.2.1). At that point the fem. *i*-stems became a minor, poorly delimited, and unstable subclass of the *ō*-stems.

The u-stems remained a recognizable inflectional class, but its membership was reduced to a few very common and basic words. Still inflected as u-stems in early OE are masc. *sunu* ‘son’ and *wudu* ‘wood’ and fem. *hand* ‘hand’, *nosu* ‘nose’, and *duru* ‘door’ (the last originally a root-noun that had shifted into the u-stems). Some other inherited u-stems still exhibit an occasional u-stem form (acc. sg. *-u*, gen.-dat. sg. *-a*), but for the most part they have been shifted into the a-stems (if masc.) or *ō*-stems (if fem.) (Dahl 1938: 178–85; for further details, including poetic and later forms, see Campbell 1962: 246–7, Brunner 1965: 218–21).

If PGmc z-stems survived without change in OE, they would have had an endless nom.-acc. sg. (by PWGmc loss of **-az*, see 3.1.1, 3.1.2) and in all other forms i-umlaut and endings beginning with *-r-* (< **-iz-*; cf. OHG *lamb* ‘lamb’, pl. *lambir*). That is not what we find in any dialect. Some z-stems had levelled **-iz* into the nom. sg. and then been reinterpreted as masc. i-stems early in the separate history of OE (*eġe* ‘fear’, *bere* ‘barley’, *hete* ‘hatred’, *sigē* ‘victory’—though the last has a byform *sigor* with an unexplained **u* in the second syllable, as well as a byform *-sig* in names (Dahl 1938: 159) which could actually reflect the old nom.-acc. sg. in **-az*). Others became ordinary neut. a-stems, probably even earlier (e.g. *ēar* ‘ear (of grain)’, *ār* ‘bronze’). In WS the principal survivors of this class are *ċealf* ‘calf’, *lamb* ‘lamb’, *ċild* ‘child’, and *āġ* ‘egg’, constituting an obvious semantic class; in the sg. they inflect as normal neut. a-stems, while the pl. endings are nom.-acc. *-ru*, gen. *-ra*, dat. *-rum* (i.e., the default endings preceded by *-r-*) with no trace of i-umlaut (except in *āġ* < **aij-*), which had evidently been levelled out. Already in early WS *ċild* has a competing (and much better attested) a-stem pl. *ċild* with no *-r-*. In the Anglian dialects the situation is more complex. (See Boutkan 1992: 12–14 for a list of occurring forms, many of them isolated relics.) The least incompletely attested paradigm is that of ‘calf’, which in early Merc. (*Ps(A)*) has a nom.-acc. sg. *cælf* (confirmed by *CorpGl* 2144), gen. sg. *calfur*, nom.-acc. pl. *calfur* ~ *calferu*. It looks as though PGmc **-iz-* had been levelled into the nom.-acc. sg., where it became PWGmc **-i* and in due course caused i-umlaut (as in the examples reinterpreted as i-stems, see above). But the oblique stem appears to contain **u*, and some scholars have taken that at face value and tried to reconstruct a paradigm on that basis (cf. Brunner 1965: 233 with references). That is almost impossible to square with the other evidence available: no actual z-stem paradigm **-iz* ~ **-uz-* is anywhere attested, and there is no PIE source for such a construct. Attempts to explain this **u* by sound changes or levelling have likewise been unsuccessful (cf. Boutkan 1992: 16–18). We might suggest that nom.-acc. pl. **-izu* > **-uzu* by regular sound change (see 6.7.1), which could account for the lack of i-umlaut in the pl. (by

levelling of *-uz- at the expense of *-iz-); but post-PWGmc rhotacism and OE syncope and apocope should have reduced such an ending to -r, and the *u* of -ur would then have to be epenthetic (cf. Boutkan 1992: 19, Hogg and Fulk 2011: 5960 with references). Moreover, levelling of *-i- (or of i-umlaut) from the oblique cases of the singular into the nom.-acc. sg., followed by levelling of *-u- (or of lack of i-umlaut) from the plural into the gen., dat. sg., is an inherently unlikely scenario. It is perhaps worth asking whether gen. sg. *calfur* has somehow acquired the ending of Angl. *fadur* (Hogg and Fulk 2011: 60, §2.99 n. 2 ad fin.; see 7.2.2), though how that could have happened is not immediately apparent. The other Anglian noun of which we have enough forms to compare them with ‘calf’ is *lomb* ‘lamb’, which usually inflects like ‘calf’ (early Merc. (Ps(A)) *lomb*, pl. nom.-acc. *lombur* ~ *lomberu*, gen. *lo[m]bra*; so also in the late North. of *Li*, modulo phonological details), but without the awkward i-umlaut in the nom.-acc. sg.—though the late North. of *Rit* has nom.-acc. sg. *lomb* ~ *lomb*, gen. sg. *lombes*. It seems doubtful that further conclusions can be drawn in the absence of further evidence. In particular, the attempt to reconstruct a similar paradigm from late North. *dæġ* and poetic *dōgor*, both ‘day’ (Brunner 1965: 233, Hogg and Fulk 2011: 58) and both inflected as normal a-stems, should be treated with caution. (I do not find the solution of Boutkan 1992 convincing.)

Finally, when pres. participles were extended as *ija-stems in PWGmc (see 3.2.2), some nominalized examples were relexified as consonant-stem nouns. The most basic OE examples, *frēond* ‘friend’ and *fēond* ‘enemy’, are inflected like masc. root-nouns (early WS dat. sg. and nom.-acc. pl. *friend*, *fiend*, otherwise like a-stems). But there was also a polysyllabic type that seems to have become productive in OE, including *hettend* ‘enemy’, *ēhtend* ‘persecutor’, *hælend* ‘savior’, *scieppend* ‘creator’, *wealdend* ‘ruler’, and many more (Cosijn 1886: 51, Campbell 1962: 257, Brunner 1965: 231–2, Hogg and Fulk 2011: 62–4). These nouns have nom.-acc. pl. forms without ending (the inherited form), or in -as (the a-stem form), or in -e (the i-stem noun and strong adj. ending), and gen. pl. forms in -ra (also the strong adjective ending); otherwise they are inflected like a-stems.

7.2.4 Levelling in noun paradigms

The development of the alternation *a* ~ *æ* has been treated in section 6.3.2. This section will briefly discuss the levelling of some other alternations in a-stem noun paradigms. (It is chiefly in that stem class that alternations arose because it was by far the largest class that had endingless forms before OE apocope.)

In a-stem nouns with heavy root syllables and a suffix ending in a sonorant, syncope (see 6.7.3) and epenthesis (see 6.9.5) together gave rise to an

exceptionless alternation between *-CVR* in endless forms and *-CR-* in forms with overt endings (e.g. *enġel* ‘angel’, gen. sg. *enġles* < **anġil*, **anġilas*, exactly like *tunġol* ‘luminary’, gen. sg. *tunġles* < **tunġl*, **tunġlas*, cf. ON *tunġl*). Similar stems with light root syllables did not undergo syncope if the suffixal vowel was **i* or **u*. Thus there were two light root types, alternating (e.g. *fugol* ‘bird’, gen. sg. *fugles* < **fugl-* with epenthesis; *wæter* ‘water’, gen. sg. *wætres* < **wætær-* with syncope of **æ* after a light syllable) and non-alternating (e.g. *heofon* ‘sky, heaven’, gen. sg. *heofones* < **hebun-*). In early OE the heavy root type shows little tendency to level the alternation in the suffix, but the light root type has begun to level—not surprisingly, since whether or not there was an alternation is lexically determined. Also not surprisingly, the suffixal vowels tend to be levelled into the vowelless forms, creating invariant stems; thus we find gen. sg. *æceres* ‘of a field’, nom.-acc. pl. *æceras* beside inherited *æcres*, *æcras* (PWGmc **akr-*), gen. sg. *wæteres* beside inherited *wætres* (see above—and nom.-acc. pl. *wætru* ~ *wæteru*, see 6.8.2).

PWGmc *ja*-stems with light root syllables had a nom.-acc. sg. in **-i*, but a palatalized geminate or a cluster **-rj-* or **-zj-* in all other forms (see 3.1.2). The OE result should have been nom.-acc. sg. forms in *-Ce* alternating with geminate *-CC-* or *-rġ-* in the rest of the paradigm, but most such nom.-acc. sg. forms had been levelled out before the period of our earliest OE documents. For instance, in place of **cyne* ‘lineage’, *cynn-* we find *cynn*, *cynn-* (though note the fossilized compound *cynedōm* ‘authority over a lineage, royal authority’). The only two clear exceptions are *here*, *herġ-* ‘army’ (the only surviving example ending in **-rj-*) and the poetic word *hyse*, *hyss-* ‘young man, warrior’ (cf. Dahl 1938: 84–5).

A-stem nouns ending in **-aw-* or **-ew-* should also have developed differently depending on whether or not there was an overt ending. For instance, we expect to find nom.-acc. sg. *cnēo* ‘knee’ < PWGmc **kneu* < PGmc **knewą* (see 3.1.2) and nom.-acc. pl. *cnēo* < PWGmc **kneu* < PGmc **knewō* (see 2.1.1, 3.1.5), but *cneow-* (with a short diphthong, see 6.2.4) < **knew-* when followed by a syllabic ending; likewise we expect to find **strēa* ‘straw’ alternating with **straw-*, and **þēa* ‘custom’ alternating with **þaw-*. But in the latter lexemes we find only *strēaw*, *strēaw-* and *þēaw*, *þēaw-* with levelling in both directions (except for the compound *strēaberige* ‘strawberry’, Campbell 1962: 233); and since we also find *-w* levelled into endless forms like *cnēow*, it is reasonable to suspect that long *ēo* was also levelled into inflected stems like *cnēow-* (though attestations in verse that would prove such a development seem elusive).

Finally, back umlaut (see 6.9.4) tends to be levelled out of noun paradigms in early WS (Hogg and Fulk 2011: 78–80); for instance, while we do

occasionally find nom.-acc. pl. *liomu* ~ *leomu* ‘limbs’, the usual form is *limu*, and though *sceopu* ‘ships’ does occur in *Ps(A)* (and *sçiopu* much later in Northumbrian *Ru*²), the only WS nom.-acc. pl. form of ‘ships’ is *sçipu*.

7.3 OE changes in the inflection of other nominals

7.3.1 Changes in the inflection of adjectives

If it is true that all adjectives had become a-stems by the PWGmc period (see 4.2.3), then changes in adjective inflection (other than regular sound changes) in the separate prehistory of OE were very modest. In the strong paradigm the dat.-inst. pl. ending *-ēm was replaced by the *-um* of a-stem nouns; the masc. and neut. dat. sg. ending, whatever its exact shape, was also replaced by *-um*. Strong masc. and neut. inst. sg. *-u was replaced by *-ī or *-ÿ, the ending of the default demonstrative (see 7.2.2); the fem. inst. sg. ending was eliminated by syncretism with the dat. sg. As in nouns, the nom. pl. and acc. pl. underwent syncretism; in the masc. the old nom. pl. ending survived, while in the fem. both inherited endings survived in competition. The same levelings that affected a-stem nouns (see 7.2.4) affected strong adjs., except for the *a* ~ *æ* alternation (on which see 6.3.2).

Weak adj. endings remained the same as n-stem noun endings; all the changes that affected the latter affected weak adjs. as well.

Many comparative and superlative forms that exhibited i-umlaut of the root, because their suffixes were originally *-izan- and *-ista-, have levelled out i-umlaut in early OE; fewer than a dozen with i-umlaut survive (Campbell 1962: 273–4, Brunner 1965: 245–7, Hogg and Fulk 2011: 178–81). Since the *i of the umlauting comparative suffix was regularly syncopated, an indirect result of this levelling was the creation of a class of syncopating, but un-umlauted, comparatives. Syncope then spread to all other comparatives, whose suffix *-ōzan- had originally contained a long vowel not affected by syncope (see 6.7.4).

7.3.2 Changes in the inflection of numerals

On the problematic masc. and fem. nom.-acc. forms of ‘two’ see 3.2.2 and 4.2.4 above. OE preserves the PWGmc neut. nom.-acc. *twai as *twā*, but it is in competition with an innovative *tū* which has a pl. rather than a dual ending (Cowgill 1985: 19). OE also preserves the most archaic form of ‘both’, rhyming with ‘two’ in all forms. ‘Two’, ‘both’, and ‘three’ have adopted the strong adj. gen. pl. ending *-ra* (‘three’ categorically, the others variably); the nom.-acc. forms of ‘three’ have also acquired the usual strong adj. gender-specific endings. Both the unsuffixed forms of ‘four’ through ‘twelve’ and the innovative i-stem forms (see 4.2.4) are preserved in OE, with i-stem nom.-acc. pl. *-e*

but the other endings replaced by a-stem forms (as in the subclass of nouns exemplified by *Engle*); only the i-stem forms of ‘13’ through ‘19’ continue to be used. For further details the standard grammars should be consulted.

7.3.3 Changes in pronominal inflection

Many forms of the PWGmc default demonstrative ‘that’ survive in OE unchanged except for regular sound changes: masc. nom. sg. *siz > *sē*, acc. sg. *þanā > *þone*, nom. pl. *þai > *þā*; neut. nom.-acc. sg. *þat > *þæt* (stressed *ðet* in *Ps(A)*, with the second fronting); masc.-neut. gen. sg. *þas > *þæs* (stressed *ðes* in *Ps(A)*), inst. sg. *þan > *þon*; fem. nom. sg. *siu > *sīo* (early WS, Kent.) > *sēo* (the usual form), *sīe* (*Ps(A)*, apparently unstressed); gen. pl. *þaizō > *þāra*, dat.-inst. pl. *þaimi > *þāem*.

But considerable changes have also occurred. As in all nominal paradigms except those of the first- and second-person pronouns, nom. pl. and acc. pl. have undergone syncretism, in this instance under the form of the nominative; moreover, unlike noun and adjective paradigms, pronominal paradigms exhibit complete syncretism of the genders in the pl. (not only in the oblique pl.) under the form of the masculine. Thus the three plural forms already quoted—*þā*, *þāra*, *þāem*—are the only ones that survive. As in all nominal paradigms, the fem. inst. sg. has undergone syncretism with the fem. dat. sg. The old masc.-neut. inst. sg. *þon* survives, and in early WS it preserves its full range of functions (Cosijn 1886: 106), but it is in competition with *þȳ*, created on the model of interrogative *hwȳ* (see below).¹³ Over time *þȳ* becomes the normal form, *þon* being increasingly relegated to fixed phrases, many of them conjunctions like *for þon þe* ‘because’ (so already in *Ps(A)*). The dat.-inst. pl. *þāem* has become also the masc.-neut. dat. sg. form, mirroring the pattern of syncretism in the strong adjective. In WS, but not in the other dialects, a competing form *þām* also appears (in both functions); though it is not completely impossible that it preserves a PWGmc *þaim, reflecting PGmc dat. pl. *þaimaz (rather than PWGmc *þaimi, reflecting PGmc inst. pl. *þaimiz), it seems more likely that *þām* reflects a learner error importing the vowel of gen. pl. *þāra*; the new form must first have arisen in dat.-inst. pl. function, the variation *þām* ~ *þāem* subsequently spreading to the dat. sg. as well.

The fem. sg. oblique forms present some puzzles (see especially Cowgill 2006b, on which this discussion is based). The PWGmc preform which the

¹³ This form might originally have been *þī, modelled on an older interrogative form *hwī (see 7.2.2). A form *thī* is actually attested in an 8th-century proverb (Sweet and Hoad 1978: 107), but the 9th-century copy is by a foreign scribe (cf. Sweet 1885: 151–2), and it seems inadvisable to place too much confidence in the spelling.

fem. acc. sg. *þā* reflects is not certainly reconstructable (see 4.2.5), but it is at least clear that the vowel of the OE form cannot reflect any of the stressed vowels that the PWGmc form could have contained; thus at least one episode of re-stressing an unstressed form can be inferred. The fem. gen.-dat.(-inst.) sg. *þære* poses a different problem. Both PWGmc gen. sg. *þaizā and dat. sg. *þaizē should have given OE (*)*þære*, with a back vowel in the first syllable. Such a form is apparently attested in early Merc. *ðare getyhtan* ‘of the incited / provoked (fem.)’ (*CorpGl* 820) and Surrey dialect *mid þare clēnnisse þe . . .* ‘with the purity which . . .’ (Ct. 45.11–12); but we do not have enough material to exclude the possibility that those forms are errors, and in any case we need an explanation for *þære*, which is apparently the usual form in most dialects (though see further below). That the *-y- of such PIE forms as gen. sg. *tósye_hs, etc. could have survived in OE (alone among the Gmc languages!) to cause i-umlaut of prehistoric OE *ā (Hogg and Fulk 2011: 194) is not credible. In this case too re-stressing of an unstressed form can be suspected. Possibly PWGmc possessed unstressed gen. sg. *þēzā, dat. sg. *þēzē beside stressed *þaizā, *þaizē; the unstressed forms would have yielded prehistoric OE *þæræ, which when re-stressed could only have become the attested OE form.

But the gen. pl. form provides an alternative explanation for the fem. gen.-dat. sg. In the early Merc. of *Ps(A)* the usual gen. pl. form is *ðeara*. There is only one plausible explanation: the form has a short vowel, being *ðeara* (by back umlaut, see 6.9.4) < *ðæra* (also attested once; by the Mercian second fronting, see 6.5.2) < *ðara (by shortening in allegro speech and/or unstressed position) < *ðāra* (the inherited form). Since the fem. gen.-dat. sg. is the only other disyllabic form, we might expect it to have undergone shortening too, and in *Ps(A)* it has: the usual form is *ðere* (by the Mercian second fronting) < *ðæræ. It is the latter preform that needs to be explained. Perhaps the simplest explanation is that gen. pl. *þāra and fem. gen.-dat. sg. *þāræ were shortened to *þara and *þaræ respectively, and that the latter form was reanalyzed as *þæræ because its *a seemed to violate the conditions of the *a* ~ *æ* alternation (see 6.3.1, 6.3.2). Possibly both forms were later re-lengthened under stress in some dialects; but there seems to be no hard evidence that they were, and we should reckon with the possibility that what we conventionally write as *þāra* and *þære* were in fact *þara* and *þære* in most or all OE dialects. Possibly some similar scenario can account for the shape of fem. acc. sg. *þā* (which is much more likely to have had a long vowel), but I have not been able to construct one that I can believe.

There is also a fully fossilized neut. inst. sg. *þē* (or *þe*, with shortening under weak stress), appearing in comparative phrases such as *þē mā þē bet* ‘the more the better’. As noted in 3.2.2 (ad fin.), this is probably also the source of the relative clitic *þe*.

The formation of OE ‘this’ has been discussed in 3.3.2 ad fin. Except for the forms which are constructed from monosyllabic vowel-final forms of ‘that’ + -s, all forms are built on a stem *þiss-*, which appears endingless in neut. nom.-acc. sg. *þis* and otherwise takes strong adj. endings.

The third-person pronoun, reflecting PWGmc *hi- ‘this’, underwent the same syncretisms as the determiner ‘that’ in OE; the dat.-inst. pl. and masc.-neut. dat. sg. appears as *him*, with no final vowel, probably by remodelling on *þæm*. In addition, the inst. sg. has undergone complete syncretism with the dat. sg.; the masc.-neut. gen. sg., which would have been *hes by regular sound change, has been remodelled as *his* and the disyllabic forms in *her- have been remodelled as *hīr-*, i.e. the alternation *e ~ i has been levelled in favor of i. That happened before the operation of back umlaut, to judge from gen. pl. *hiora* > *heora*.

The direct forms of the interrogative pronoun developed by regular sound change; on masc.-fem. nom. sg. *hwā* see 5.1.2. Gen. sg. *hwes (if that was the PWGmc form) was replaced by *hwæs* on the model of *þæs*; dat. sg. *hwæm* (~ WS *hwām*) was remodelled on *þæm* (~ *þām*). The vowel of the inherited inst. sg. *hwī (cf. ON *hvī*) was rounded; on the remodelling of *þý* on *hwý* see above.

The first- and second-person pronouns have undergone fairly little change (aside from regular sound change) in OE. The 2pl. acc.-dat. form *īow* > *ēow* already had no final vowel by the time of i-umlaut, perhaps by lexical analogy with 1pl. *ūs*. The originally unstressed 1sg. nom. *īc* survives; the originally stressed 1, 2sg. acc. *mec*, *þec* survive in the Anglian dialects. In WS the acc. sg. has undergone syncretism with the dat. sg., giving a system in which there is a single oblique form for all categories (since the du. and pl. were already syncretized in PWGmc): *mē*, *þē*, *unc*, *inc*, *ūs*, *īow* > *ēow*. In the Anglian dialects, by contrast, new acc. du. and acc. pl. forms have been created by suffixing *-ik to the inherited acc.-dat. forms; subsequently *-ik was dissimilated to *-it after the *-k- of the dual stems (see Stiles 1996 with references and discussion). Thus the attested Anglian system of oblique forms is: *mec*, *mē*; *þec*, *þē*; *unket*, *unc*; *incit*, *inc*; *ūsic*, *ūs*; *ēowic*, *ēow*. (Subsequently the distinction between acc. and dat. began to break down in the Anglian dialects as well; see Campbell 1962: 288.) In all dialects the possessive adjectives continue to be used for genitives of the pronouns. The innovative 1pl. possessive *ūre* (see 6.10.2) is inflected like an ija-stem adjective (or, with loss of -e, as an a-stem adjective in *Ps(A)*).

As noted in 5.2 (ad fin.), the third-person reflexive pronoun has been lost in OE. Its last vestige is the possessive adj. *sīn* ‘his/her/their own’, which is almost entirely confined to poetry; in prose *his*, *hire*, *hiora* are usual.

8

Old English syntax

8.1 Introduction

This chapter provides a sketch of some of the more important aspects of Old English syntax, although for space reasons many topics are not included, or are touched on very lightly. The focus is on constructions that differ from Present-Day English (PDE) in interesting ways, and to some extent, those that have received most attention in the recent literature. The theoretical approach, for the most part, is loosely generative, but the emphasis is on accurate description and more esoteric theoretical architecture is avoided where possible. The evidence base is the York–Toronto–Helsinki Corpus of Old English Prose (YCOE; Taylor et al. 2003), from which all examples are taken.

8.1.1 *Theoretical assumptions*

Within a classical generative phrase structure model (to use Wallenberg's (2009) term), i.e., the model generally assumed before the publication of Kayne (1994) and Chomsky (1995), a phrase is assumed to consist of a head, a specifier phrase and complement phrase, as in Fig. 8.1, where X is the head, YP the specifier, and ZP, the complement. In English the specifier phrase (Spec,XP) is always to the left of the head, while the position of the complement can vary, depending on the type of phrase, and the time period (cf. 8.2.3 (i) *T-initial* vs. *T-final*).

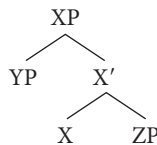


FIGURE 8.1

A clause consists of three layers, a CP (Complementizer Phrase) layer, which encodes clause-linking and discourse relations, a TP (Tense Phrase) layer, which encodes tense and agreement, and a VP (Verb Phrase) layer, which encodes thematic relations between the verb and its arguments, as in Fig. 8.2.

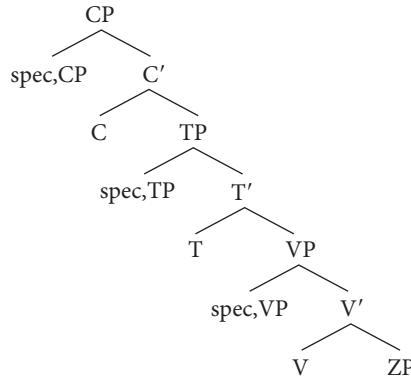


FIGURE 8.2

Arguments of the verb are initially merged in VP, with the subject in the specifier position. In OE (unlike in PDE) the finite verb always moves out of the VP to at least the head of TP, as in Fig. 8.3. The subject may move from spec,VP to spec,TP (or higher) or remain in situ.

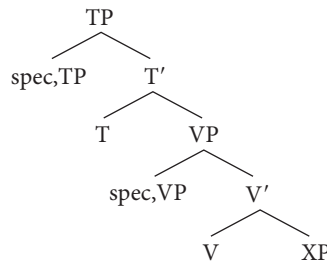


FIGURE 8.3

While in PDE phrases (CP/TP/VP) are uniformly head-initial with complements generated to the right, OE exhibits variation in the position of T and V due to an ongoing change from head-final to head-initial TP and head-final to head-initial VP (Pintzuk 1999, Pintzuk and Taylor 2006, Taylor and Pintzuk 2011, 2012). The basic head-initial structure is as in Fig. 8.3. The “head-final” version, i.e., where the direction of selection in TP and VP is leftward rather than rightward, is illustrated in Fig. 8.4. In addition a head-initial TP can combine with a head-final VP, as in Fig. 8.5. There is a large literature on how this variation should be motivated and modelled in the

syntax, but here I simply accept its existence, and as in the classical model, assume it is controlled by a Headedness Parameter.¹

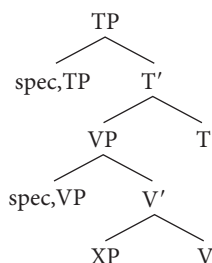


FIGURE 8.4

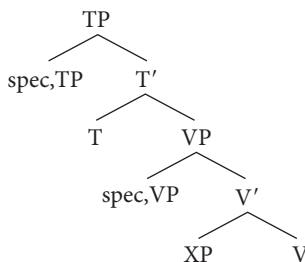


FIGURE 8.5

The final logical possibility, a head-final TP combined with a head-initial VP (Subject-V-Complement-T order), is not attested in OE, and is, in fact, generally ruled out cross-linguistically (cf. the Final-over-Final Constraint (FOFC), Biberauer, Holmberg, and Roberts 2010).

OE is a verb-second (V₂) language in at least some respects, although it differs in a number of respects from all the other Germanic V₂ languages. The details of OE V₂ will be discussed extensively below, but in short, topicalization of one constituent to a left-peripheral position (spec,CP) is required in root clauses, as in Fig. 8.6 although the verb in most cases only moves to T. The existence of topicalization in OE embedded clauses, as found in Icelandic and Yiddish, is a matter of some dispute.

¹ The model with a Headedness parameter can for the most part (although not completely) be straightforwardly translated into an anti-symmetric model (Wallenberg 2009).

In addition to the non-functional variation in the position of T and V, OE has various functional movement rules, such as scrambling and Heavy NP Shift, which I will treat as adjunction to maximal projections, either to the left or to the right.

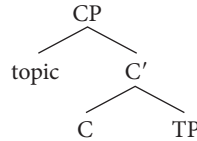


FIGURE 8.6

8.2 Clausal syntax (CP/TP)

8.2.1 Proto-Indo-European

Although the surface word order of the early Indo-European languages was fairly “free”, making any effort to reconstruct its syntax extremely difficult,² some plausible generalizations can still be made.

Assuming Proto-Indo-European (PIE) had a CP-layer,³ there is no evidence that the CP was ever anything except head-initial. In the oldest languages with overt complementizers, the complement always follows the head, as in (1) from Homeric Greek.

- (1) [_{CP} ophra [_{TP} gerontos apōsamen agrion andra]]
 so-that old-man.GEN might-push-away.1PL wild.ACC man.ACC
 ‘so that [we] might push the wild man away from the old man’
 (*Iliad* 8.96)

Within the TP/VP domain, the traditional view is that OV order is in some sense “basic”, as evidenced by its frequency in the older Indo-European languages like Vedic Sanskrit, Homeric Greek, and Latin (cf. Eythórsson 1995: 16 and references therein). Translating this view into structural terms, the neutral declarative structure has a head-initial CP and a head-final VP. The position of T (initial/final in TP) is more difficult to determine, but there seems little reason to doubt the traditional assumption that PIE was V/T final.⁴

² See Walkden (2009) for a recent survey of the difficulties of syntactic reconstruction.

³ Two of the oldest attested PIE languages, Vedic Sanskrit and Hittite, do not appear to have (overt) complementizers, and on the basis of this, Kiparsky (1995) hypothesizes that these languages (and thus PIE) lacked a CP, and all “subordinate” clauses were adjuncts.

⁴ Although see Hale (2011) for some interesting evidence that Vedic might have exhibited V-to-(initial)T.

8.2.2 *Germanic*

It has been claimed that Germanic inherited the PIE situation as far as clausal syntax goes; i.e. the verb does not move to a left-peripheral position as it does in many of the modern Germanic languages (Kiparsky 1995). The V-to-C movement, which results in verb-second (V_2) order in these languages under this account, is thus a language-specific innovation following the breakup of Proto-Germanic. However, closer examination of the early Germanic languages (Eythórrsson 1995, 1996, 2001, Ferraresi 2005, Axel 2007, Walkden 2009) has provided strong empirical evidence for verb movement to C (possibly alongside a lack of such movement) in all the early Germanic languages, and thus the status of V-to-C as a Proto-Germanic innovation now seems far more secure.

Although evidence for the position of T can be difficult to evaluate, there appears to be some potential evidence for leftward verb movement to a position lower than C in the earliest attested Germanic languages (Eythórrsson 1995, 1996, 2001), but it is fairly weak, and it thus seems unlikely, although not impossible, that initial-T is already present in Proto-Germanic, alongside final-T.

8.2.3 *Verb position in OE*

In Old English the surface position of the finite verb and its arguments is quite variable leading early researchers (e.g., Fries 1940) to assume OE word order is “free”. More recent work has shown, however, that, while the variation is indeed fairly extreme, it is nevertheless also structured.

Since van Kemenade (1987) OE has been classed as a V_2 language along with the rest of the Germanic languages apart from Modern English. In this work she analyzes OE as a V/T-final German-type asymmetric V_2 language with movement of the finite verb to C in root clauses. In embedded clauses the verb remains in VP, as movement to C is blocked by the overt complementizer occupying the head of CP (Thiersch 1978, den Besten 1983 for German/Dutch). The categorical distinction between V_2 root clauses and V-final embedded clauses found in German and Dutch does not hold in OE, however. Rather, T-initial and T-final structures are found in both root and embedded clauses. This fact led Pintzuk (1999) to propose that T-initial and T-final structures in OE, rather than being conditioned alternatives, are in competition (the so-called Double Base Hypothesis). Thus in terms of V_2 , Old English largely resembles symmetric V_2 languages like (modern) Yiddish and Icelandic, in which T-initial structures occur in both root and embedded clauses (although it also has a subset of clauses with German-type V_2 (cf. 8.2.3 (ii.a)

Operator-fronting V2). Unlike the modern symmetric V2 languages, however, but like in older Yiddish (Santorini 1993), in OE these T-initial structures coexist alongside T-final structures.

8.2.3 (i) *T-initial vs T-final* Pintzuk (1999, 2005) demonstrates that T-initial and T-final structures are available in both root and embedded clauses in OE by identifying various diagnostics that unambiguously indicate such a structure. The most secure diagnostic for T-final structure is the surface order main verb-auxiliary (*V-Aux*), as in (2) and (3). As shown in Figs. 8.2 and 8.3, when TP is head initial, there is only one position (*spec,TP*) preceding T (the position occupied by *Aux*), generally filled by the subject (or in root clauses possibly a topic). Crucially, however, there is no head position that V could move to. While this order is more frequent in embedded clauses (2), there are a significant number of cases in root clauses as well (3). Constituents following the verbal complex in this order (as in the (b) examples) are derived by the rightward movement processes Heavy-NP Shift (HNPS) and Extraposition (cf. 8.2.5 (i) *Extraposition and Heavy-NP Shift (HNPS)*).

- (2) a that he wið his dohtor sume digle spæce sprecan wolde
 that he with his daughter some secret speech speak would
 ‘that he would speak some secret speech with his daughter’
 (ApT.1.10.10)
- b hwæðer hi gebugan woldon to ðam bysmorfullum godum
 whether they bow would to the infamous gods
 ‘whether they would bow to the infamous gods’
 (coelive,+ALS_[Sebastian]:152.1302)
- (3) a and he þa hearpestrengas mid cræfte astirian ongan
 and he the harpstrings with skill pluck began
 ‘and he began to pluck the harpstrings with skill’
 (coapollo,ApT:16.31.334)
- b and we feohtan ne dorston ongean ðone ormætan here
 and we fight neg dared against the great army
 ‘and we dared not fight against the great army’
 (coelive,+ALS_[Agnes]:343.1954)

Given that movement of VP material to the right of a structurally final T is possible in OE, as illustrated in (2b) and (3b), truly unambiguous T-initial clauses can only be identified on the basis of the position of a limited set of diagnostic elements, including particles, pronouns, negative objects, and stranded prepositions. These elements are not attested in post-verbal position

in *V-Aux* clauses in OE (Pintzuk 1999, 2005, Pintzuk and Haerberli 2008), or indeed across Germanic generally (Eythórsson 1995: 47, Fuss and Trips 2002: 72); i.e., *V-Aux-diagnostic* orders are not attested. It is thus generally assumed that such elements do not move rightward in Germanic and therefore when one of these diagnostics appears following a finite main verb (*Vf*), as in the examples in (4), the clause must be analyzed as T-initial. As with the T-final structures in (2) and (3), these T-initial structures can be found in both root (4) and embedded (5) clauses.

- (4) a *post-Vf particle*
 and Aaron ahæfde his hand **upp** on gebedum
 and Aaron raised his hand up in prayer
 ‘and Aaron raised his hand up in prayer’
 (coalive,+ALS[Pr_Moses]:23.2886)
- b *post-Vf pronoun*
 and þin gebædda Claudia gebær **me** to mannum
 and your wife Claudia bore me to men
 ‘and your wife Claudia bore me to men’
 (coalive,+ALS_[Eugenia]:233.329)
- c *post-Vf negative object*
 ac se soða scyppend næfð **nan angin**
 but the true Creator NEG-has no beginning
 ‘but the true Creator has no beginning’
 (coalive,+ALS_[Christmas]:63.50)
- d *post-Vf stranded preposition*
 & se hælend him; com **to** t_i on sumere nihte
 and the Saviour him came to on a-certain night
 ‘and the Saviour came to him one night’
 (coalive,+ALS_[Basil]:109.520)
- (5) a *post-Vf particle*
 forþan þe þes middaneard flihð **aweg** swyðe
 because this world flies away quickly
 ‘because this world flies away quickly’
 (coalive,+ALS_[Maurice]:150.5766)
- b *post-Vf pronoun*
 for þan þe hi ne cuþon **hine**
 because they NEG knew him
 ‘because they did not know him’
 (coalive,+ALS_[Basil]:342.678)

c *post-Vf negative object*

þæt ða cristenan nahton nan þincg on worulde
 that the Christians NEG-own no thing in world
 ‘that the Christians should own nothing in the world’
 (coaelive,+ALS[Agnes]:394.1990)

d *post-Vf stranded preposition*

þæt sum man him_i cwæð to t_i, ...
 that a-certain man him said to
 ‘that a certain man said to him’
 (coaelive,+ALS_[Memory_of_Saints]:154.3412)

In clauses with two verbs, the verbs can appear in the order *Aux(...)**V* in addition to the T-final *V-Aux* order illustrated in (2). While many of these clauses are likely to be T-initial, this order alone cannot be taken as a diagnostic of underlying verb-initial order due to the presence in OE of verb (-projection) raising, a process active in various West Germanic languages which moves the non-finite verb to the right of the finite verb (cf. 8.2.5 (ii) *Verb (-projection) Raising (V(P)R)*).

In addition, it should be noted that the diagnostic elements used to identify unambiguous T-initial order in clauses with a single finite main verb (4) and (5) cannot be used to identify T-final clauses. Although the diagnostics do not move rightward, the converse does not appear to be the case, as these diagnostic elements are able to move leftward, and thus a pre-verbal occurrence of one does not unambiguously indicate T-final underlying order (Pintzuk and Haeberli 2008). The only clear indication in these clauses that the verb is in final rather than initial T is the number and type of constituents that precede the verb. As there is some disagreement over what constitutes an unambiguous T-final clause when the main verb is finite, this is discussed further in section 8.2.3 (iv) *More on T-final clauses*.

8.2.3 (ii) *Verb second* It is by now well established that there are two distinct types of *V*₂ in OE, one involving the topicalization of operators and the other of non-operators. The operator-fronting type (cf. 8.2.3 (ii.a) *Operator-fronting V*₂) involves V-to-C movement, while the non-operator-fronting type (cf. 8.2.3 (ii.b) *Non-operator-fronting V*₂) involves movement to a functional head in the T-domain.

8.2.3 (ii.a) *Operator-fronting V*₂ In clauses with a *wh*-word (6), an initial negation (7), or the adverb *þa* ‘then’ (also sometimes *þonne* ‘then’, *nu* ‘now’, and *swa* ‘so’) (8), we find *V*₂ of the German type, in which the verb immediately follows the initial element and precedes both pronominal subjects, as in

the (a) examples, and non-pronominal subjects, as in the (b) examples. The set of elements that trigger this type of V2 are conventionally referred to as operators, although the status of the adverbs as operators is somewhat dubious. It is by now well accepted that operator-fronting involves movement of the operator to spec,CP and the verb to C, as is standard in analyses of German V2.

- (6) a Hwæt secgce ge?
What say you
'what do you say?'
(coaelhom,+AHom_3:24.421)
- b hwær scyne seo sunne on niht
where shines the sun at night
'where does the sun shine at night?'
(coadrian,Ad:6.1.15)
- (7) a Ne hate ic eow na þeowan,
NEG call I you not servants
'I do not call you servants'
(coaelive,+ALS_[Eugenia]:84.238)
- b Ne gesceop God þone deað
NEG created God the death
'God did not create death'
(coaelhom,+AHom_11:107.1547)
- (8) a Ða andwyrde he him þus
Then answered he them thus
'then he answered them as follows'
(coaelive,+ALS_[Christmas]:11.9)
- b Ða het se bisceop hi gelangian
Then commanded the bishop her call
'then the bishop commanded to call her'
(coaelive,+ALS_[Eugenia]:74.232)

8.2.3 (ii.b) *Non-operator-fronting V2* The second type of V2 found in OE involves the fronting of a non-operator, i.e. an argument or adjunct of the verb. This type differs from the operator-fronting type primarily in the behaviour of subjects. Unlike with operator-fronting, where the subject always follows the verb, in the non-operator-fronting case, non-pronominal subjects still predominantly follow the verb, as in (9a), but when the subject is a pronoun, non-inversion is the rule, as illustrated in (9b).

- (9) a Ðas fif andgitu gewisseð seo sawul to hire wyllan
 These five senses directs the soul to her will
 ‘the soul directs these five senses according to her will’
 (coaelive,+ALS_[Christmas]:202.161)
- b æfter his gebede he ahof þæt cild up
 after his prayer he lifted the child up
 ‘after his prayer he lifted the child up’
 (cocathom2,+ACHom_II,_2:14.70.320)

Despite the difference in subject position, these two types have traditionally been considered variants of the same structure, with the verb in same position in both. Post van Kemenade (1987) this position has generally been assumed to be one of the functional heads in the T-domain (Haeberli 2005: 4 and references therein). Early accounts assumed the subject pronoun was a clitic and thus didn’t fill a position in the syntax (van Kemenade 1987, Pintzuk 1996, Kroch and Taylor 1997), while more recent proposals (Haeberli 2001, 2005, van Kemenade 1999, van Kemenade and Milićev 2012, Walkden 2012, a.o.) have instead assumed two subject positions, one before and one after the position filled by the finite verb. The higher subject position is restricted primarily to (clitic/weak) pronouns, and the lower to other subjects (but see section 8.2.3 (ii.c) *V₃ with non-pronominal subjects*). Such proposals require a so-called split-TP analysis in which there is more than one functional head in the TP-domain. The labelling of such heads differs in different proposals (see references above), but here I will simply refer to them as TP₁ and TP₂. Thus, the higher subject position (SU₁) is the specifier of TP₁ and the lower subject position (SU₂) is the specifier of TP₂. In root clauses the finite verb moves to the head of TP₁, i.e. between the two subject positions, resulting in the alternation in subject position illustrated in (9a) and 9b).

An alternative analysis, in which the V₃ cases are taken as instances of T-final structures, is ruled out by the presence of the particle *up* in (9b). As discussed in section 8.2.3 (i) *T-initial vs. T-final*, particles and other light elements do not move rightward past the lexical verb in OE, and thus can be used as diagnostics of T-initial structure. Although not every V₃ clause with a pronoun subject contains a post-verbal diagnostic element, enough do to demonstrate the necessity of allowing V₃ T-initial clauses of this type.

One issue not addressed by this type of analysis is that not only subject but also object pronouns, and indeed multiple pronouns (always in subject-object order), can appear in this position, as illustrated in (10). Wallenberg (2009: 269ff.) has recently revived the clitic analysis of pronouns, albeit in a different

form, to account for this, proposing that the object pronouns preceding the finite verb in such cases are head-clitics adjoined to T.

- (10) a and **hy hit wurpon** þa ut
and they it threw then out
'and then they threw it out'
(coaelhom,+AHom_15:19.2147)
- b þa godan gastas **hine tugon** upp
the good spirits him drew up
'the good spirits drew him up'
(cogregdC,GDPref_and_4_[C]:37.320.13.4805)
- c and nu **ic hit eow secge**
and now I it you say
'and now I say it to you'
(coaelhom,+AHom_10:22.1418)

8.2.3 (ii.c) *V3 with non-pronominal subjects* Although the high subject position was originally conceived of as a clitic or weak pronoun position due to the overwhelming preponderance of pronoun subjects that fill it, Haerberli (2002) claims the examples in (11), in which a DP subject following a fronted non-operator fails to invert, are (or may be) of this type (cf. also Koopman 1998).

- (11) a [ðone] *Denisca leoda lufiað* swyðost
that Danish people love most
'The Danish people love that one most'
(cowulf,WHom_12:56.1190)
- b [æfter þan] *þæt lond wearð* nemned Natan leaga
after that that land was called Natan lea
'after him, that land was called Netely'
(cochronA-1,ChronA_[Plummer]:508.1.174)

Most of the examples he gives do not contain a post-verbal diagnostic that guarantees this analysis (cf. section 8.2.3 (i) *T-initial vs. T-final*), although he gives quantitative evidence that suggests that it is a plausible analysis for at least some of them. One of his examples (his (5a) given as (12a)),⁵ however,

⁵ This clause appears to have two "topics" before the subject, which is potentially problematic for this type of analysis. Mitchell (1985: §3922) and Koopman (1998) discuss such cases of "multiple topicalization."

does contain such a diagnostic, and a few other cases can be found in the YCOE (Pintzuk and Haerberli 2008, Speyer 2010), given in (12b, c).

- (12) a [þa] [æfter þære mæssan] *seo modor and seo dohtor* astrehton
 Then after the mass the mother and the daughter prostrated
hi on prayers
 themselves in gebedum
 ‘then after the mass the mother and the daughter prostrated them-
 selves in prayers’
 (coelive,+ALS[Lucy]:20.2178)
- b [Pæne] *se geatweard læt in*
 That the doorkeeper let in
 ‘the doorkeeper let that one in’
 (cowsgosp,Jn_[WSCp]:10.3.6596)
- c [ÆFTER þison] *Moyses & Aaron eodon in*
 After this Moses and Aaron went in
 ‘after this Moses and Aaron went in’
 (cootest,Exod:5.1.2466)

Recent work by van Kemenade and colleagues claims the high position is reserved for topical (particularly specific, anaphoric material), rather than simply being a clitic/weak pronoun position, which allows for the appearance of DP subjects in this position (van Kemenade and Los 2006, van Kemenade, Milićev, and Baayen 2008).

8.2.3 (ii.d) *V2 in embedded clauses* While V2 is a predominantly root phenomenon, the Germanic languages tolerate it to differing degrees in embedded clauses. Vikner (1995) gives the following classification. Asymmetric-V2 languages like standard German, Dutch, and Afrikaans allow embedded V2 only in the absence of an overt complementizer. Limited embedded-V2 languages like the mainland Scandinavian languages and Frisian allow embedded V2 in the presence of an overt complementizer, but only in the complements of certain verbs, traditionally termed “bridge verbs” such as, *say, think, know, believe*.⁶ Finally, Icelandic and Yiddish are so-called general embedded- or symmetric-V2 languages, which allow embedded V2 in the presence of a complementizer in the complements of a wider range of verbs.⁷

⁶ The exact boundary of the class of “bridge verbs” is unclear, however, and may be different in different languages (cf. Vikner 1995).

⁷ The empirical status of this typology is under constant scrutiny, and this statement of it going back to Vikner is no doubt oversimplistic. While it is clear that there are differences among the Germanic V2 languages with respect to the availability of embedded V2, ongoing disagreements with respect to the

As discussed and illustrated in section 8.2.3 (i), T-initial clauses are found in embedded as well as root clauses in OE. Pintzuk (1999, 2005) analyzes embedded T-initial clauses as “V2” in the same way as the parallel root clauses; i.e., she takes spec,TP to be a topic position in both root and embedded clauses. However, as van Kemenade (1997) points out, “embedded topics” in OE are overwhelmingly subjects, as is indeed the case in all the examples in (5) above, and non-subjects are only found in this position in particular contexts.

The first context in which embedded V2 is found in OE is under bridge verbs, as illustrated in (13), just as in the limited-embedded V2 languages.

- (13) ac hit wæs openlice gecyþed, [_{CP} þæt his forðfore begeat seo
 but it was openly made known that his death obtained the
 þingung þæs arwyrðan Anastasies]]
 intercession the made-known Anastasius
 ‘but it was openly made known that the intercession of the honourable
 Anastasius brought about his death’
 (cogregdC,GD_1_[C]:8.53.29.608)

The standard analysis of these clauses is as CP-recursion structures, in which the complementizer takes a CP- rather than TP-complement (Kroch and Iatridou 1992). The topic is in spec,CP of the lower CP, as sketched in (14).

- (14) ac hit wæs openlice gecyþed, [_{CP1} þæt [_{CP2} his forðfore [_{TP} begeat seo
 þingung þæs arwyrðan Anastasies]]]]

The second context is in clauses with unaccusative verbs (change of state verbs, e.g., *break*, *burst*, *heal*, *arrive*, etc.) and verbs of motion, e.g., *come*, *go*, *fly*, *run*, etc.), as in (15), as well as other constructions in which the verb does not licence an external argument, including impersonal verbs (cf. 8.5 *Impersonal constructions*), impersonal passives (cf. 8.4.3 (i) *The impersonal passive*), passives (cf. 8.4.3 *The passive*), modals (cf. 8.4.1 *The (pre-)modals*), and presentational constructions (van Kemenade 1997).

- (15) Þæt of life gewat þære wudewan sunu
 That from life departed the widow’s son
 ‘that the widow’s son departed from life’
 (coalive,+ALS_[Book_of_Kings]:69.3699)

Examples of non-subject embedded topicalizations (i.e. *C-XP-Vf* order) with non-unaccusative verbs, outside of bridge verb complements, are, if not

grammaticality judgments of many of the crucial sentences make it difficult to codify these differences with any certainty (cf. Hrafnbjargarson and Wiklund 2009, Heycock et al. 2010).

completely non-existent, at least extremely rare in OE. Van Kemenade (1997) takes this as evidence that OE is essentially a limited V2 language like Mainland Scandinavian (van Kemenade 1997) with no embedded V2 outside particular environments. Apparent embedded V2 with unaccusative verbs follows from the fact that unaccusative verbs do not licence an external argument (i.e., a subject). As a result, Spec,TP can remain unfilled or be filled by a non-nominative constituent (van Kemenade 1997: 338).

Alternatively, it has been suggested that the lack of non-subject topics can be attributed not to syntactic, but to pragmatic or information structural factors; i.e. the pre-Vf topic position is available for non-subjects in embedded clauses, just as in root clauses, but in embedded clauses, the prototypical topic is very highly likely to be the subject (Kroch and Taylor 1997: 309). Although quantitative evidence is hard to come by, other Germanic languages analyzed as allowing generalized embedded V2 also have very low rates of non-subject topicalization in embedded clauses. Biberauer (2002: 39), for instance, notes that in a corpus of Modern Spoken Africans 95% of potential embedded topics are subjects, with most of the remainder being adverbs. Only 1% of examples involve objects. In addition, recent work has shown that many Icelanders apparently reject such examples (Hrafnbjargarson and Wiklund 2009, but cf. also Heycock et al. 2010 for a different view).

8.2.3 (iii) *More on embedded clauses* Accepting the argument that there is no embedded topic position in OE, the T-domain has the same structure in both root and embedded clauses. As discussed in section 8.2.3 (ii.b) *Non-operator-fronting V2*, in order to account for the distribution of subjects in root clauses, this structure is claimed to involve two functional heads in the TP-domain (here referred to simply as TP1 and TP2). Unlike in root clauses, however, in embedded clauses there is no variation in subject position by subject type. Apart from the unaccusative cases discussed in section 8.2.3 (ii.d) *V2 in embedded clauses*, the subject always precedes the verb, whether it is a full DP or a pronoun as illustrated in (16).

- (16) a for þan þe heo lokað ufan on helle
 because she looks from-above on hell
 ‘because she looks on hell from above’
 (coadrian,Ad:8.2.24)
- b mid ðam þe Basilius tobræc þæt husel
 when COMP Basil broke the housel
 ‘when Basil broke the housel’
 (coalive,+ALS_[Basil]:158.553)

Thus in embedded clauses both subject positions precede the finite verb, suggesting that the landing site of the verb in embedded clauses is lower than in root clauses, i.e., the head of TP₂ instead of TP₁. See Haeberli (2001, 2005) for further motivation and desirable consequences of adopting a two subject position analysis beyond accounting for the distribution of subjects.

8.2.3 (iv) *More on T-final clauses* As discussed in section 8.2.3 (i) *T-initial vs. T-final*, clauses with two verbs in which the order is *V-Aux* are unambiguously T-final. The identification of T-final structure in clauses with only a finite verb is more difficult. Pintzuk (1999, 2005) assumes only one position (Spec,TP) before a finite verb in initial-T in both root and embedded clauses, and thus she analyzes any clause with at least two (heavy) pre-verbal constituents, as in (17), as T-final.

- (17) a [Witodlice] [God ælmihtig] wat ealle þing togædere
 truly God almighty knows all things together
 ‘truly God almighty knows all things together’
 (coaelive,+ALS_[Christmas]:138.110)
- b hu [se Hælend] [heora broþur] arærde
 how the Saviour their brother raised
 ‘how the Saviour raised their brother’
 (coaelhom,+AHom_6:107.936)

However, as discussed in section 8.2.3 (ii.c) *V₃ with non-pronominal subjects*, the high subject position that gives rise to apparent V₃ order in root clauses, although predominantly filled by pronoun subjects, can also less commonly host DP subjects. Accepting this, the order *XP-Subject-Vf* would not be unambiguously T-final, as previously supposed, but can alternatively be analyzed with the XP in topic and the DP subject in the high subject position. The other order *Subject-XP-Vf*, as in (18), where XP is an argument, however, continues to be diagnostic of T-final structure.

- (18) and [þa ungesæligan] [his segene] ne gelyfdon
 and the unhappy his speech NEG believed
 ‘and the unhappy [ones] did not believe his speech’
 (coaelhom,+AHom_13:189.1975)

Although estimates of the frequency of verb-final root clauses in OE vary greatly and are generally on the low side (Pintzuk 1993, Koopman 1995, Fischer et al. 2000; but see Pintzuk and Haeberli 2008 for higher estimates), there can be little doubt that this order was an available option in the language.

With regard to embedded clauses, Haeberli (2000), in addition to assuming the verb moves to a position below both subject positions (cf. 8.2.3 (iii) *More on embedded clauses*), proposes a position between the high and low subject positions which hosts adjuncts. Under this analysis, embedded V₃ orders *C Subject(-pro) XP(+adjunct) Vf*, as in (19a), and *C XP(+adjunct) Subject(-pro) Vf*, as in (19b), are thus also possible T-initial orders. In the former the subject is in the high subject position and in the latter in the lower subject position. These orders, therefore, are ambiguous between a initial- and final-T structure.⁸

- (19) a þæt þa cristenan swiðe fremoden his cynerice and
that the Christians greatly benefited his kingdom and
romaniscere leode
Roman people
'that the Christians greatly benefited his kingdom and the Roman people'
(coelive,+ALS_[Eugenia]:270.354)
- b gif semninga mare blæd windes astah
if suddenly greater blast of-wind arose
'if suddenly a greater blast of wind arose'
(cobede,Bede_4:3.268.8.2726)

Thus in embedded clauses with a finite verb and two or more pre-verbal constituents, only cases in which the constituents include at least two non-pronominal arguments, as in (17b) above with a subject and an object, are securely diagnostic of T-final order. Clauses in which one of the two constituents is an adjunct can be analyzed as in (19) above, whichever order the two occur in.

8.2.3 (v) *Verb first* In addition to clauses with a negated verb in first position, discussed in section 8.2.3 (i) *Operator-fronting V₂*, there are three major types of V₁ root clauses in OE: yes/no questions (20a), imperatives, subjunctives, and *uton* clauses (20b), and so-called narrative inversion with the verb in the indicative (20c).

- (20) a gelyfst þu þis, Martha?
Believe thou this, Martha
'do you believe this, Martha?'
(coaelhom,+AHom_6:57.899)

⁸ This point is accepted, although with a different analysis, in Pintzuk and Haeberli (2008).

- b i far ðu on Godes naman feor ut on sæ
 go thou in God's name far out on sea
 'go in Gods name far out on the sea'
 (coaelhom,+AHom_8:85.1212)
- ii underfo he gærs
 Receive he grass
 'let him receive grass'
 (coaelive,+ALS_[Basil]:214.592)
- iii uton we swa don
 Let us so do
 'let us do so'
 (coaelhom,+AHom_17:235.2481)
- c Het ic þa ælcne mon hine mid his wæpnum gegerwan
 Commanded I then each man him with his weapons prepare
 'I then commanded each man to prepare himself with his weapons'
 (coalex,Alex:14.2.120)

The verb in these cases is clearly in a high position, as the pronoun subject follows it; i.e. these are cases of V-to-C movement, parallel to V₂ of the operator-fronting type (cf. 8.2.3 (i) *Operator-fronting V₂*). The types in (20a, b) arguably form a class with *wh*-questions and negative-initial clauses, in that it is plausible to assume some kind of operator (a question operator in (a) and an imperative operator in (b)) that triggers verb movement to C, and, in fact, to the extent that these clause types survive into Modern English, they continue in much the same form.

The type in (13c), on the other hand, clearly has the same syntax, but as with the *þa/þonne/nu* V-to-C type, it is less clear what triggers it. The function attributed to narrative V₁ in Old English (and other languages in which it occurs (Icelandic (Maling 1990, Sigurðsson 1990, Thráinsson 2007), Faroese (Thráinsson et al. 2004), Dutch (Zwart 1997)) is often rather vague (Zwart (1997: 217 quoting den Besten (1989): "used in a certain narrative style of Spoken Dutch, ... effective in telling a story or a joke")) and/or so wide-ranging as to be almost meaningless. Ogawa (2000: 239–42), for instance, lists six functions for V₁ constructions in the Vercelli Homilies. Calle-Martin and Miranda-Garcia (2010) attempt to classify V₁ clauses according to the functional typology in Masayuki (2004), but essentially end up throwing up their hands due to the extreme subjectivity of the exercise. They conclude that narrative V₁ is a "pragmatic device for marking off any kind of transition in prose." Los (2000), in a careful analysis of a limited set of such cases (involving

onginnan/beginnan plus infinitive), builds on a suggestion in Mitchell (1985: §3933) that narrative V₁ marks episodic boundaries, and shows rather convincingly that although both *þa*-V and narrative V₁ are foregrounding devices, the former indicates thematic continuity and the latter, thematic discontinuity.

V₁ order is also found in subordinate conditional clauses, as in (21), which occur both with the alternatives overtly stated (21a) or implicit (21b).

- (21) a *þæt hi wæron heora hlaforde getreowe and holde.*
 that they were their lord true and loyal
wære se hlaford good. Wære he yfel
 were the lord good were he evil
 ‘that they were true and loyal to their lord, whether the lord was good
 or whether he was evil’
 (cocathom2,+ACHom_II,_4:37.254.851)
- b Hæfde ic ælteowe þenas, nære ic þus eaðelice oferswiðed
 had I faithful servants NEG-were I thus easily overcome
 ‘if I had faithful servants, I would not be so easily overcome’
 (coalive,+ALS[Forty_Soldiers]:226.2623)

In subordinate clauses with an overt subordinator, V₁ order is not frequent, but there are 30 or so plausible examples in the YCOE. Most are unaccusative constructions with postposed subjects (cf. Sigurðsson 1990 for similar cases in Icelandic), as in (22). Most of the rest occur in second conjuncts without a complementizer, often in the subjunctive, as in (23), where it is often difficult to tell whether they are truly subordinate.

- (22) a *þa næs þær nan twynnung, þæt nealæhte þara forðsið,*
 then NEG-was there no doubt that approached of-those death
þe þær gecigede wæron.
 that there called were
 ‘then there was no doubt that the death of those who were called
 there approached’
 (cogregdH,GD_1_[H]:8.52.32.502)
- b *ærþon þe comon twa wif geleaffulle*
 before came two women faithful
 ‘before two faithful women came’
 (comart3,Mart_5_[Kotzor]:Se2,A.13.1634)

- (23) a ic wat þeah þæt ge hit þær ne secað, ne finde
 I know nevertheless that you it there NEG seek nor find.SUBJ
 ge hit no
 you it not
 ‘I know that you do not seek it there, nor do you find it’
 (coboeth,Bo:32.73.25.1364)
- b He ðe bebead ... þæt ðu hæbbe bylwitne geleafan,
 he you ordered ... that you have.SUBJ simple belief
 & wunige on þe se unforhta & se ungebrosnoda geleafa
 and dwell.SUBJ in you the fearless and the uncorrupted belief
 ‘and he ordered that you should have simple belief and the fearless
 and the uncorrupted belief should dwell in you’
 (coverhom,HomU_7_[ScraggVerc_22]:137.2937)

8.2.4 Negation

Sentential negation in OE is expressed primarily by the clitic *ne*, which adjoins to the left of T, as in (24). The negated verb frequently moves to C (24a), as shown by the position of the subject pronoun (cf. 8.2.3 (ii.a) *Operator-fronting V2*), but may remain lower, as in (24b). Secondary negation by adverbials such as *na* or *naht* is less common, but does occur, as in (25). Constituent negation is illustrated in (26).

- (24) a nelle ic hine geunrotian on ænigum þincge
 NEG-will I him grieve in any thing
 ‘I will not grieve him in any thing’
 (coelive,+ALS_[Julian_and_Basilissa]:291.1119)
- b and heo ne mihte þa ecnysse forleosan
 and she NEG could the immortality lose
 ‘and it could not lose immortality’
 (coelive,+ALS_[Christmas]:152.122)
- (25) a ac hi ne synd na þreo anginnu
 but they NEG are not three beginnings
 ‘but they are not three beginnings’
 (coelive,+ALS_[Christmas]:16.16)
- b þæt ðu þas dyntas naht ne gefretst
 that you these blows not NEG feel
 ‘that you do not feel these blows’
 (coelive,+ALS_[Julian_and_Basilissa]:146.1027)

- (26) Ða ferde Martinus na swyðe feor þanon
 then went Martin not very far thence
 ‘Then Martin went not very far from there’
 (coalive,+ALS_[Martin]:444.6248)

OE is a negative concord language (Haeberli and Haegeman 1995) and indefinites under sentential negation are also negated, as illustrated in (27).

- (27) a þæt nan cynerice ne stent nane hwile ansund
 that no kingdom NEG stands no time entire
 ‘that a kingdom may not stand any time entire’
 (coalive,+ALS[Pr_Moses]:235.2992)
- b butan þam ne mæg nan man nan þing godes habban
 without whom NEG may no man no thing good have
 ‘without whom a man may not have anything good’
 (coalive,+ALS_[Christmas]:91.73)

See van Kemenade 1999, 2000, van Gelderen 2008, Wallage 2005, 2012, for more on negation in OE.

8.2.5 Rightward movement processes

The rightward movement processes, extraposition and Heavy-NP shift (HNPS) (cf. 8.2.5 (i) *Extraposition and Heavy-NP Shift (HNPS)*), and Verb (-Projection)-Raising (V(P)R) (cf. 8.2.5 (ii) *Verb(-projection) Raising (V(P)R)*), operate in T-final clauses and result in the verb surfacing in non-final position.

8.2.5 (i) *Extraposition and Heavy-NP Shift (HNPS)* Extraposition and HNPS both move non-verbal constituents to the right of the finite verb. Extraposition affects PPs, AdvPs, APs, and clauses, and HNPS affects DPs. Examples of extraposition in *V-Aux* clauses are given in (28) and an example of HNPS in (29). These processes can also be seen in T-final clauses with a finite main verb, as in the extraposition examples in (30) and HNPS examples in (31).⁹

- (28) a and hi ealle swaþæh alotene beoð [PP to þære eorðan weard]
 and they all nevertheless bowed are to the earth ward
 ‘and they all are nevertheless bowed down to the earth’
 (coalive,+ALS_[Christmas]:56.45)

⁹ Note that DPs affected by HNPS are not always “heavy” in terms of length and/or complexity, as (29) and (31a) illustrate. The term is used atheoretically here to indicate a structure in which a DP has been postposed. Taylor and Pintzuk (2011, 2012) have shown that, statistically at least, this position favours new information, and by assumption is a focus position.

- b and ofslagen wearð [_{AdvP} sona]
 and slain was straightaway
 ‘and [he] was slain straightaway’
 (coaelive,+ALS_[Ash_Wed]:247.2844)
- c & him forgyfen byð, [_{CP} þæt he simle Godes ege
 and him given is that he always God’s awe
 hafeð beforen his eagen]
 has before his eyes
 ‘and it is given to him that he always has the awe of God before his eyes’
 (coalcuin,Alc_[Warn_35]:474.366)
- (29) þæt ðis iudeisce folc micclum blissian wile [_{DP} mines deaðes]
 that this Jewish people greatly rejoice-at will my death
 ‘that this Jewish people will greatly rejoice at my death’
 (cocathom1,+ACHom_I_5:222.152.1019)
- (30) a Hwæt þa halgan þa heora cneowa bigdon [_{PP} binnon
 Lo the saints then their knees bowed within
 þam cwearterne]
 the prison
 ‘Lo then the saints bowed their knees within the prison’
 (coaelive,+ALS_[Forty_Soldiers]:39.2490)
- b þe hig ær þyson mid gedrehte wæran [_{AdvP} ealles to swyðe]
 which they before this with vexed were all too greatly
 ‘which they before this were vexed with all too greatly’
 (colaw2cn,LawIICn:69.243)
- c & eall folc Gode lof sealde [_{CP} þa hig þæt gesawon]
 and all people God praise gave when they that saw
 ‘and all people gave praise to God when they saw that’
 (cowsgosp,Lk_[WSCp]:18.43.5176)
- (31) a Iulianus þa sona þæs þancode [_{DP} Gode]
 Julian then straightaway for-this thanked God
 ‘Julian then straightaway thanked God for this’
 (coaelive,+ALS_[Julian_and_Basilissa]:237.1082)
- b and ðurh ðone se halga Fæder his halgum todælð
 and through which the holy Father his saints distributes
 [_{DP} menigfealde gyfa and micle mihta]
 manifold gifts and great powers
 ‘and through which the holy Father distributes to his saints manifold
 gifts and great powers’
 (coaelhom,+AHom_4:150.605)

See Pintzuk and Kroch (1989) for a demonstration of the difference between extraposition and HNPS in *Beowulf* using the line-breaks as a rough indication of a prosodic break.

8.2.5(ii) *Verb(-projection) Raising (V(P)R)* Verb raising (VR) and verb-projection raising (VPR) are processes which move the non-finite verb or the non-finite verb plus some other VP material, respectively, to the right of the finite verb in embedded clauses in V/T-final languages. These are well-known processes in the West Germanic languages, although details vary (Wurmbrand 2006 and references therein). Example (32) illustrates the process in Swiss German (examples from Haerberli and Pintzuk 2012: 219). Numbers are used to indicate the scopal relations of the verbs:

- (32) a *order 2-1: base order*
 dass de Hans da Buech chaufe wöt
 that the John this book buy-2 wants-1
 ‘that John wants to buy this book’
- b *order 1-2: verb raising*
 dass de Hans da Buech wöt chaufe
 that the John this book wants-1 buy-2
- c *order 1...2: verb-projection raising*
 dass de Hans wöt da Buech chaufe
 that the John wants-1 this book buy-2

Clear cases of VR (33) and VPR (34) in OE involve clauses with a finite auxiliary and non-finite main verb, in that order, in clauses which cannot be analyzed as T-initial (cf. 8.2.3 (i) *T-initial* vs. *T-final*, 8.2.3 (iv) *More on T-final clauses*).

- (33) ne nan cristen man þæt næfre ne sceal gelyfan
 nor no Christian man that never NEG shall-1 believe-2
 ‘nor shall any Christian man ever believe that’
 (cocathom1,+ACHom_I_20:340.145.3982)
- (34) ðæt se reccere ða ðeawas & ða unðeawas cunne wel toscadan
 that the ruler the virtues and the vices can-1 well distinguish-2
 ‘that the ruler is well able to distinguish the virtues and the vices’
 (cocura,CP:20.149.16.1019)

The rate of application of V(P)R in OE differs by text, time period, and type of auxiliary verb, but does not appear to change over time. The overall rate is in

the range of 30 to 36 per cent depending on what assumptions are made about underlying structure (cf. Haeberli and Pintzuk 2012).

8.2.6 *Leftward movement processes*

As well as rightward movement processes (cf. 8.2.5 *Rightward movement processes*), OE has a number of leftward movement processes. Topicalization, i.e., movement to a high left-peripheral position (spec,CP or similar), has been discussed extensively in conjunction with V2 constructions (cf. 8.2.3 (ii) *Verb second*), and will not be addressed again here. Leftward movements that target positions lower in the structure include scrambling, as found in other V/T-final Germanic languages, and object shift (OS), a process first described for the Scandinavian languages, but also present in English, according to Wallenberg (2008, 2009) (cf. 8.2.6 (i) *Scrambling and object shift*). Left dislocation (cf. 8.2.6 (ii) *Left dislocation*) is also covered here, although not all types necessarily involve movement.

8.2.6 (i) *Scrambling and object shift* All Germanic languages allow the movement of constituents leftward out of the VP across VP-adjoined adverbs and negation to positions within the T-domain. In V/T-initial languages this process is referred to as Object Shift (OS), while in V/T-final languages it is referred to as Scrambling. (35a) illustrates OS in Icelandic and (35b) Scrambling in German (examples from Thráinsson 2003: 148 (1)).

- (35) a Nemandinn las bókina_i [_{VP} ekki [_{VP} t_i]]
 student-the read book-the not
 ‘the student didn’t read the book’
 b Der Student hat das Buch_i [_{VP} nicht [_{VP} t_i gelesen]]
 the student has the book not read
 ‘the student hasn’t read the book’

Given that OE exhibits both V/T-initial and V/T-final structures, it is not surprising that it allows both OS and Scrambling. According to Haeberli (1999: 357), most objects in apparently scrambled position are definite in OE, as in (36a); however, apparent indefinites also occur as illustrated in (36b). See Haeberli (1999), Morgan (2004), and Wallenberg (2009) for some discussion of the issues.

- (36) a Drihten [_{D_{Pi}} deofles costunga] [_{VP} geþyldelice [_{VP} t_i abær]]
 Lord devil’s temptations patiently bore
 ‘the Lord patiently bore the devil’s temptations’
 (coblick,HomS_10_[BIHom_3]:33.129.449)

- b Gif ic [_{DPi} eorðlice þing] [_{VP} openlice [_{VP} t_i eow secge]]
 if I earthly things openly to-you say
 ‘if I openly say earthly things to you’
 (coaelhom,+AHom_13:32.1903)

Object shift (OS), best known as a property of the Scandinavian languages, also occurs in English (even Modern English) according to Wallenberg (2008, 2009). Wallenberg (2009: 92) gives examples of (optional) pronominal OS in two contexts for Early Middle English: (1) across negation/VP-adverb in contexts of V-to-T movement, and (2) across a DP subject in contexts of V-to-C movement (long object shift). Equivalent examples are easy to find in OE, as illustrated in (37), where the pronoun is to the left of negation or an adverb, and (38), where it is to the left of the subject in a V-to-C context. Equivalent unshifted examples are given in (39).

- (37) a ac he ne geforðede **hit na**
 but he_{NEG} accomplished it not
 ‘but he did not accomplish it’
 (cowulf,WHom_18:16.1430)
- b and eac þæt he arærde **hi eft** of deaðe
 and also that he raised them again from death
 ‘and also that he raised them again from death’
 (coaelhom,+AHom_6:124.943)
- (38) Ða gebæd **hine** Thomas bealdlice to his Drihtne
 then prayed him_{REFL} Thomas boldly to his Lord
 ‘then Thomas prayed (himself) boldly to his Lord’
 (coaelive,+ALS_[Thomas]:403.7795)
- (39) a Ne sohte ic **na hine**
 NEG sought I not him
 ‘I did not seek him’
 (coaelive,+ALS_[Basil]:445.768)
- b Ic secge sodlice **eow** þæt ...
 I say truly you that
 ‘I truly say to you that ...’
 (cowsgosp,Mt_[WSCp]:12.6.714)

Neither scrambling nor OS moves a constituent across a c-commanding verb, in scrambling because the object starts out to the left of the verb, and in OS because the verb moves even further left than the landing site of the object.

There are two contexts in OE (and ME), however, in which an object does appear to the left of the finite verb. The first is with negative and quantified objects, which appear to be able to move leftward across the verb in this structure (Pintzuk and Taylor 2006), as shown in (40), where the post-verbal particle *ofer* confirms this as a V/T-initial clause, and thus the pre-verbal position of the object must be derived.

- (40) þæt þu ne mihtst nænne weg, findan ofer t_i
 that you NEG might no way find over
 ‘that you could not find any way across’
 (coboeth,Bo:34.85.22.1633)

The second type, illustrated in (41), has a pronoun before the finite verb. According to Wallenberg (2009: 272), these cases involve “clitic” (weak) pronouns, which attach to T, and thus are able to escape the restriction on crossing a c-commanding verb.

- (41) & deofol us wile ofslean gif he mot
 and devil us will kill if he can
 ‘and the devil will kill us if he can’
 (cocathom1,+ACHom_I_19:331.180.3764)

8.2.6 (ii) *Left dislocation* Left dislocation is similar to topicalization in that one constituent from the clause appears in first position. In left dislocations, the left dislocated phrase (the LD) is linked to the rest of the clause by a resumptive element (RE), generally a (clitic) pronoun or demonstrative, while in topicalization, the constituent is not resumed. The difference is illustrated in the PDE examples in (42).

- (42) a *left dislocation*
 My father_i, he_i’s Armenian, and my mother_k, she_k’s Greek. (= Ross 1967: 6.129)
 b *topicalization*
 My father_i I take after t_i, my mother_k I don’t take after t_k

Left dislocation is an understudied area in Old English (although see Allen 1980a and Traugott 2007 for some discussion), but the general situation appears to be similar to that described for German (Grohmann 1997, 2000, Frey 2004, Nolda 2004, Boeckx and Grohmann 2005), which distinguishes two types of LD: (1) Contrastive (or Weak Pronoun) Left Dislocation (CLD), and (2) Hanging Topic Left Dislocation (HTLD).

CLD is characterized by the following properties: (a) the RE is obligatorily a demonstrative pronoun; (b) there is obligatory case matching between the LD and RE; (c) the RE occurs in a high position in the clause; (d) only one LD per clause is allowed; and (e) the LD is not prosodically separated from the rest of the clause. In HTLD, on the other hand, (a) the RE is most frequently a personal pronoun, but can be a demonstrative (or other constituent); (b) case matching is not obligatory, and when it does not apply, the LD is nominative; (c) the RE can appear anywhere in the clause, not only in a high position; (d) there can be more than one LD per clause, each of which is then resumed in the matrix; and (e) the LD forms a prosodic unit distinct from the clause. Examples of CLD and HTLD in German from Grohmann (2000) are given in (43a) and (43b), respectively.

- (43) a Diesen Satz, den mag ich besonders
 this.ACC sentence, RP.ACC like I especially
 ‘this sentence, it I like especially’
 b Dieser Satz, ich mag ihn besonders
 this.NOM sentence, I like it.ACC especially
 ‘this sentence, I like it especially’

Syntactically, CLD is similar to topicalization in that it exhibits properties found in movement constructions; HTLD, on the other hand, does not, and is therefore often assumed to involve base-generation in topic position without movement (Grohman 1997, 2000, Alexiadou 2006).

Examples of OE CLD are given in (44), with a nominative (44a), accusative (44b), and dative (44c) LD.

- (44) a and se arwurðfulla Godes ðegn se fægnode
 and the honourable God’s servant.NOM he.NOM rejoiced-at
 his tocyms
 his coming
 ‘and the honourable God’s servant, he rejoiced at his coming’
 (coelive,+ALS_[Book_of_Kings]:75.3705)
 b ac þone deað þe he scencte þam frumsceapenum
 but the death.ACC which he proffered the first-created
 mannum, þone he dranc ærest him sylfum to bealowe
 men that.ACC he drank first him self to harm
 ‘but the death which he proffered to the first-created men, that
 [death] he himself drank first to his harm’
 (coelive,+ALS_[Vincent]:86.7845)

c and þam mannum þe ge sylłað synna forðifennysse,
 and the men.DAT that you give of-sins forgiveness
þam beoð sona forðifene heora synna gewiss
 those.DAT are straightaway forgiven their sins certainly
 ‘and to the men that you give forgiveness of sins, to them are their
 sins certainly forgiven straightaway’
 (coaelhom,+AHom_7:53.1089)

In HTLD, either the case of the LD matches that of the RE, or it is nominative. An example of the former are given in (45), and the latter in (46).

(45) Sathana urne cyning, hine gewræc Drihten of paradises myrhþe
 Satan our king.ACC him.ACC drove Lord from paradise joy
 ‘Satan our king, the Lord drove him from the joy of paradise’
 (comargaC,LS_14_[MargaretCCCC_303]:16.7.261)

(46) Se sylfa geatweard, gif he fultumes behofige, sy him
 the same doorkeeper.NOM if he help needs be him.DAT
 gingra broðor betæht
 younger brother assigned
 ‘the same doorkeeper, if he needs help, let a younger brother be assigned
 to him’
 (cobenrul,BenR:66.127.1.1221)

Although LD is primarily a root clause phenomenon, it also occurs moderately frequently in embedded clauses. When the RE is an embedded clause, the LD may appear in the left periphery of the matrix clause, as in (47), or at the left edge of the embedded clause. Many of the embedded LD cases are in sentential complements that are plausibly CP-recursion contexts under bridge verbs, where embedded topicalization is also licensed (cf. 8.2.3 (ii.d) *V2 in embedded clauses*); clear cases in adverbial clauses are also attested however, as in the examples of (48)–(49). When the LD appears at the left edge of the embedded, rather than the matrix clause, it may occur actually within the embedded TP (after the complementizer), as in (48), before the complementizer (49), or between the complementizers in a double-complementizer construction (50).

(47) ac swa ðeah se _____ ðe hungre acwelð we gelyfað
 but nevertheless the-one.NOM who hunger dies we believe
 [CP þæt [TP he gegæð Gode]]
 that he.NOM goes God
 ‘but nevertheless he who dies from hunger we believe that he goes to God’
 (cocathom2,+ACHom_II,_36.1:269.47.6069)

- (48) þæt God is æghwær eall; [CP forðan ðe [TP ealle þing þe
 that God is everywhere everything because all things which
 æfre wæron oððe nu synd oþþe ða þe towarde synd,
 ever were or now are or those which to-come are
 ealle hi synd on Godes gesihðe anwearde...]]
 all they are in God's sight present
 'that God is everywhere everything because all things which ever were
 or now are or will be, all those are present in God's sight' (coalive,
 +ALS_[Christmas]:138.113)
- (49) heora sina sona forscruncon, [CP swa hwa swa hi hrepode,
 their sinews immediately shrunk so who so her touched
 [CP þæt [TP hi hrymdon for ece]]]
 that they cried for pain
 'their sinews immediately shrunk so that whoever touched her, they
 cried out for pain'
 (coalive,+ALS_[Chrysanthus]:315.7522)
- (50) We rædað on bocum,... [CP þæt þa menn þe heora synna
 we read in books that the men who their sins
 behreowsodon, [CP þæt [TP hi mid axum hi sylfe
 repent that they with ashes them selves
 bestreowodon,]]]
 bestrewed
 'we read in books that the men who repented their sins that they
 bestrewed themselves with ashes'
 (coalive,+ALS[Ash_Wed]:33.2718)

8.2.7 Conjoined clauses

Conjoined clauses, those joined by *and* or *ac* "but", have often been claimed to exhibit T-final word order at a higher rate than non-conjoined clauses, and thus to some sense be subordinate (Mitchell 1985: §1695, van Kemenade 1987: 177, Traugott 1992: 272, Bech 2001: 86). Pintzuk (1999: 224) shows, however, that this is only the case when the first conjunct of the pair is T-final. Thus in a case like (51), where the first conjunct is T-initial, she finds the rate of T-final in the second conjunct to be the same as in non-conjoined clauses or first conjuncts (i.e. approx. 12%), while when the first conjunct is T-final, as in (52), the rate of T-final structure in the second conjunct is about 40%.

- (51) Her for se here to Lundenbyrig from Readingum,
here went the army to London from Reading
& þær wintersetl nam
and there winter-quarters took
'in this year the army went to London from Reading and there took
winter quarters'
(cochronA-1,ChronA_[Plummer]:872.1.831-2)
- (52) Gaius Iulius se Casere ærest Romana Bretenlond gesohte.
Gaius Julius the Emperor first of-Romans Britain visited
& Brettas mid gefeohte cnysede
& Britons with battle overcame
'Gaius Julius, the Emperor, first of the Romans visited Britain and
overcame the Britons in battle'
(cochronA-1,ChronA_[Plummer]:0.45.53-4)

Pintzuk (1999: 225) accounts for this difference by appealing to parallelism, the pressure toward using similar structures across conjoined constituents. Haeberli (2001: 224) and Fuss and Trips (2002: 209), on the other hand, for somewhat different reasons, attribute the discrepancy to the structures potentially available in a second conjunct, which in their accounts are likely to be limited to phrases lower than CP.

8.3 The verb phrase (VP)

8.3.1 *The VP in Germanic/PIE*

The traditional assumption (Kiparsky 1996) is that Germanic inherited the head-final VP of its PIE parent. Gothic and OHG show no evidence of underlying VX order (Eythórsson 1996, Axel 2007), the earliest Yiddish shows very low rates (0.08% according to Santorini 1993: n. 10), and in Runic, the surface order of verbs and complements suggests head-final VPs, but the evidence is too sparse to provide any unambiguous evidence (Eythórsson 2001). In Old English unambiguous evidence for head-final VPs exists alongside evidence for head-initial ones (cf. 8.2.3 (i) *T-initial* vs. *T-final*), and is more frequent in early texts. Only among the Scandinavian languages, which are first adequately attested quite late, is it difficult to find evidence beyond surface XV order for underlying XV structure. However, in these languages the frequency of surface XV order is still quite high in the earlier texts and then rapidly tails off (starting around 1450 in Old Norwegian (Sundquist 2006), and around the 17th century in Old Icelandic (Hróarsdóttir 2009)).

Moreover, as is well known (Pintzuk 1999, 2005, Biberauer, Holmberg, and Roberts 2010, and related work), a head-final TP only combines with a head-final VP (although the opposite is not the case: a head-initial TP can combine with a head-final VP (cf. 8.3.2 *The headedness of VP in OE*), and thus the change from head-final to head-initial VP is dependent upon and must postdate the start of the change from head-final to head-initial TP (Taylor and Pintzuk 2011, 2012). Thus if head-initial TPs are not present in proto-Germanic, as seems likely, neither are head-initial VPs. Among the daughter languages, some did not undergo the change from head-initial to head-final TP (German, Dutch, Frisian), and thus did not change from head-final to head-initial VP either. Of those languages in which the headedness of TP did change, the Scandinavian languages have clear head-initial VPs alongside head-final ones from the earliest attested data, but this is quite late (c.1250). The earliest OE, as evidenced by *Beowulf*,¹⁰ has little or no evidence for it, and evidence is also sparse, though not non-existent, in the earliest texts (pre-950). In the earliest Yiddish documents (c.1400) the change from T-final to initial has just begun (approx. 2% T-initial in unambiguous contexts (Santorini 1993: 270 table 1)), and thus environments in which head-initial VPs are even possible are still extremely scarce. The most likely scenario, therefore, is that the change to head-initial VP is a language-specific innovation in the daughter languages.

8.3.2 *The headedness of VP in OE*

Due to the possibility of verb movement out of the VP to T or C in clauses where the main verb is finite (cf. 8.2.3 (ii) *Verb second*), the data in this section is limited to clauses with a finite auxiliary and a non-finite main verb. As the examples in (53) show, VPs with both head-initial and head-final surface order occur in OE; the former, however, are restricted to cases in which T is also head-initial.

- (53) a *Aux-O-V*
 þurh þa heo sceal hyre scippend understandan
 through which it (fem.) must its creator understand
 ‘through which it must understand its creator’
 (coalive,+ALS_[Christmas]:157.125)

¹⁰ Although the *Beowulf* manuscript itself is not particularly early (late 10th/early 11th century), the language itself is very conservative, based on what we know about the development of English over time from datable texts. Fulk (1992) dates the language to between 685 and 825.

b *Aux-V-O*

swa þæt heo bið forloren þam ecan life
 so that it (fem.) is lost the eternal life
 ‘so that it is lost to the eternal life’
 (coalive,+ALS_[Christmas]:144.117)

c *O-V-Aux*

gif heo þæt bysmor forberan wolde
 if she that disgrace tolerate would
 ‘if she would tolerate that disgrace’
 (coalive,+ALS_[Eugenia]:185.305)

d **V-O-Aux*¹¹

Instead of (53d) we get *V-Aux-O* order, as in (54). This type must be derived by rightward movement, as the object is not adjacent to the main verb (cf. 8.2.5 *Rightward movement processes*).

(54) þæt he friðian wolde þa leasan wudewan
 that he make-peace-with would the false widow
 ‘that he would make peace with the false widow’
 (coalive,+ALS_[Eugenia]:209.315)

Example (53c) provides evidence for a head-final VP, and (54) provides evidence for rightward movement of objects out of such a VP, as shown schematically in (55a) with the object adjoined to TP. The order *Aux-V-O*, illustrated in (53b), could thus also be derived from a head-final VP with rightward movement, as shown in (55b).

(55) a [TP [TP [VP t_i V] Aux]] O_i]
 b [TP [TP Aux [VP t_i V]] O_i]

As discussed in section 8.2.3 (i) *T-initial vs. T-final*, clauses such as (54) with *V-Aux* order and a post-verbal constituent are restricted, however, in that certain elements (pronouns, particles, stranded prepositions, and negative objects) do not appear in this position, and thus any such element following a non-finite verb indicates a head-initial VP. If (53b) were derived as in (55b), therefore, we would expect the post-verbal complements to be restricted in the same way as post-verbal complements in (54). This is not the case, however, as the examples in (56) show.

¹¹ Haerberli and Pintzuk (2012) find 11/7471 (0.15%) exceptions to V and Aux being adjacent in the YCOE (i.e. *V-X-Aux*) order.

- (56) a Gif hwa ne wunað on me he byð aworpen ut swa twig
 If anyone NEG dwell in me he will-be thrown out as twig
 ‘If anyone does not dwell in me, he will be thrown out like a twig’
 (cowsgosp, Jn_[WSCp]:15.6.7027)
- b þæt se cwellere ne sceolde swencan hi na leng
 that the executioner NEG should vex her no longer
 ‘that the executioner should vex her no longer’
 (coalive,+ALS_[Ash_Wed]:228.2832)
- c for ðam ðe þa Iudeiscan noldon næfre brucan nanes þinges
 because the Jews NEG-would never use no thing
 mid þam hæþenum
 with the heathen
 ‘because the Jews would never use anything with the heathen’
 (coaelhom,+AHom_5:123.762)
- d ne nan man ne ðearf him_i cweðan to t_i
 nor no man NEG dare him say to
 ‘nor any man dare say to him’
 (coprefgen,+AGenPref:105.72)

Thus, while many clauses with *Aux-V-XP* order could be analyzed with either a head-initial VP, or a head-final VP plus rightward movement of the complement, the examples in (56) can only be analyzed as having a head-initial VP. Such examples for the most part do not occur in *Beowulf* and are rare or lacking in many of the texts dated pre-950, as well as in sister languages (cf. 8.3.1 *The VP in Germanic/PIE*), indicating that underlying head-initial order in the VP is likely to be an OE innovation.

The alternative analysis, that arguments are generated post-verbally in a head-initial VP and then move to pre-verbal position, i.e., that *Aux-O-V* is generated by leftward movement from *Aux-V-O*, is ruled out by the fact that in unambiguous head-initial VPs, i.e., those with post-verbal diagnostics of the type in (56), only negative and quantified objects appear in the brace between *Aux* and *V*, as in (57), while in clauses without a diagnostic, any type of object can appear in this position, as in (53a) above (Pintzuk and Taylor 2006).¹²

- (57) a þæt þu ne mihtst nænne weg findan ofer
 that you NEG could no way find across
 ‘that you could not find a way across’
 (coboeth, Bo:34.85.22.1646)

¹² This statement is intended to apply to the headedness-parameter analysis. In an antisymmetry analysis, the facts still hold, but the restriction would need to be stated differently.

- b þysra feower wyrta man sceal **mæst** don to
these four herbs one must most add thereto
'to that one must add most of these four herbs'
(colacnu,Med_3_[Grattan-Singer]:63.23.360)

8.4 Periphrastic verb constructions

OE has sequences consisting of two (rarely three) verbs, which appear similar in form to the PDE *auxiliary+main verb* sequences: *MODAL+infinitive*, *BE+participle* and *HAVE+participle*, although, as discussed in the following sections, the syntax and semantics of such sequences are not necessarily the same as in PDE.

8.4.1 *The (pre-)modals*

In PDE, modal verbs form a distinct word class with properties that clearly distinguish them from full verbs, including: no non-finite forms, a lack of person inflection, a degree of semantic opacity between present and past forms, lack of an external argument, and a bare infinitive complement. Syntactically, as sentence operators, the PDE modals are generated outside the VP in some position in the T-domain. Modal + infinitive sequences in PDE are, therefore, mono-clausal.

Early studies of the history of the modal verbs in English (Allen 1975, Lightfoot 1979, Roberts 1985) concluded that in OE the ancestors of the PDE modals were not distinct, syntactically or semantically, from full verbs. Similarities include the following (Warner 1993: 98ff.). OE pre-modals show tense (past/non-past) and mood (indicative/subjunctive) contrasts in common with full verbs, as well as person distinctions. The pre-modals have meanings, and appear in constructions, which do not distinguish them from full verbs. Examples with a single DP complement are given in (58a), a ditransitive with two DP objects in (58b), and a clausal complement in (58c). The pre-modals have the same positional possibilities as other verbs (cf. 8.2.3 *Verb position in OE*).

- (58) a forðan ðe he symble wyle god and næfre nan yfel
because he always desires good and never no evil
'because he always desires good and never evil'
(coalive,+ALS_[Christmas]:49.36)
- b and þam eallum forgeafe þe him aht sceoldon
and those all forgave who him anything owed
'and [he] forgave all those who owed him anything'
(coalive,+ALS_[Sebastian]:310.1399)

c ac he wile swyðor þæt he gecyrre fram his synnum and libbe
 but he desires rather that he turn from his sins and live
 ‘but he desires rather that he turn from his sins and live’
 (coalive,+ALS[Ash_Wed]:152.2786)

Despite the properties the pre-modals share with full verbs in OE, put cautiously, at least some of them at least some of the time also show evidence of the core properties of modals. Warner (1993: 103) lists, among others,¹³ the following distinctive characteristics of the pre-modals in OE that they share with PDE modals and that distinguish them from (most) other OE verbs. Outside of the pre-modals, only a very limited set of verbs occur with a bare infinitive and all these verbs also take a *to*-infinitive, albeit sometimes with different semantics (cf. 8.8.1 (ii.b) *Monotransitive subject control verbs*). As with the PDE modals, the pre-modals do not select an external argument (subject); rather the arguments of a clause containing a pre-modal are selected by the main verb. This can be seen most clearly with impersonal constructions (cf. 8.5 *Impersonal constructions*). Compare, for instance, (59a) and (59b), where the former illustrates impersonal use with *tweonian* ‘feel/cause doubt’, and the latter, the same verb with the addition of the pre-modal *þurfan* ‘need’. In both cases the clausal arguments consist of an EXPERIENCER in the accusative and a THEME in the genitive.

- (59) a ðæt nanne mon þæs ne tweoð
 that no man.ACC that.GEN NEG doubts.3SG
 ‘that no man doubts that’
 (coboeth,Bo:16.38.2.686)
- b Forþon ne þearf þæs nanne man tweogean
 therefore NEG need.3SG that.GEN no man.ACC doubt
 ‘therefore no man need doubt that’
 (coblick,HomS_14_[BIHom_4]:41.58.547)

Warner (1993: 111ff.) notes the existence in OE of constructions reminiscent of PDE ellipsis and pseudo-gapping, as illustrated in (60). In these PDE examples the infinitival complement of a modal/auxiliary is missing, but may be recovered from the linguistic context.

- (60) a *post-verbal ellipsis*
 —Is Paul bringing Mary?
 —If he isn’t, tell him he should [bring Mary]

¹³ Not discussed here are: preterite-present morphology, restriction to finite forms, and use of past-tense forms without past tense reference.

b *pseudo-gapping*

- That carpet reminds me of the kind of thing you see in waiting rooms
- It doesn't [remind] me (Warner 1993:111, quoting Levin 1980: 76–7)

Similar constructions exist in OE. (61) illustrates post-verbal ellipsis and (62) pseudo-gapping.

- (61) a þæt hie þa burg werian wolden, gif þa wæpnedmen ne dorsten
 that they the city defend would if the men NEG dared
 'that they [the women] would defend the city if the men didn't dare
 [defend the city]'
 (coorosiu,Or_4:10.103.13.2135)

- b & deofol us wile ofslean gif he mot
 and devil us will kill if he can
 'and the devil will kill us if he can [kill us]'
 (cocathom1,+ACHom_I_19:331.180.3764)

- (62) a Hit is sweotol þæt hi magon don yfel, & ne magon nan good
 it is clear that they may do evil and NEG may no good
 'it is clear that they can do evil, and cannot [do] good'
 (coboeth,Bo:36.110.16.2169)

- b he sceall hyran feondan, gyf he nele freondan
 he shall be-subject-to enemies if he NEG-will friends
 'he will be subject to enemies if he will not [be subject to] friends'
 (cowulf,WHom_17:50.1398)

Thus a number of semantic, morphological, and formal properties can plausibly be attributed to the pre-modal group in OE, which cannot, on the whole, also be attributed to other members of the verb class.

Within a generative framework, the key issue arising from the above discussion is the merge position of the pre-modals. In PDE, modals are merged in T (or a lower position but crucially outside the VP), while lexical verbs are merged within the VP. This follows from the status of the modals as sentence operators which do not assign theta-roles.

An early analysis of the syntax of OE pre-modals (Roberts 1985), following opinion at the time that the pre-modals were full verbs in OE, generates the pre-modals under V, from where they raise to T, just like lexical verbs, thereby syntactically encoding the lack of a categorial difference. Van Kemenade (1992), attempting to take into account the insights of Warner, which show that modal uses of the pre-modals were already in place in OE, assumes that in addition to being generated in V and acting in all ways as full verbs (assigning

theta-roles to arguments, etc.) pre-modals could enter into modal-type structures, in which the modal is generated in T and does not assign theta-roles. (Romero (2005) gives an updated account of this same idea.) Thus a clause like (63a) in which a pre-modal takes a direct object has a lexical-verb structure, schematically as in (63b).

- (63) a forðan ðe he symble wyle god
 because he always desires good
 ‘because he always desires good’
 (coelive,+ALS_[Christmas]:49.36)
 b [TP he symble [T' wyle_i [VP [DP god] t_i]]]]

On the other hand, accepting that the pre-modal in an impersonal construction is a true modal, the structure of (59a) above would be something like (64), with the modal merged directly in T, rather than moved from V.

- (64) Forþon [TP e [T' ne þearf [VP þæs nanne man tweogean]]

When the pre-modal is followed by an infinitival complement, however, it is difficult to distinguish the lexical from the modal use. As in PDE, OE lexical verbs with infinitival complements have a bi-clausal structure with the PRO subject of the infinitival controlled by the matrix subject, as in (65).

- (65) & [TP₁ hi begunnon_i [VP [TP₂ PRO [VP ðis to wyrçenne]] t_i]]
 and they began this to make
 ‘and they began to make this’
 (cootest,Gen:11.6.432)

In clauses with a pre-modal plus infinitive, the structure can theoretically be either mono-clausal (modal use), as in (66a), parallel to (64b), or bi-clausal (lexical use), as in (66b), parallel to (65).

- (66) a and [TP hi [T' [VP heore diglan dæda eow bedyrnan] ne mihton]]
 and they their secret deeds you conceal NEG could
 ‘and they could not conceal their secret deeds from you’
 (coelive,+ALS_[Vincent]:137.7882)
 b and [TP₁ hi [T₁' [VP₁ [TP₂ PRO [VP₂ heore diglan dæda eow bedyrnan]] t_i] ne mihton_i]]

Despite the different hypothesized structures, however, the surface orders do not appear to differ, and there is thus little syntactic evidence for this difference outside the impersonal contexts and post-verbal ellipsis cases. Deducing the underlying structure is then dependent on the semantic reading of the pre-modal as truly modal or not. Further discussion of the syntax of the

pre-modals can be found in van Kemenade (1992), Biberauer and Roberts (2005), and Romero (2005).

8.4.2 *The progressive*

A form consisting of *beon/wesan* “be” (less often *weorþan* “become”) and the present participle occurs in OE, as illustrated in (67).

- (67) a gif we beoþ riht donde
 if we are right doing
 ‘if we are doing right’
 (coblick,HomS_14_[BIHom_4]:51.213.630)
- b Se eadiga martir þa wæs biddende his Drihten
 the blessed martyr then was beseeching his Lord
 ‘the blessed martyr was then beseeching his Lord’
 (cocathom1,+ACHom_I_29:423.145.5751)

Despite the surface similarity to the PDE construction, the semantics is not necessarily identical (Warner 1993: 95). Mitchell (1985: §692) summarizes the range of meanings as follows: The progressive construction “may refer to a specific moment or to a continuing process which serves as a frame for another action or is contrasted with a general truth, with an action presented as finished, or with a ‘point action’; it may express duration or habitual or recurring action.” Mitchell also warns that modern grammarians “cannot assume that any combination of *beon/wesan* + present participle is purely verbal merely because it can be so taken” (§685). The present participle can also be used as an adjective (cf. 8.7.3 *Adjectives*), as in (68a) where the degree adverb *swa* and following degree complement modify *byrnende*, or appositively as the head of a Participial Phrase, as in (68b) (cf. 8.8.2 (iii) *Adjunct participial clauses*). Verbal nouns in *-end*, *-ende* in the plural, as in (68c), may also potentially cause confusion (Denison 1993: 372), although there are no clear minimal pairs in the YCOE.¹⁴ (68c). All these uses, when combined with main verb *BE*, may create confusion with the progressive. Compare the examples in (69a–c) where a verbal reading of the participle is equally possible.

- (68) a Ac nu manna gitsung is swa byrnende swa þæt fyr on þære helle
 but now of-men desire is as burning as the fire in the hell
 ‘but the desire of men is now as burning as the fire in hell’
 (coboeth,Bo:15.34.7.617)

¹⁴ Although Bosworth Toller lists a verb *dælniman*, the only forms cited appear to be participial forms used substantively.

b and gelome doppelan adune to grunde ehtende þære fixa
 and often swam down to bottom pursuing the fish
 mid fræcra grædignysse
 with voracious greediness
 ‘and [he] often swam down to the bottom, pursuing the fish with
 voracious greediness’
 (coalive,+ALS_[Martin]:1313.6837)

c þonne magon ge eac swylce þæs halgan hlafes
 then may you also likewise of-the holy bread
 dælneomende beon
 partakers be
 ‘then you may also likewise be partakers of the holy bread’(cobede,
 Bede_2:5.112.12.1055)

(69) a Hi sind byrnende na on fyres wisan. ac mid micelre lufe
 they are burning not in fire’s manner but with great love
 þæs wealdendan cyninges
 of-the powerful king
 ‘they are burning, not like fire, but with great love of the powerful king’
 (cocathom1,+ACHom_I,_24:374.101.4729)

b & hie his sibban wæran swa swiðe ehtende
 and they him afterwards were so much persecuting/persecutors
 swa hit is ungeliefedlic to secganne
 as it is incredible to say
 ‘and they afterwards were [persecuting him/persecutors of him] so
 that it is incredible to say’
 (coorosiu,Or_2:4.43.23.826)

As evidence that the verbal progressive does exist in OE, even if not all potential examples can securely be so analyzed, Traugott (1992: 188 (55)) offers example (70), where the verbal complex *beo sittende* “should be sitting” is replaced by pro-form *dyde* “did” in the following *swa*-clause.

(70) þonne beo we sittende be þæm wege, swa se blinda dyde
 then be we sitting by the wayside, as the blind did
 ‘then we should be sitting by the wayside as the blind man did’
 (coblick,HomS_8_[BlHom_2]:23.147.296)

8.4.3 *The passive*

Old English also has a construction made up of a form of either *beon/wesan* “be” or *weorðan* “become” plus the past (passive) participle of a transitive

verb, as illustrated in (71), which looks much like the PDE passive, although whether it is the same construction, syntactically and semantically, is a matter of dispute.

- (71) a His lic weard þeah bebyrged fram þam
 his body was nevertheless buried by the
 geleaffullum cristenum,
 faithful christians
 ‘his body was nevertheless buried by the faithful Christians’
 (coaelhom,æHom_24:195.3884)
- b Beo þære eac ure Drihten fram sumen writere
 about that also our Lord by a-certain writer
geascod wæs, hwæt...
 asked was what...
 ‘about that also our Lord was asked by a certain writer what...’
 (coalcuin,Alc_[Warn_35]:34.27)

Traditionally, passives are divided into *statal* (stative) and *actional* (dynamic) passives, although the use of these terms is not always consistently applied leading to a certain confusion (Petré 2010a: 458ff. gives a succinct summary). Most recent work (e.g., Toyota 2008, Petré 2010a, 2010b) makes a threefold division into *eventive* (verbal passives) and two types of *statives*, *adjectival* and *resultative*. While *resultatives*, as expressing states, are often classed with the *adjectival* type in binary classifications of the passive, they also share some properties with *verbal passives* and thus warrant their own category (Embick 2004, Petre 2010a, 2010b). The *adjectival passive participle* is the equivalent of a simple adjective and expresses a property of the subject. The construction is *intransitive*, as no agent is evoked. The *verbal passive*, on the other hand, is *transitive*. It expresses an event involving an agent (possibly unexpressed) and a patient. In the *resultative passive* both *adjectival* and *verbal* properties are apparent as it “expresses the (adjectival) result of a previous (verbal) event” (Petré 2010a: 38). No personal agent is evoked, although a (non-personal) cause or intermediate agent may be.

Despite the theoretical differences between the types, it is in fact frequently very difficult to distinguish them on the ground (see, for instance, the discussion in Toyota 2008).¹⁵ The inclusion of an agent PP is rare with passives even in PDE, and in OE the preposition used in this function (exclusively *by* in PDE)

¹⁵ The unfortunate result of this is that it can be quite easy to fall into special pleading over individual examples when trying to formulate “rules” about the passive (cf. Mitchell 1985: §§786ff. for a devastating critique of this type of argumentation in Frary’s work).

is more variable (*fram*, *mid*, *þurh*, etc), although, according to Denison (1993: 415), *fram* is the most frequent preposition used to express direct, personal agency. Examples of the three types from Toyota (2008) are given in (72).

(72) a *adjectival*

forþon ic eom gesett betweenen þisum folce swa
because I am set between these people just
swa sceap betweenon wulfum
as sheep between wolves

‘because I am trapped between these people just like a sheep between wolves’

(comargaC,LS_14_[MargaretCCCC_303]:5.18.65)

b *resultative*

& he his feorh generede & þeah he wæs oft gewundad
and he his life saved and yet he was often wounded
‘and he saved his life although he was often wounded’

(cochronA-CC,ChronA_[Plummer]:755.38.540)

c *verbal*

þæt sib is forgifen Godes gelaðunge
that peace is given God’s congregation
‘that peace is given to God’s congregation’

(coaelive,+ALS[Lucy]:127.2247)

Only objects that would be assigned accusative case by the verb in the corresponding active sentence may appear as syntactic subjects in passive constructions in OE. There is thus no equivalent of the PDE prepositional passives (*Mary was spoken to by John*) or the indirect passive (*Mary was given a book by John*).¹⁶ Verbs which do not take accusative arguments either do not occur in the passive or occur only in impersonal passives (cf. 8.4.3 (i) *The impersonal passive*).

Claims that the choice of auxiliary is determined by the type of passive (*beon/wesan* with statal passives and *weorðan* with actional passives) are denied by Mitchell (1985: §§786–801, discussing the work of Frary (1929) and Kurtz (1931) among others), largely on the basis of apparently equivalent pairs, such as (73a, b), although, following Kilpiö (1989), he acknowledges the choice is more clearly determined in some texts than in others. Denison (1993: 418f.), while accepting that *beon/wesan* passives are not always stative, is not

¹⁶ Pace Lieber (1979) and Visser (1963). Lieber’s putative examples of indirect passives in OE (taken from Visser) have already been satisfactorily discredited by Mitchell (1979) and Russom (1982).

particularly convinced by Mitchell's examples of non-actional *weorðan*. Petré (2010a, 2010b) is a recent attempt to account for the choice of auxiliary.

- (73) a þa ða men wæron gehælede on þam dæge fram urum Hælende
 when men were healed on that day by/through our Saviour
 'when men were healed on that day by/through our Saviour'
 (coaelhom,+AHom_2:263.380)
- b and hi wurdon gehælede, þurh þone halgan wer
 and they were healed by/through the holy man
 'and they were healed by/through the holy man'
 (coaelive,+ALS_[Oswald]:200.5497)

The passive participle may show strong adjectival agreement with the subject, as illustrated in (73) above and (74), or it may not, as in (75). In many cases, however, as the expected inflection is zero in any case (masculine and neuter singulars always, feminine singulars and neuter plurals sometimes), it is not always possible to tell whether a participle is inflected. In Ælfric and Wulfstan, inflection is uniformly *zero* in the singular and *-e* in the plural for all genders (Mitchell 1985: §760), but in earlier texts, sporadic examples of *-a* (feminine plural) and *-u/o* (neuter plural or feminine singular) are found, as illustrated in (74).

- (74) a þonne wæron ealle þa dura betyneda
 then were all the doors.FEM.PL closed.FEM.PL
 'the all the doors were closed'
 (coorosiu,Or_3:5.59.9.1134)
- b þonne his gatu belocenu beon
 when his gates.NEUT.PL locked.NEUT.PL are
 'when his gates are locked'
 (cochdrul,ChrodR_1:10.12.228)
- c ðeah hio aliefedu sie
 although she.FEM.SG permitted.FEM.SG is
 'although she should be permitted'
 (cocura,CP:51.397.30.2706)
- (75) & hie wæron ealle gefylled þurh þa gife þæs Halgan Gastes
 and they were all filled through the gift of-the Holy Spirit
 'and they were all filled through the gift of the Holy Spirit'
 (coblick,HomS_47_[BlHom_12]:133.43.1623)

Mitchell (1985: §§763–4) does not accept any link between the presence or absence of inflection and the adjectival or verbal nature of the passive, but,

given the possibility of a threefold rather than twofold division discussed above and the difficulty of categorizing cases, more work is needed here.

8.4.3 (i) *The impersonal passive* Only verbs that take an accusative object appear in the personal passive in OE (cf. 8.4.3 *The passive*). The passive form of clauses with genitive or dative objects is impersonal (cf. 8.5 *Impersonal constructions*). The objects retain their case-marking, the clause lacks a nominative, and the verb is 3sg., as illustrated in (76).

- (76) a Forlæt þine anwylsynse, þæt ðinum life beo geborgen
 leave your obstinacy that your life.DAT be.3SG saved
 ‘give up your obstinacy that your life may be saved’
 (coelive,+ALS[Agatha]:112.2081)
- b þæt him ælces infæres forwyrned bið
 that him.DAT each entrance.GEN forbidden is.3SG
 ‘that each entrance is forbidden to him’
 (cobenrul,BenR:29.53.14.656)
- c Swa wyrð eac gestiered ðæm gitsere ðæs reafaces
 so is.3SG also cured the avaricious.DAT the robbery.GEN
 ‘so also is the avaricious cured of robbery’
 (cocura,CP:45.341.9.2292)

8.4.3 (ii) *Alternatives to the passive* The main alternative to the passive in OE is the use of the indefinite subject pronoun *man* “one” (Mitchell 1985: §747); cf. 8.7.7 (iii) *The indefinite pronoun “man”*. Consider the clause sequence in (77), for instance, where a personal passive is followed by a clause with *man*, which in PDE might most naturally also be passive.

- (77) Hu is he gesmyrod? Man smyrað cyning mid gehalgodum ele
 how is he anointed one anoints king with consecrated oil
 ‘How is he anointed? One anoints a king/A king is anointed with consecrated oil’
 (cocathom2,+ACHom_II,_1:7.162.135–6)

Los (2002: 192) points out that *man* is used to translate Latin passives into OE, as in the OE translation, given in (78a), of Latin (60b), even when a passive would be possible in OE.

- (78) a þa þe man læt to deaðe alys hi ut symble
 those who one leads to death free them out always
 ‘those who are being led to death, always set them free’
 (coelive,+ALS_[Edmund]:214.7089)

- b Eos qui ducuntur ad mortem eruere ne cesses
those who led.PASS.3PL to death free not hesitate
'do not hesitate to free those who are led to death'

Kilpiö (1989) discusses other ways in which the Latin passive is translated into non-passive OE structures, including plural *menn* and indefinite *we*, *þu*, among others.

8.4.3 (iii) *The passival* Although Visser (1963: §§1875–7) raises the possibility that the so-called passival, an active progressive with passive meaning, as in *The house is building* = *The house is being built*, is present in OE, early examples are doubtful and dismissed by Mitchell (1976).

8.4.4 *The perfect*

As in many European languages, OE has both a *HAVE* and a *BE* perfect, the latter being used particularly with intransitive verbs involving change of state or place.

8.4.4 (i) *The HAVE perfect* A construction with the form of the PDE perfect, i.e., consisting of a form of *HAVE* plus a past participle (*HAVE+PPLE*), as illustrated in (79), existed in OE, although there is some disagreement over whether it has the same syntax and semantics as the PDE perfect.

- (79) a ac heo hæfde gecoren Crist hyre to brydguman,
but she had chosen Christ her to bridegroom
'but she had chosen Christ as her bridegroom'
(coelive,+ALS_[Eugenia]:349.401)
- b Hi hæfdon eac aræred on hrædincge ane cyrcan,
they had also raised in hurry a church
'they had also raised a church in a hurry'
(coelive,+ALS_[Mark]:43.3224)

Traugott (1972: 91, 1992: 190) notes that OE does not consistently differentiate by means of the form of the verb between perfective and non-perfective aspect, as can be seen by the use of the simple past to translate Latin perfectives, as in (80), where the Latin has *peccavi* 'I have sinned'.

- (80) Eala fæder, ic syngode on heofonas & beforan þe
Alas father I sinned [=have sinned] against heaven and before you
'Alas father, I have sinned against heaven and before you'
(cowsgosp,Lk_[WSCp]:15.18.4910)

Denison (1993: 352) adds examples of the simple past conjoined with *HAVE* + *PPL*E, as in (81), as well as pairs like (82a, b), one with simple past and one with *HAVE* + *PPL*E in support of the lack of clear distinction.

- (81) Annania, deofol bepæhte ðine heortan & þu hæfst alogen
 Ananias, devil seduced your heart and you have lied
 þam halgan gast
 to-the Holy Ghost
 ‘Ananias, the devil seduced your heart and you have lied to the Holy Ghost’
 (cocathom1,+ACHom_I,_22:357.92.4395)
- (82) a þin geleafa hæfð þe gehæled
 your belief has you healed
 ‘your belief has healed you’
 (cocathom1,+ACHom_I,_10:258.19.1823)
- b þin geleafa þe gehælde
 your belief you healed
 ‘your belief healed you’
 (cocathom1,+ACHom_I,_10:262.115.1907)

Elsness (1997: 253) sums up the situation as follows: the present perfect was much less frequent in OE than in PDE, the simple past commonly being used where PDE would use a perfect; however, where the perfect is used, in the “vast majority” of cases, the perfect would be expected in PDE as well.

The received view (Denison 1993: 340, Elsness 1997: 239) is that the PDE perfect developed out of main verb *HAVE* in the meaning “possess” with a direct (accusative) object accompanied by an inflected adjectival (resultative) past participle acting as complement of, and agreeing with, the object. As a resultative, the participle expressed a state resulting from a prior action. This is Type A in (83). Type A was then reanalyzed as Type B, the PDE type, where the participle is verbal rather than adjectival, and the object is an argument of the participle rather than *HAVE*. In other words, *HAVE* becomes an auxiliary verb, transparent to the argument structure of the participle.

- (83) Type A: He [_{VP} has [_{DP} the prisoner.ACC [_{AP} bound.ACC in chains]]]
 Type B: He [_{T'} has [_{VP} bound [_{DP} the prisoner.ACC] in chains]]

An example which is, or can be interpreted as, Type A is given in (84). Note the accusative inflection on the participle, which agrees with the gender, case, and number of the object.

- (84) þam oðrum þe hiora dæl getynedne hæbben,
to-the others who their part.ACC enclosed.ACC have
'the others who have their part [in a state of having been] enclosed'
(colawine, LawIne:42.111)

Traugott (1972: 93) claims that in the earliest Old English all *HAVE+PPLE* constructions are possessive resultatives (i.e., Type A) and that this type (as indicated by inflection on the participle) continues through Old English, although it becomes less frequent. Brinton (1988: 100) and Wischer (2004) reject this view (as does Traugott in later work (Traugott 1992: 191)), based on a number of arguments, including the following.

- (a) Already in the Germanic languages *HAVE* has a range of meanings and isn't restricted to indicating possession; thus the increase in the range of meanings of *HAVE* from "hold" to "possess" to "a more general class of intangible relations" predates OE (Brinton 1988: 100–1).
 - (b) The possessive meaning of *HAVE+PPLE* is rare at best in OE,¹⁷ and most examples can be interpreted as perfects.
 - (c) From earliest times the construction was used with intransitive verbs, as in (85), and with non-accusative objects, as in (86).
- (85) Mid þy we ða gewicod hæfdon
when we then encamped had
'when we had encamped'
(coalex, Alex:13.3.105)
- (86) swa Datianus him gediht hæfde,
as Datianus them.DAT ordered had
'as Datianus had ordered them'
(coalive,+ALS_[George]:158.3166)
- (d) Inflection on the participle (cf. (84)) is rare already in OE.¹⁸
 - (e) Wischer (2004: 249) notes that while action verbs are most frequent in this construction, statives, which do not give rise to resultative readings, do occur, as illustrated in (87); examples from Wischer.

¹⁷ Claims of rarity of this sort need to be approached with some caution, however, given that none of the authors that discuss this issue lay out an objective way to distinguish these cases, nor provide any frequencies. The data used by Brinton comes from secondary sources, and although Wischer uses a corpus she does not give figures for this.

¹⁸ See previous note.

- (87) a & hira mægeðhad habbað gehealdenne
 and their virginity have kept
 ‘and [they] have kept their virginity’
 (cocura,CP:52.409.5.2814)
- b ðonne hi hi gesewene hæbben
 when they them seen have
 ‘when they have seen them’
 (cocura,CP:53.413.14.2850)

The evidence on balance, therefore, seems to support the view that a non-adjectival reading of *HAVE+PPLE* is already in place in the earliest OE texts, i.e., that OE has a periphrastic perfect with auxiliary *HAVE*, although the semantics are not necessarily identical to the PDE perfect (cf. Denison 1993: 352, who claims the present-day meaning isn’t in place until the 17th century, although Carey (1995, 1996) disagrees), and there is a great deal of disagreement over the analysis of individual examples.

8.4.4 (ii) *The BE perfect* A form of one of the *BE* verbs (*beon*, *wesan*, *weorðan*) is used to form the perfect of certain intransitive verbs (as in Modern French/German), particularly those involving change of state or place (so-called mutative verbs): *faran* “go”, *cuman* “come”, *weaxan* “grow”, etc., as in (88), although examples with *HAVE* also occur, as in (89), the first expressing a state and the latter an action/process (Denison 1993: 366).

- (88) a Ic eom soðlice of cynelicum cynne cumen
 I am truly of royal kin come
 ‘truly I am come from royal kin’
 (coapollo,ApT:4.8.41)
- b forðan þe his gebedda gefaren wæs of life
 because his consort gone was from life
 ‘because his consort had departed this life’
 (coalive,+ALS_[Maur]:131.1567)
- (89) Ða Scipia hæfde gefaren to ðære niwan byrig Cartaina,
 then Scipio had gone to the new city Carthage
 ‘then Scipio had gone to the new city of Carthage’
 (coorosiu,Or_4:10.104.29.2155)

In the *BE* perfect, as in the passive (cf. 8.4.3 *The passive*), the participle, when inflected, agrees with the subject. Generally (and consistently in Ælfric) this inflection is *zero* in the singular and *-e* in the plural, as in (90). Cases with other inflections (fem sg/neuter pl *-u*) are claimed to occur outside Ælfric

(Denison 1993: 360, Mitchell 1985: §34), however, the number of supplied examples is generally very small (and tends to be repeated over and over) so it is unclear how common this is. Elsness (1997: 261) claims more inflected participles with the *BE* perfect than the *HAVE* perfect.¹⁹

- (90) a forðanþe se foresæda Hilarius was afaren to wræcsiðe,
 because the foresaid Hilarius was gone.NOM.SG into exile
 ‘because the foresaid Hilarius had gone into exile’
 (coaelive,+ALS_[Martin]:188.6083)
- b Soðlice hi sind forðfarene
 truly they are passed-away.NOM.PL
 ‘truly they have passed away’
 (cocathom1,+ACHom_I_5:222.169.1033)

The verb *weorðan* ‘become’ is also occasionally used in this construction, as in (91a); compare the parallel construction with *wesan* in (91b)

- (91) a On þæm swicdome wearþ Numantia duguð gefeallen.
 in that treachery became Numantians’ nobility fallen
 ‘by that treachery the nobility of the Numantians had fallen/died’
 (coorosiu,Or_5:3.117.11.2458)
- b Be þæm hringum mon mehte witan hwæt Romana
 by the rings one might know what Roman
 duguðe gefeallen wæs
 nobility fallen was
 ‘by the rings it might be known which of the Roman nobility had
 fallen/died’
 (coorosiu,Or_4:9.101.17.2091)

The same difficulties with respect to determining the status of *BE* as main or auxiliary verb and the adjectival or verbal nature of the participle arise with the *BE* perfect as with the *HAVE* perfect and the passive, and are equally difficult to answer.

8.4.5 Sequencing of auxiliaries

As discussed in the previous sections, the OE auxiliary verbs ((pre-)modals, *HAVE* and *BE*) combine with lexical verbs to form various periphrastic constructions. The combination of more than one auxiliary plus lexical verb

¹⁹ Note this refers to actual perfects, not all *HAVE/BE+PPLE* constructions. The numbers for *HAVE* are 1/7 and for *BE*, as far as I can tell, 2/12, which is a very slight advantage indeed.

is also possible in OE, but is more restricted than in PDE, and much rarer than two verb clusters (430 three-verb vs. 18,681 two-verb clusters in the YCOE (Haerberli and Pintzuk 2012: 224); 3+ clusters do not occur). Most three-verb clusters (90%) are made up of a *modal + infinitival BE + passive participle*, as illustrated in (92a), while the remainder are *modal + infinitival BE + present participle* (92b) and *modal + infinitival HAVE + perfect participle* (92c).²⁰ According to Haerberli and Pintzuk, the ordering restrictions on three-verb clusters in OE are the same as those found in West Germanic (Wurmbrand 2006). Cf. 8.2.5 (ii) *Verb(-projection) Raising (V(P)R)*.

- (92) a þæt se cwyde mihte beon on Martine gefylled
that the saying might be in Martin fulfilled
'that the saying might be fulfilled in Martin'
(coalive,+ALS_[Martin]:1207.6769)
- b We sceolan beon þeonde symble on godnyse
we shall be increasing always in goodness
'we must always be increasing in goodness'
(coalive,+ALS[Ash_Wed]:268.2854)
- c þa he hit swa gedon habban wolde
when he it so do have would
'when he would have done it so'
(cowulf,WHom_6:143.334)

8.5 Impersonal constructions

According to Mitchell (1985: §1025): "an impersonal construction is one which has only the formal subject *hit*, ... or which has no expressed subject and for which no subject other than the formal *hit* can be supplied." This definition has the advantage of simplicity, but it is not clear that all the constructions it encompasses, which in OE includes *WEATHER* verbs (*it rained*), clauses with extraposed clausal subjects (*it is said that...*) and "true" impersonals, i.e., predicates with two arguments, neither of which is nominative, are related. Conversely many predicates that occur in impersonal constructions in Mitchell's sense, also appear in "personal" constructions with a non-*hit* nominative subject. Most recent discussions of impersonals (Allen 1995, Fischer and van der Leek 1983) include both.

²⁰ Pace Traugott (1992: 200) who claims "may have talked" and "may be talking" are not attested.

8.5.1 WEATHER verbs

Verbs of natural phenomenon, such as *rain*, *snow*, etc. often referred to as WEATHER verbs, are zero-place predicates; i.e., they do not take a referential argument. In PDE, where a formal subject is required for all verbs, an expletive must be supplied (*it rained*). In OE, although it is possible to omit the subject, this is only very rarely the case in practice (Anderson 1986: 168; Mitchell 1985: §1032 gives only two examples of this configuration); rather, the pattern is the same as in PDE with an expletive, as illustrated in (93).

- (93) & hit rine & sniwe & styrme ute
 and it rains and snows and storms outside
 ‘and it should rain and snow and storm outside’
 (cobede, Bede_2:10.134.23.1301)

8.5.2 Experiencer verbs

The core impersonal construction has two referential arguments, neither of which is nominative, as illustrated in (94). Semantically this construction involves verbs which refer to “events and activities outside the volitional control of an experiencer” (Méndez-Naya and López-Couso 1997: 186), often referred to as experiencer verbs, and they take an EXPERIENCER and a THEME argument (the latter also going by labels SOURCE, CAUSE, or STIMULUS). The verb is always 3rd sg. in this construction, and the EXPERIENCER argument is accusative (94a) or dative (94b), while the THEME is genitive²¹ (94a), a PP (94b), or a clause (94c).

- (94) a þæt hi þæs metes ne recð
 that them.ACC.PL the food.GEN NEG cares.SG
 ‘that they do not care about the food’
 (Fischer and van der Leek 1983: (5), Bo; Sedgefield, 1899: 171)
- b and swa ðeah him twynode be his æriste
 and nevertheless them.DAT doubt about his resurrection
 ‘and nevertheless they doubted his resurrection’
 (cocathom2,+ACHomII,16:162.47.3592)

²¹ The single attested example with the THEME apparently in the accusative is not accepted as genuine/native/productive by Allen (1995: 76).

c & me ofhreow þæt hi ne cuðon ne næfdon ða
 and me.DAT/ACC pitied that they NEG knew nor NEG-had the
godspellican lare on heora gewritum
 godspell teaching among their writings
 ‘and I felt pity that they did not know and did not have the gospel
 teaching among their writings’
 (coprefcath1,+ACHom_I_[Pref]:174.48.6)

The pattern illustrated in (94a–b) is called Type N (following Elmer 1981) or DAT-GEN by Allen (1995), and type (i) or “subjectless” by Fischer and van der Leek (1983) (hereafter F&vdL). It has the argument to case mapping: Experiencer: DAT/ACC and Theme: GEN/PP(/clause).

At least some of the predicates that occur in Type N constructions, also appear in constructions with a nominative argument: a nominative THEME, and dative/accusative EXPERIENCER (Type I (Elmer), DAT-NOM (Allen), type (ii) or cause-subject (FvdL), as in (95) or a nominative EXPERIENCER and GEN(/PP/clausal) THEME (Type II (Elmer, NOM-GEN (Allen), type (iii) or experiencer-subject (FvdL)), as in (96). For the most part, the experiencer verbs occur in only one or two of these constructions. According to Allen (1995: 85), the only verb attested in all three constructions (as well as with a clause; see below) is *ofhreowan* “to cause/feel pity.”

(95) þæt Gode swyðe oflicað heora ceorung and slæwð
 that God.DAT greatly displeases their murmuring.NOM and sloth.NOM
 ‘that their murmuring and sloth greatly displeases God’
 (coaelive,+ALS_[Swithun]:237.4374)

(96) he besargode swiðor his gedwyldes
 he.NOM saddened greatly his error.GEN
 ‘his error saddened him greatly/he became greatly saddened at his error’
 (coaelive,+ALS [Martin]:159.6066)

With some verbs, the THEME argument is/may be a clause rather than an DP/PP. Elmer subdivides these into three categories on the basis of the type of EXPERIENCER. Type S are true impersonals, with the EXPERIENCER in the dative or accusative, as in (94c) above; the *Hit* type has an expletive *hit* subject and an EXPERIENCER in the dative,²² as in (97); and the Personal type in which the EXPERIENCER is nominative, as in (98).

²² According to Allen, even verbs that take an accusative EXPERIENCER when the THEME is a DP, only take dative with *hit*. However the total number of examples of this type is extremely small (9) and thus it is not clear how secure this generalization is.

- (97) Ðeh hit þynce mannen, þæt arlease mænn habben
though it seems men.DAT that wicked men have
wele on þysen wurlde
prosperity in this world
'though it may seem to men that wicked men have prosperity in this
world'
(coeluc1,Eluc_1_[Warn_45]:115.88)
- (98) Ne tweoge ic naht þæt gode weras wæron on þysum lande
NEG doubt I not that good men were in this land
'I do not doubt that there were good men in this land'
(cogregdC,GDPref_1_[C]:7.12.50)

Type S, which lacks an overt subject (*hit* or personal), shares much in common with the 2NP types with a non-nominative experiencer (Type N and Type I), if we assume that the THEME argument in addition to being a genitive DP or a PP can also be instantiated by a clause. The Personal type also has parallels with Type II, in which the experiencer is nominative. The *Hit* type, on the other hand, has no exact parallel among the 2NP types, since in the 2NP types the nominative argument, when present, is never an expletive (Allen 1995: 118).

In the constructions in which the experiencer is nominative (Type II and the Personal and *hit* clausal types), no difficulties of syntactic analysis arise. The nominative argument has all the properties of a syntactic subject and there is no reason to suggest that it is anything else. For Type N, however, which lacks an argument in the nominative case, rather than concluding that this type lacks a subject (as do Cole et al. 1981), Allen argues that the experiencer in Type N is, on the basis of its behavioural properties, the syntactic subject, despite its case-marking, as has been argued for related constructions in Icelandic (e.g., Barðdal and Eythórsson 2005 and references therein). See Allen (1995) for details.

8.6 Prepositional phrases (PP)

Prepositional phrases (PPs) in OE have the same basic structure as in PDE, as illustrated in (99).

- (99) and wearð awend of wulfe to sceape
and was turned from wolf to sheep
'and [she] was turned from a wolf to a sheep'
(coelive,+ALS_[Eugenia]:98.245)

While pronominal objects of prepositions frequently appear in the same post-head position as DP complements, as in (100a), it is also fairly common to find them to the left of P, either immediately before it, as in (100b), or separated, as in (100c). Cf. section 8.6.1 *Preposition stranding* for more discussion of these cases.

- (100) a and seo burhwaru þa eode ut ardllice to him
and the citizen then went out quickly to him
'and the citizen then went out quickly to him'
(coaelhom,+AHom_5:69.727)
- b þa cwæð se biscop him to
then said the bishop him to
'then the bishop said to him'
(coaelive,+ALS_[Basil]:515.818)
- c & se hælend him com to on sumere nihte mid his apostolum
and the Saviour him came to on a-certain night with his apostles
'and the Saviour came to him one night with his apostles'
(coaelive,+ALS_[Basil]:109.520)

(100a) illustrates the base position of prepositional complements, while in (100c) the pronoun has clearly scrambled out of the PP. The pronoun position in (100b) is less clear. Van Kemenade (1987) claims it is a clitic position adjoined to P (cf. 8.6.1 *Preposition stranding*), while Harris (2006) attempts to show that it is simply a subcase of (100c), i.e., that the pronoun has scrambled out of the PP into the VP domain (by assumption, to the same positions as occupied by object pronouns), simply not as far. However, the evidence while suggestive, is not completely convincing (cf. Alcorn 2011 for more discussion).

Full DP complements are much less likely to appear to the left of P than pronoun complements. The number of potential cases in the YCOE is approximately 100 (Taylor 2008: 343 n. 1), but given the difficulty of distinguishing prepositions from particles and adverbs (cf. Alcorn 2011: 66ff.), this number is likely to be inflated, and indeed it is possible that all examples are susceptible to other analyses and that only pronominal complements, as clitics, move leftward from this position, as is frequently assumed.

8.6.1 *Preposition stranding*

Preposition stranding (P-stranding) is the name given to constructions in which the complement of a preposition has been extracted, leaving the P "stranded" without an adjacent object. This construction occurs more freely in PDE than in OE. Thus of the PDE constructions in (101), where *e* stands for an empty category, only (a-d) occur in OE.

- (101) a A man easy to rely on e
 b A man to rely on e
 c A man (that) you can rely on e
 d ?Him, they all relied on e
 e He was relied on e
 f Who did they rely on e?
 g The man who they relied on e
 h Peter, they all relied on e

P-stranding is contrasted with “pied-piping”, in which the whole PP is extracted, as in the PDE examples in (102). The equivalents of all but (102a) occur in OE.

- (102) a A man on whom to rely
 b A man on whom you can rely
 c On whom did they rely?
 d On him, they all relied
 e On Peter, they all relied

The first context in which P-stranding occurs is *wh*-movement constructions, i.e., questions and relative clauses (cf. 8.7.5 *Relative clauses*). The generalization here is that pied-piping occurs when the object of the preposition (*wh*-word or relative pronoun (RP)) is overt, while P-stranding occurs when the object of the preposition is an empty operator. Thus, in finite relative clauses, P-stranding occurs in *þe* (*þæt*) relatives, where the RP is non-overt, as in (103), while pied-piping occurs in *se* and *se þe* relatives where the RP is overt (104).

- (103) a [_{DP} þæt ribb [_{CP} Ø_i þe [_{TP} he þæt wif [_{PP} of t_i] geworhte]]
 the rib that he the woman from created
 ‘the rib which he created the woman from’
 (coadrian,Ad:3.1.9)
- b & he næfde [_{DP} nænige stowe, [_{CP} Ø_i þæt
 and he NEG-had no place that
 [_{TP} he mihte [_{PP} to t_i] gan]]]
 he might to go
 ‘and he had no place that he might go to’
 (cogregdC,GDPref_and_3_[C]:33.242.6.3406)

- (104) [DP *ðone eorðlican wisdom* [CP [PPi be þam]
 the earthly wisdom about which
 þe [TP þus t_i awriten is]]]
 that thus written is
 ‘the earthly wisdom about which [it] is written as follows’
 (coalive,+ALS_[Christmas]:227.183)

The one exception to this generalization is with R-pronouns (*þær, hwær, hier*). R-pronouns, unlike other objects of prepositions, typically appear in pre-head position in PPs (*þær on, þæron*, etc.) and can strand their preposition in relative clauses despite being overt, as in (105).

- (105) *oð þæt he to þære byrig com* [CP þær_i [TP se bisceop
 until he to the city came where the bishop
 [PP on t_i] wæs lærende þæt læweda folc]]
 in was teaching the lay folk
 ‘until he cam to the city wherein the bishop was teaching the lay folk’
 (coalive,+ALS_[Denis]:208.5895)

In *wh*-movement constructions like questions, where the *wh*-element is necessarily overt, pied-piping is obligatory, as shown in (106).

- (106) a [CP [PPi For hwylcum þære weorca] wylle [TP ge me hænan t_i]]?
 for for which of-these works will you me stone
 ‘for which of these works will you stone me’
 (cowsgosp,In_[WSCp]:10.32.6663)
- b *Saga me* [CP [PPi on hwilcne dæg] [TP he gesingode t_i]]
 tell me on which day he sinned
 ‘Tell me on which day he sinned’
 (coadrian,Ad:2.1.4)

Conversely, in *wh*-movement constructions where it is not possible to have an overt element in spec,CP as traditionally analyzed (following Chomsky 1977), i.e., infinitival relatives (cf. 8.7.5 (iii) *Infinitival relatives*), as in (107) and infinitival complements of adjectives (cf. 8.7.3 (v) *Adjective plus infinitive*), as in (108), P-stranding is obligatory.

- (107) [DP *sume stowe* [CP Ø_i [TP PRO mynster [PP on t_i] to timbrienne]]]
 a place minster on to build
 ‘a place to build a minster on’
 (cobede,BedeHead:3.16.8.75)

- (108) Heo wæs [_{AP} swiðe egeslic [_{CP} Ø_i [_{TP} PRO_{arb} [_{PP} on t_i] to beseonne]]]
 she was very horrible on to look
 ‘she was very horrible to look on’
 (coaelhom,+AHom_22:536.3622)

Pied-piping/P-stranding also occur in NP-movement contexts (topicalization (cf. 8.2.3 (i) *T-initial* vs. *T-final*) and scrambling (cf. 8.2.6 (i) *Scrambling and object shift*)). In topicalization contexts P-stranding is limited to personal and R-pronouns (109), and alternates with pied-piping (110). Finally, both personal and R-pronouns can scramble leftward to a position within the T-domain, as in (111). For analyses of preposition stranding in OE see van Kemenade 1987, Goh (2004), Castillo (2005), and Alcorn (2011).

- (109) Him_i comon eac mys [_{PP} to t_i]
 them came also mice to
 ‘and mice also came to them’
 (coaelhom,+AHom_22:240.3412)
- (110) [_{PP} for ðe] arærde se ælmihtiga God us of eorðan
 for you raised the almighty God us from earth
 ‘for you, the almighty God raised us from earth’
 (cocathom2,+ACHom_II,_31-32:248.219.5529)
- (111) a Lucia him_i cwæð [_{PP} to t_i]
 Lucy him said to
 ‘Lucy said to him’
 (coaelive,+ALS[Lucy]:70.2208)
- b þæt ðær_i nan cinu [_{PP} on t_i] næs gesewen
 that there no chink in NEG-was seen
 ‘that no chink was seen therein’
 (cocathom2,+ACHom_II,_11:92.16.1877)
- c þæt an sweart hrem þær_i fleah sona [_{PP} to t_i]
 that a dark raven there flew soon to
 ‘that a dark raven soon flew thereto’
 (coaelive,+ALS_[Vincent]:240.7952)

8.7 Nominal phrases (DP/NP/AP)

8.7.1 Theoretical background

Since Abney (1987) it has been common, if not universal, to assume that nominal phrases are headed by a determiner (D), and thus are DP, rather NP, projections at the highest level, as in (112).

(112) [DP [D' D [NP...]]]

OE nominal syntax has received less attention in the generative literature than verbal syntax (although cf. the work of Allen, Crisma, van Gelderen, and Wood). This is partly because there has been less change in this domain and partly because nominal syntax is less well studied and understood in general. Many of the diagnostics available in the verbal domain to distinguish syntactic positions (adverbs, particles, pronouns, etc.) are absent from the nominal domain, making it much more difficult to provide empirical support for particular structures. Many structural assumptions in this domain, therefore, must be justified theoretically rather than empirically as the data itself do not often distinguish between different models (at least at our present stage of knowledge).

8.7.2 Determiners

It is universally agreed that OE lacked dedicated articles, both definite and indefinite, although the lexical items which later become the articles (distal demonstrative *se* “that”, numeral *an* “one”, and quantifier *sum* “some”) are in some cases arguably used with the force of an article already in OE (Traugott 1992: 176, Allen 2008: 99, Mitchell 1985: §§328ff.). The proximate demonstrative *þes* “this” has the same usage and distribution as in PDE. Example (113) cited in Allen (2008: 99 (3–41)), illustrates the deictic and article-like use of definite *se*. Traugott (1992: 176 (19)) provides example (114a) as an example of the use of *an* without numerical force, and (114b) illustrates an unmarked indefinite singular.

(113) Men ða leofostan nu for feawum dagum we oferræddon þis godspel ætforan eow: þe belimpð to þyses dæges þenunge. for gerecednysse þære godspellican endebyrdnysse: ac we ne hrepodon þone traht na swiðor þonne to þæs dæges wurðmynte belamp. Nu wille we eft oferyrnan þa ylcan godspellican endebyrdnysse: & be ðissere andwearðan freolstide trahtnian.

“Most beloved people [men the dearest], a few days ago we read over this gospel before you, which belongs to the service of this day for interpretation of that/the evangelical narrative, but we did not touch on the exposition further than belonged to the dignity of that day. We will now again run over that/the same evangelical narrative, and expound it with regard to this present festival.”

(cocathom1,+ACHom_7:232.1.1189-91)

- (114) a *Ðær wearð Alexander þurhscoten mid anre flan*
 There was Alexander pierced with an arrow
 ‘There Alexander was pierced with an arrow’
 (coorosiu,Or_3:9.73.18.1443)
- b *ond heo wæs ðær beweddedo æðelum brydguman.*
 and she was there married noble bridegroom
 ‘and there she was married to a noble bridegroom’
 (comart3,Mart_5_[Kotzor]:Se23,B.2.1812)

Definiteness is inherent in proper names and pronouns, and in OE, outside of early poetry, is generally marked overtly by a demonstrative or possessive with common nouns.²³ Indefiniteness, on the other hand, unlike in PDE where *a/an* is required with count nouns, is most frequently unmarked, as in (114b), although the numeral *an* ‘one’ and quantifier *sum* ‘a certain, some’ are sometimes used with article-like force, in both specific (115a, c) and non-specific (115b, d) uses. Thus, typologically, OE is similar to Icelandic, a language that requires the marking of definite but not indefinite DPs (Sigurðsson 1993).

- (115) a *He hæfde ænne licðrowere belocen on anum clyfan*
 he had a leper locked in a cave
 ‘he had a [certain] leper locked in a cave’
 (coalive,+ALS_[Basil]:480.795)
- b *þæt he onsænde his þegnas to his tune, to þon þæt hi sceoldon*
 that he sent his servants to his town so-that they might
þær an mynster getrymman neah Terracinense þære byrig
 there a minster build near Terracina the city
 ‘that he sent his servants to his town, so that they might build a
 minster there near the city of Terracina’
 (cogregdC,GD_2_[C]:22.147.13.1758)
- c *He hæfde genumen lytle ær sumne clað. æt anum swyltendum men*
 he had taken little earlier a cloth at a dying man
 ‘a little earlier he had taken a cloth to a dying man’
 (cocathom2,+ACHom_II,_22:193.117.4283)
- d *Lareow we willaþ sum tacn of þe geseon.*
 teacher we wish a sign from you to-see
 ‘Teacher, we wish to see a sign from you’
 (cowsgosp,Mt_[WSCp]:12.38.776)

²³ In addition to scattered examples lacking a definite determiner when PDE would require one, the definite determiner is frequently omitted with body parts belonging to the subject (Traugott 1992: 172).

Demonstratives are commonly (although not universally) assumed to be phrases and to occupy the spec,DP position, while definite articles are heads in D. The development of a definite article in English under these assumptions results from the reanalysis of the phrase in spec,DP as a head in D (van Gelderen 2007). As OE does not have a clear separate form for the definite article, and the spec,DP and head D positions are adjacent in the surface string, distinguishing these positions empirically is not possible. However, the fact that at least some uses of the demonstrative *se* already appear to have little or no demonstrative force in OE raises the possibility (and there is some evidence to support the claim) that the change from demonstrative to article had already begun in OE and *se* could occupy either position, depending on its status as a demonstrative or article.

8.7.3 *Adjectives*

Adjectives in OE take two different sets of inflections depending on their syntactic position. Although there are some exceptions, and some exceptional adjectives, the general rule is that the so-called weak (or definite) declension is used after definite determiners, including pronominal possessives, as in (116), and the strong (indefinite) declension is used elsewhere, as in (117). <w> and <s> in the examples indicate weak and strong inflection.

- (116) a *se* æresta<w> *man*
 the first man
 (coadrian,Ad:28.3.67)
- b *ure* leofa<w> *Hælend*
 our dear Saviour
 (coaelhom,+AHom_1:330.174)
- (117) a *On þam* is sodð<s> *word gecwæden*
 in that is true word said
 '(a) true word is said in that'
 (coaelhom,+AHom_5:84.737)
- c *An* hæðen<s> *mann*
 a/one heathen man
 (coaelhom,+AHom_1:113.70)
- d *sum* witseoc<s> *man*
 a-certain possessed man
 (coaelhom,+AHom_4:1.515)

After possessive genitive DPs, both weak and strong adjectives occur, as illustrated in (118a) and (118b), although weak adjectives are by far the more frequent in this position.

- (118) a ðinre modor manfullan<w> forligr
your mother's wicked adultery
(coalive,+ALS_[Book_of_Kings]:331.3904)
b Godes halige<s> martyras
God's holy martyrs
(cosevensl,LS_34_[SevenSleepers]:732.578)

In a definite DP in which the determiner scopes over conjoined NPs containing adjectives, while the adjective immediately following the determiner is normally weak, the adjective in the second conjunct can be strong, as illustrated in (119a), or weak, as in (119b).

- (119) a heora luste & idelum<s> gewille
their lust and vain desire
(cowulf,WHom_9:56.716)
b minre lætnysse & dysegan<w> swongernesne
my sloth and foolish laziness
(cogregdC,GD_2_[C]:35.174.18.2125)

8.7.3 (i) *The position and interpretation of adjectives* Single adjectives most frequently appear pre-nominally in OE, as in (120), although post-nominal cases also occur, as in (121).

- (120) a se halga<w> gast
the Holy Spirit
(coalive,+ALS_[Christmas]:16.15)
b halgum<s> bocum
holy books
(coalive,+ALS_[Christmas]:233.187)
- (121) a Godes encgel haligne<s>
God's angel holy
(coalive,+ALS[Agnes]:131.1801)
b an reaf ungerdydelic<s>
a garment rough
(coalive,+ALS_[Martin]:925.6559)

The post-nominal type may also be introduced by a (repeated) determiner, as in (122), in which case the adjective is inflected weak. These are frequently superlatives, as in (122a).

- (122) a Eadwines cyninges þegn se fromesta<w>
 Edwin's king's thane the foremost
 'King Edwin's foremost thane'
 (cobede, Bede_2:16.150.2.1436)
- b ðam sare þam mycclan<w>
 the sorrow the great
 'the great sorrow'
 (cosevensl, LS_34_[SevenSleepers]:227.174)

Although there is little agreement in the syntactic literature about exactly how to treat adjectives (cf. for example, Alexiadou 2001, Kayne 1994, Larson and Marušič 2004, Larson and Takahashi 2007, Cinque 2010, for various proposals), there is general agreement that in languages in which there is variability in adjective position, this variation is not “free” but closely tied to interpretation. Major studies of OE adjectives (Spamer 1979, Fischer 2000, 2001, Haumann 2003, 2010, Pysz 2007, 2009) all take this approach, although their conclusions about what drives the variation differ.

Spamer (1979), in an early study, claims that the post-nominal adjective position is the result of the inability of strong adjectives to recurse (cf. 8.7.3 (ii) *Multiple adjectives*), which itself follows from their status as determiners. Spamer's analysis, however, has a number of problems, not least that it is based on an extremely partial view of the data, and thus is not descriptively adequate. See Fischer (2000) for a detailed evaluation of Spamer's analysis.

Fischer (2000, 2001) rejects Spamer's view of strong adjectives, but adopts his idea that weak adjectives are “adjuncts” (i.e. denominal), resulting in the adjective + noun forming a sort of compound of the *stone wall* type (Fischer 2000: 169). She provides evidence for this on the basis of the contrast between the availability of adverbial modification with strong adjectives and its absence with weak adjectives in OE (i.e., the equivalent of [*a*] *very old*<*s*> *man* but not **the very old*<*w*> *man* is attested), the idea being that as nominals, the weak adjectives do not take adverbial modification. However, adverbial modification, while certainly much more frequent with strong adjectives, is not completely lacking with weak adjectives, as (123) illustrates. Clearly there is not an absolute prohibition on this construction, but why it should be so much less frequent with weak than with strong adjectives remains to be explained.

- (123) a þære swiðe halgan<w> gemænsunnesse
 the very holy fellowship
 (cobede, Bede_4:24.338.23.3397)
- b þone to smylton<w> sæ
 the too calm sea
 (coboeth, Bo:9.21.4.345)

Fischer's own view on the distribution of adjectives is that there is a relationship between adjective position, type of adjective (attributive/predicative), (in) definiteness, and information status. Thus, weak adjectives are attributive, definite, encode given information, and precede the noun, while strong adjectives are predicative, indefinite, encode new information, and follow the noun. As Haumann (2010) points out, however, while the characteristics of strong/weak adjectives identified by Fischer are generally valid, all adjectives, both weak and strong, appear predominantly in pre-nominal position. Thus while the post-nominal position is indeed "special" in that it is generally restricted to strong adjectives, the pre-nominal position is neutral as to adjective inflection.

Haumann's (2010: 70) table 4 refines Fischer's system as follows:²⁴

<u>pre-nominal adjectives</u>	<u>post-nominal adjectives</u>
strong/weak inflection	strong inflection
attributive	predicative
given information	new information
individual-level reading ²⁵	stage-level reading
non-restrictive reading	restrictive reading

In Haumann's view, therefore, the primary force in the interpretation of adjectives is pre-/post-nominal position, rather than the inflectional class, as claimed by Fischer.

8.7.3 (ii) *Multiple adjectives* It has been noted in the literature (Spamer 1979, Fischer 2000, 2001) that, while recursive modification by multiple adjectives (*the big, brown bear*) is the norm in PDE, it is not allowed, or at least much less common in OE. In an early study, Spamer (1979) claims that only weak adjectives are recursive, while strong ones never are, while Fischer (2000: 169) claims that neither weak or strong adjectives allow recursion. She

²⁴ Haumann also includes the ability to be modified by degree modifiers in her table, taking over from Fischer the idea that degree modifiers do not modify weak adjectives. However, as we've seen this claim does not stand up to scrutiny.

²⁵ This attribute encodes the same tendency Fischer notes: pre-nominal (weak) adjectives encode inherent or intrinsic characteristics, while post-nominal (strong) adjectives encode temporary or incidental characteristics (Fischer 2000: 170).

attempts to explain away a number of counterexamples of the types in (124) and (125), noting that the adjective closest to the noun in such constructions frequently denotes a nationality or location ((a) examples) or a material ((b) examples), i.e., it is denominal, or it is arguably part of a frequently used idiomatic collocation ((c) examples). As Fischer herself notes, even under this analysis, however, a small number of recalcitrant examples (126) remain unexplained.²⁶

- (124) a god<s> wylisc<s> eala
good welsh ale
(colacnu,Med_3_[Grattan-Singer]:74.1.413)
- b monige scarpe<s> isene<s> næglas
many sharp iron nails
(coorosiu,Or_4:1.85.12.1718)
- c Geleaffulle<s> læwede<s> menn
faithful lay men
(cocathom2,+ACHom_II,_6:56.117.1133)
- (125) a þære halgan<w> Romaniscan<w> cirican
the holy Roman church
(cobede,Bede_1:16.66.15.615)
- b þæt clæne<w> hwætene<w> corn
the clean wheaten grain
(covinceB,[Vincent]:304.14)
- c þa goodan<w> læwedan<w> menn
the good lay men
(coaelhom,+AHom_26.1:15.3910)
- (126) a swetum<s> ferscum<s> wæterum
sweet fresh water
(colaece,Lch_II_[2]:16.1.4.2309)
- b þæt ofstandene<w> þicce<w> slipige<w> horh
the remaining thick slimy mucus
(colaece,Lch_II_[2]:16.1.14.2317)

Outside of the minority pre-nominal recursive pattern, there are three possible patterns for multiple adjectives: both adjectives occur conjoined, pre-nominally (127), weak (a) or strong (b); both adjectives occur post-nominally (128),

²⁶ Latin influence is also raised as a possible source (Fischer 2000: 173) but not pursued.

always conjoined and strong; or one adjective occurs in pre- and one in post-nominal position, either with a conjunction (129) or without one (130). In the latter two cases, the pre-nominal adjective is weak (129a) or strong (129b) according to environment, but the post-nominal adjective, as usual, is always strong.

(127) a þysan manfullan<w> and forcuðestan<w> unðeawe
this wicked and most-infamous vice
(cobenrul, BenR:33.57.10.705)

b mænifealdum<s> and genihtsumum<s> reafum
manifold and abundant spoils
(coapollo, ApT:6.16.92)

(128) ænne wyrhtan wurðfulne<s> and getreowne<s>
a labourer honourable and trustworthy
(coaelive,+ALS_[Thomas]:40.7564)

(129) a þa yrsiendan<w> mod & unliþe<s>
the raging minds and harsh
(cocathom1,+ACHom_I,_25:386.215.4960)

b halig<s> wær and snotor<s>
holy man and wise
(coaelive,+ALS_[Sebastian]:124.1287)

(130) a ænne sweartne<s> deofol ormætne<s>
a black devil huge
(coaelive,+ALS_[Martin]:1182.6755)

b his efenealdan<w> lytlingas unscæððige<s>
his co-eval children innocent
(cocathom1,+ACHom_I,_5:222.164.1028)

A conjoined post-nominal adjective may also be introduced by a repeated determiner, as in (131). Cf. (122) above for single post-nominal adjectives introduced by a determiner).

(131) a þa ealdan<w> burg & þa welegan<w>
the old city and the prosperous
(coorosiu, Or_3:9.69.14.1354)

b ða yfelan<w> sælþa & þa unnettān<w>
the evil fortunes and the unprofitable
(coboeth, Bo:6.14.18.217)

The “*and* adjective” construction, as in (130) above, is frequently treated as a special case of simple modification by more than one adjective (Spamer 1979, Fischer 2000, 2001, Mitchell 1985: §§166ff.). Under this analysis, the type with a repeated determiner, illustrated in (131) above, is treated syntactically as a different construction. Although the authors that take this view do not provide formal analyses, the idea is that the type with a determiner is a case of conjoined DPs with the second having an empty head, co-indexed or not with the head of the first conjunct. For the type without a repeated determiner, assuming an initial structure something like (132a) in which the adjectives are conjoined in pre-nominal position and the conjunction heads a phrase containing the second adjective, extraposition of the phrase headed by the conjunction, as in (132b), would produce the right order.

- (132) a [DP [AP halig [CONJP and [AP snotor]]] wær]
 b [DP [DP [AP halig t_i] wær] [CONJP_i and [AP snotor]]]

Haumann (2003), in contrast, classifies the “*and* adjective” construction with and without the repeated determiner together, and the post-nominal adjective without a conjunction as a separate type. Thus for Haumann, (129b) and (131) are indefinite and definite instances of the same construction, i.e., conjoined DPs with modification of an empty *pro*-head in the second conjunct, as sketched in (133). The post-nominal adjective without a conjunction, as in (130), on the other hand, is a (secondary) predicate adjective, generated in post-nominal position. See Haumann (2003) for further details.

- (133) a [DP [DP halig wær] [CONJP and [DP snotor *pro*]]]
 ‘[a] holy man and a wise [one]’
 b [DP [DP þa ealdan burg] [CONJP & [DP þa welegan *pro*]]]
 ‘the old city and the prosperous [one]’

This analysis has the advantage of unifying the two “*and* adjective” constructions, and more importantly, unlike Fischer (2000, 2001), which associates post-nominal position strictly with predicatehood, it acknowledges that in cases like (133a), both adjectives are attributive, and distinguishes these cases from the type without a conjunction where the post-nominal adjective is expected to be predicative.

8.7.3 (iii) *Transitive adjectives* Transitive adjectives in OE generally take a DP complement in the genitive (134) or dative (135), or less frequently a PP (136).²⁷ As the examples illustrate, the complement DP/PP can precede the

²⁷ For a full list of adjectives and their rections, as well as the semantic classes of adjectives generally associated with each case, cf. Mitchell (1985: §218).

adjective ((a) examples), follow it ((b) examples), or be separated from it by the head noun ((c) examples). In the latter case, the adjective appears before, and the complement after, the head noun. The other order *XP-N-A* is not attested (Hook 2005: 89).

- (134) a heora net full [fixa]
 their net full fishes.GEN
 ‘their net full of fish’
 (coaelhom,+AHom_15:147.2213)
- b an oðer fioh [þæs hlisan] wyrðe
 no other price the.GEN fame.GEN worthy
 ‘no other price worthy of the fame’
 (coboeth,Bo:39.133.27.2653)
- c þa wæðlan stowe [wætres]
 the.ACC lacking.ACC place.ACC water.GEN
 ‘the place lacking water’
 (coalex,Alex:33.9.424)
- (135) a heora Willa & Lufu, [him bam] gemæne
 their Desire and Love, them.DAT both.DAT common
 ‘their Desire and Love common to them both’
 (coaelhom,+AHom_12:201.1871)
- b ane cyrcan wurðlice [þam halgan]
 a church fit-for the.DAT saints.DAT
 ‘a church fit for the saints’
 (coalive,+ALS_[Edmund]:168.7063)
- c gelic hiw [golde & seolfre]
 like appearance gold.DAT and silver.DAT
 ‘[an] appearance like gold and silver’
 (coverhom,HomU_9_[ScraggVerc_4]:155.667)
- (136) a ðry cnihtas swiðe gelyfede [on þone soðan God]
 three boys greatly believing in the true God
 ‘three boys greatly believing in the true God’
 (cocathom2,+ACHom_II_1:9.230.198)
- b twa geswustru. swiþe [on God belyfede]
 two sisters greatly in God believing
 ‘two sisters greatly believing in God’
 (cocathom1,+ACHom_I_8:246.147.1512)

- c syndrigre stowe [from ðære cyrican]
 separate place from the church
 ‘[a] place separate from the church’
 (cobede, Bede_4:31.376.7.3755)

Although an AP containing a complement (or adjunct) DP or PP most frequently appears following its head noun, as in (136a, b), or flanking it with the adjective preceding and the complement following, as in (136c), there are a not insignificant number of cases, some of which are given in (137) in which such APs precede the head noun (pace Fischer 2000, 2001). In such cases, the complement of the adjective always precedes the adjective (Hook 2005: 75).²⁸

- (137) a [DP [AP [horse] gelic] heafod]
 horse like head
 ‘[a] head like [a] horse’
 (coalex, Alex:20.4.232)
- b [DP [AP [sacerde] gerisene] ealdorlicnesse]
 priest proper-to authority
 ‘authority proper to [a] priest’
 (cobede, Bede_3:14.206.12.2096)
- c [DP þa [AP [Gode] laðe] modignysse]
 the God hateful-to pride
 ‘the pride hateful to God’
 (cochrul, ChrodR_1:1.8.99)

8.7.3 (iv) *Extraction from APs* Extraction from attributive APs is quite restricted. In addition to the common type with the adjective in pre-nominal position and the complement extraposed to DP-final position (cf. the (c) examples of (134)–(136) above),²⁹ complements appear to scramble from APs in pre-nominal position (138), but not from those in post-nominal position i.e. the order ...XP...N-A, where XP is the complement of A, is not attested (Hook 2005: 84). Scrambling from AP is subject to the same kinds of constraints (light, definite elements) as scrambling from VP.

²⁸ There are two counterexamples in poetry, where the configuration can be attributed to metrical constraints; see Hook 2005: 75 for discussion.

²⁹ Hook (2005:72) finds only one parallel example with extraposition to TP-final position.

- (138) þæt he him þæs_i wolde [_{DP} [_{AP} t_i wyrðelice] þoncunce] don
 that he him that would befitting thanks do
 ‘that he would give thanks befitting that’
 (cobede, Bede_2:9.130.1.1236)

From predicate APs, DP complements of adjectives can move both leftward and rightward. Leftward movement includes *wh*-movement (139a), topicalization (139b), and scrambling (139c), while rightward movement is to the right edge of TP, as in (140).

- (139) a þæt we swa tocnawon hwæs we wyrðe syndon
 that we so know of-what we worthy are
 ‘so that we therefore know what we are worthy of’
 (coaelhom,+AHom_1:222.123)
- b þæs ic eom geðafa
 that I am agreeing
 ‘I am in agreement with that’
 (coboeth,Bo:36.106.23.2075)
- c ac ic heora eom swiðe gifre
 but I of-them am very desirous
 ‘but I am very desirous of them’
 (coboeth,Bo:22.50.23.921)
- (140) þæt he ungeleafful wæs Cristes æristes
 that he unbelieving was of-Christ’s resurrection
 ‘that he was unbelieving of Christ’s resurrection’
 (cocathom1,+ACHom_I_16:310.93.2996)

8.7.3 (v) *Adjective plus infinitive* Adjectives which take an infinitival complement can be divided into three classes: *eager*-type adjectives (141a), *pleasant*-type adjectives (141b), and *easy*-type adjectives (141c). In all cases the subject of the infinitive is implicit (PRO); in the *eager*-type, it is co-referent with the matrix subject, while in the other two the reference is arbitrary (PRO_{arb}). The *pleasant*- and *easy*-types look similar, but they are differentiated semantically, in that the former (141b) directly describes its subject and thus can be argued to assign a theta-role to it, while the latter (141c), the so-called “tough-movement” class, describe or characterize an action, and thus arguably do not.

- (141) a *eager*-type
 John_i is [_{AP} eager [PRO_i to win]]

b *pleasant*-type

The city_i is [_{AP} pleasant [PRO_{arb} to live in t_i]]

c *easy*-type

John_i is [_{AP} easy [PRO_{arb} to please t_i]]

All three types occur in OE, as illustrated in (142)–(143). The *eager*- (142a) and *pleasant*-types (142b) are identical to the PDE version and always have a nominative subject. The *easy*-type, on the other hand, occurs in three constructions: with a nominative subject (143a) (pace Traugott 1992: 249); with an expletive *hit* subject (143b); and with an empty expletive subject (143c).

(142) a þæt þu_i swiðe geornfull wære [PRO_i hit to gehyranne]

that you very eager were it to hear

‘that you were very eager to hear it’

(coboeth,Bo:22.51.6.930)

b þeah heo_i ær gladu wære [PRO_{arb} [_{PP} on t_i] to locienne]

although she earlier pleasant was on to look

‘although earlier it was pleasant to look on’

(coboeth,Bo:6.14.12.214)

(143) a Hwæt, þa stanas_i ... bið earfoðe [PRO_{arb} t_i to tedælenne]

lo the stones are difficult to scatter

‘Lo, the stones are difficult to scatter’

(coboeth,Bo:34.92.22.1771)

b Hit bið langsum to awritene þa wundra þe hi gefremodon

it is tedious to write the wonders which they accomplished

‘It is tedious to write the wonders which they accomplished’

(coalive,+ALS_[Chrysanthus]:219.7457)

c Langsum bið us to gereccenne ealra þæra arleasra

tedious is to-us to narrate all the wicked

ehtera geendunga

torturers ending

‘[it] is tedious for us to narrate the ending of all the wicked torturers’

(cocathom1,+ACHom_I,_35:479.107.6988)

Van der Wurff (1990) notes that the *easy*-type with nominative subject (143a), unlike in PDE, only occurs with a transitive infinitive which takes an accusative-case-marked object, and not with verbs which take a PP or dative/genitive object; i.e., the PDE type *this lake_i is difficult to swim in_i* doesn’t occur in OE. He interprets these facts to indicate that the *easy*-type adjectives are

unaccusative, i.e. that they do not license (assign a theta-role to) an external argument (subject). This is supported by the existence of the *hit* and *zero* subject types. He further claims that the infinitive in this construction in OE, while active in form, is passive in its argument structure, in the same way as the infinitive in examples like (144), and thus likewise does not assign a theta-role to its subject (cf. 8.8.1 (iii.b) *Active infinitive “in passive sense”*).

- (144) and þas feower ana syndon to underfonne on geleaffulre gelaðunge
 and these four alone are to receive in orthodox church
 ‘and these four alone are to be received in the orthodox church’
 (coactive,+ALS_[Mark]:219.3334)

On the basis of these two assumptions he argues that in an example like (143a), the internal argument of the infinitive (the direct object) moves by NP-movement (rather than *wh*-movement as commonly assumed for PDE), first to the non-theta-marked subject position of the infinitive, then to the non-theta-marked subject position of the adjective. This ensures that only transitive verbs which take accusative objects participate in this construction, and allows for the *hit* and *zero* subject alternatives.

The *pleasant*-type, on the other hand, allows any type of verb in the infinitival clause, and is analyzed by van der Wurff as *wh*-movement in the usual way. The difference is illustrated in the structures in (145) for examples (142b) and (143a).

- (145) a heo ær [_{AP} gladu t_k] wære [_{CP}_k Ø_i [_{TP} PRO_{arb} [_{VP} [_{PP} on t_i] to locienne]]]]
 b þa stanas_i . . . bioð [_{AP} t_i earfoðe [_{CP} [_{TP} t_i [_{VP} t_i to tedælenne]]]]]

8.7.4 Adnominal genitives

The prototypical use of the genitive case is to indicate the relation of “possession”, interpreted very loosely, between nominals. Adnominal genitives cover a range of semantic relations including possession in a narrow sense, as the *’s*-genitive does in PDE. Apart from the partitive genitive (cf. 8.7.4 (iv) *Partitive genitives*), and genitive complements of deverbal nouns, however, these relations are extremely difficult to disentangle, let alone classify (cf. Mitchell 1985: §§1264ff., Koike 2006), and only possessives and partitives will be covered here.

8.7.4 (i) *The high (Saxon) genitive* The high or Saxon genitive is the ancestor of the PDE *’s*-genitive. Common types, as in PDE, are the subjective genitive (*God’s love (for man)*) and the objective genitive (*the king’s murder*). Genitive DPs occur both before and after the possessum, as illustrated in (146). When

the genitive DP is post-nominal (146c), the possessum always has its own determiner, while, just as in PDE, when the genitive is pre-nominal, it frequently does not (146a), but may (146b).

- (146) a þæs ælmihtigan Godes sunu
 the almighty God's son
 'son of the almighty God'
 (coaelive,+ALS_[Christmas]:76.63)
- b þæs dæles se dæl
 the valley the part
 'the part of the valley'
 (coorosiu,Or_1:3.23.7.454)
- c þa tin word ðære æaldan æ
 the ten words of-the old law
 'the ten words of the old law'
 (coadrian,Ad:25.2.60)

When an adjective is also present it follows the genitive phrase, as in (147).

- (147) Godes halige<s> martyras
 God's holy martyrs
 (cosevensl,LS_34_[SevenSleepers]:732.578)

The more common configuration (by about 2:1) when an adjective is also present is for the adjective to precede and the genitive to follow the possessum, as in (148)

- (148) þæt deadbærende attor his getreowleasnyse
 the death-bearing poison of-his unbelief
 (cobede,Bede_1:8.42.18.357)

Genitives may also appear separated from the DP containing the noun they modify either to the left (149) or right (150), although rightward dislocation is about twice as common as leftward. Leftward movements include topicalization, as in (149), and scrambling, particularly of demonstratives and pronouns but also phrases, as in (151).

- (149) & þære synfullan sawle ne beoð þa tintrego gelytlode
 and of-the sinful soul NEG are the tortures diminished
 'and the tortures of the sinful soul are not diminished'
 (coverhom,HomU_7_[ScraggVerc_22]:38.2849)

(150) hwæper he þa stemne gehyrde þæs heofonlican dreames
whether he the voice heard of-the heavenly dream
'whether he heard the voice of the heavenly dream'
(coalive,+ALS_[Martin]:1385.6883)

(151) a Nis ðæs nu nan tweo
NEG-is of-that now no doubt
'there is no doubt of that'
(coboeth,Bo:16.37.26.683)

b ac hi habbað þæs mennisces þonne þone betstan dæl forloren
but they have of-the humanity then the best part lost
'but they have then lost the best part of humanity'
(coboeth,Bo:37.114.12.2266)

8.7.4 (ii) *The low genitive* The Saxon or high genitive is clearly a maximal projection and the determiner and any modifiers agree with the possessor noun. OE also has a second type of genitive, the so-called low or descriptive genitive (Allen 2008: 80, Crisma 2012: 202, and Rosenbach 2006, 2007 for PDE), as illustrated in (152).

(152) a þæt deofles tempel
the devil's temple
(coalive,+ALS_[Eugenia]:386.424)

b se hundredes ealdor
the hundred commander
'the centurion'
(coalive,+ALS_[Exalt_of_Cross]:181.5659)

While a modifying adjective follows the high genitive, with the low genitive it always precedes, as in (153).

(153) þurh þæt halige Godes word
through the holy God's word
'through the holy word of God'
(coaelhom,+AHom_1:79.54)

Allen (2008: 82) and Crisma (2012: 202) agree on treating the low genitive as a type of noun compound, based both on its fixed position immediately preceding the noun, on its adjectival interpretation, and on the fact that it is most commonly a bare noun (non-branching), although there are exceptions. Crisma notes (without comment) 40 counterexamples, two of which are given in (154). Although the branching type makes up only about 4% of the

total number of low genitives, even if some of the examples can be explained away, this is a rather high number of exceptions.

- (154) a þa six & þrittig. þæs geares teoðingdagas
 the six and thirty the year's tithe-days
 'the thirty-six tithe-days of the year'
 (cocathom1,+ACHom_I,_11:273.189.2150)
- b Bede se snotera Engla ðeoda lareow
 Bede the wise English people's teacher
 'Bede, the wise teacher of the English people'
 (cocathom2,+ACHom_II,_10:81.3.1616)

8.7.4 (iii) *Pronominal possessives* The first- and second-person possessive pronouns take the genitive form of the personal pronoun as their base and inflect for number, case, and gender to agree with the possessum, as illustrated in (155). Third-person possessive pronouns, as in PDE, are inflected only for the gender and number of the possessor, and show no agreement with the possessum, as in (156). The inflections on the first/second possessive pronouns are the strong adjective endings (cf. 8.7.3 *Adjectives*).

- (155) a on þinum wisdome
 in your.MASC.DAT.SG wisdom.MASC.DAT.SG
 'in your wisdom'
 (coaelhom,+AHom_1:98.64)
- b mid ealre þinre heortan
 with all.FEM.DAT.SG your.FEM.DAT.SG heart.FEM.DAT.SG
 'with all your heart'
 (coaelhom,+AHom_2:139.318)
- (156) a be his godcundnyse
 about his.MASC.SG.GEN divinity.FEM.DAT.SG
 'about his divinity'
 (coaelhom,+AHom_1:1.2)
- b his halgum englum
 his.MASC.SG.GEN holy.MASC.DAT.PL angels.MASC.DAT.PL
 'his holy angels'
 (coaelhom,+AHom_1:200.116)

In PDE possessive pronouns are often assumed to be D heads (Allen 2008: 77), since they fulfil the same function as determiners (roughly, uniquely picking out an individual), and the two do not co-occur (**the my dog*, **my the dog*).

For OE, on the other hand, it is often argued that possessives are adjectives. Lyons (1986) proposes that languages can be divided into two types: those in which possessives are adjectives (A(djective) G(enitive) languages) and those in which possessives are determiners (D(eterminer) G(enitive) languages). In AG languages possessives co-occur with determiners, as in the Italian *il mio libro* “the my book”, while in DG languages, as in PDE, they do not.

It has frequently been assumed that OE is an AG language, which, following a reanalysis in ME, becomes a DG language (cf. Heltveit 1977, Nunnally 1985, Taylor 1996, Rosenbach 2002, Alexiadou 2004, Fischer and van der Wurff 2006: 120 for analyses along this line). The major argument for this position is the “fact” that determiners and possessives co-occur in OE, the so-called *DET POSS* construction, just as in Italian, as illustrated in (157).

- (157) þæt min weorod & þa mine þegnas
that/the my company and those/the my servants
(coalex, Alex:10.13.78)

Allen (2008: 77, 103) argues against this position, claiming that the English possessives were determiners in OE just as in PDE, and thus no reanalysis is required. She shows that the idea that determiners and possessives freely co-occur in OE is based on a partial and distorted representation of the facts (cf. also Wood 2007). A more careful analysis of the full range of data shows that the similarity between OE and AG languages like Italian is illusory.

The best evidence that OE is not an AG language (Allen 2008: 274ff.) is as follows. First, not only the distal demonstrative *se*, which becomes the PDE article, and might be argued to already be an article in some cases in OE, but also the proximate demonstrative *þes* “this”, which clearly is and remains a demonstrative, occurs in this position, as illustrated in (158). As demonstratives are generally assumed to appear in spec,DP rather than D, this weakens the argument that possessives in this construction cannot be D-heads and thus must be adjectives.

- (158) þes þin cnapa
this your boy
(coaelive,+ALS_[Chrysanthus]:31.7347)

Second, the type with the proximate demonstrative still occurs in PDE, albeit in restricted contexts, as in (159), but has the feeling of an appositional structure, an analysis Wood accepts as possible for OE as well.

- (159) on this, his third NASA assignment (ABC TV News, 1 March 2001;
Allen 2008: 274)

Third, this construction is not only not required in OE, as it is in Italian, but it is very much a minority construction. It tends to be concentrated in Latin-translated texts and those with a heavy reliance on Latin sources, although it is not simply a calque of a similar Latin construction. Finally, although unacknowledged by many investigators (e.g., Demske 2001, Alexiadou 2004), *DET POSS* is not the only order in which these two categories co-occur in OE. About twice as often as *DET POSS*, the order is *POSS DET*, as in (160).

- (160) a *min se leofesta lareow*
 my that/the dearest teacher
 (coalex, Alex:2.1.4)
- b *his þone wurðfullan cynedom*
 his that/the glorious kingdom
 (coapollo, ApT:10.11.174)

Given the existence of *POSS DET* in addition to *DET POSS*, in order to maintain that possessives are adjectives in OE, it would be necessary to allow adjectives to precede determiners, but this is extremely rare for central adjectives in OE (Mitchell 1985: §148), and the apparent examples given, for example, in Demske (2001), are all susceptible to other explanations, as pointed out by Allen (2008: 104).

A further unique feature of the *POSS DET* construction is that it only occurs in the presence of an adjective (Wood 2003, 2007, Allen 2008, 2012). Apparent counterexamples without an adjective claimed by Heltveit (1977) all involve substantival adjectives as in the PDE type *the poor*.

Allen (2008: 285ff.), using an LFG framework, analyzes the determiner in the *POSS DET* construction as belonging to a DP which takes the AP as a complement, as in (161), based on (160b). This phrase is adjoined, as is frequently assumed for APs, to the NP containing *cynedom*. This analysis has the advantage of accounting for the adjective constraint, which otherwise appears quite mysterious. It also perhaps accounts for the restriction to *se*, since the determiner must be a head, and while it is plausible that *se* could act as a D-head as well as a phrase in spec, DP in OE, this is not plausible for *þes*.³⁰

- (161) [DP [DP his] [D' [NP [DP [D' þone [AP wurðfullan]]]] [NP cynedom]]]

Wood (2007), on the other hand, argues that in this construction, *POSS* is in spec, DP and *DET* in D. The co-occurrence is possible because, in Wood's

³⁰ See Leu (2009) for an analysis not based on OE which analyzes a determiner accompanied by an adjective in all cases as forming an xAP (extended Adjectival Phrase) in which the determiner is a complementizer.

analysis, *POSS* is not definite in OE, and thus can co-occur with a determiner. The non-occurring *DEM DET* is ruled out due to doubly marked definiteness.

8.7.4 (iv) *Partitive genitives* Another frequent use of the adnominal genitive in OE is to express a partitive relation (*one of the boys*). A nominal partitive most frequently follows the head, as in (162a, b), but may also appear pre-nominally, as in (162c) while pronominal partitives most frequently precede, as in (163a), more rarely following the noun, as in (163b).

- (162) a *opþæt an minra wimmanna me wið hine ahredde.*
 until one my.GEN.PL women.GEN.PL me from him rescued
 ‘until one of my women rescued me from him’
 (coelive,+ALS_[Eugenia]:188.306)
- b *Þes bisceop worhta fæla wundra þuruh God*
 this bishop worked many wonders.GEN.PL through God
 ‘This bishop worked many wonders through God’
 (coelive,+ALS_[Eugenia]:63.225)
- c *and heora maga fela to fulluhte hi gebugon*
 and their.GEN.PL kinsmen.GEN.PL many to baptism them submitted
 ‘and many of their kinsman submitted themselves to baptism’
 (coelive,+ALS_[Chrysanthus]:210.7452)
- (163) a *swa swa heora mænig dyde*
 just as of-them many did
 ‘just as many of them did’
 (coelive,+ALS_[Exalt_of_Cross]:181.5659)
- b *Ða hrædlice arn an heora*
 then quickly ran one of-them
 ‘then one of them ran quickly’
 (cowsgosp,Mt_[WSCp]:27.48.2088)

Pronominal partitives move leftward, as in (164), while nominal partitives appear to move both left and right fairly freely (pace Koike 2006: n. 8), as in (165) and (166).

- (164) *and heora þær wearð an ofslegen*
 and of-them there was one slain
 ‘and one of them was slain there’
 (cochroC,ChronC_[Rositzke]:461.1.67)

- (165) gif ðær feowertig wæron rihtwisra wera wunigende
 if there forty were righteous.GEN.PL men.GEN.PL dwelling
 ‘if forty righteous men were dwelling there’
 (coalive,+ALS[Pr_Moses]:200.2968)
- (166) hu he worhte wundra on þyssere worulda fela
 how he worked wonders.GEN.PL in this world many
 ‘how he worked many wonders in this world’
 (coalive,+ALS[Peter’s_Chair]:154.2386)

8.7.5 *Relative clauses*

A relative clause (RC), traditionally an “adjective clause”, modifies an NP. As illustrated in the basic structure in (167), the modified NP, the head of the RC, is the antecedent of the (overt or covert) relative pronoun (RP) in spec,CP, which is itself linked to a gap in the RC. In PDE the relative pronoun is a *wh*-word and the complementizer is *that*. As illustrated in (168), neither the RP nor the complementizer is required to be overt, giving rise to *wh*-relatives (168a), *that*-relatives (168b), and *zero*-relatives, i.e., those with neither a *wh*-word nor *that*, although this type is fairly strongly restricted to non-subject relatives (168c). RCs with both a *wh*-word and a complementizer are ungrammatical in PDE (168d).

- (167) [_{DP} [_{NP} *head*_i [_{CP} (*RP*_i) [_{C'} (*comp*) [_{TP} ... *gap*_i ...]]]]]]
- (168) a the city which the army destroyed
 b the city that the army destroyed
 c the city Ø the army destroyed
 d *the city which that the army destroyed

The Old English situation differs in the following respects: the RP is not a *wh*-word, but a form of the demonstrative pronoun *se*; both the RP and the complementizer are frequently overt, although cases with one or the other are also common; the complementizer is normally *þe*, although there is also a smaller number of cases with *þæt*; and *zero*-relatives are quite rare.

The relative clause introduced by complementizer *þe*, as illustrated in (169), is the most frequent RC structure in OE by a fairly wide margin. It introduces both restrictive and non-restrictive relatives, but, according to Traugott (1992: 223, 227), is more commonly used with restrictives.

- (169) a forðan þe heo næfde on ðære byrig [_{DP} nænne
 because she NEG-had in the city no
 geleaffulne mann [_{CP} þe hi læren cuþe]]
 faithful man COMP her teach could
 ‘because she had in the city no faithful man that could teach her’
 (coalive,+ALS_[Eugenia]:30.208)
- b and he æfter fyrste ferde mid Eubole to his [_{DP} agenum
 and he after time went with Eubolus to his own
 æþele, [_{CP} þe he on geboren wæs]]
 country COMP he in born was
 ‘and after a time he went with Eubolus to his own country which he
 was born in’
 (coalive,+ALS_[Basil]:85.506)

The RP, when present, agrees in gender and number with the head, but takes the case appropriate to its function in the RC (but cf. 8.7.5 (i) *Case attraction* for a caveat), as in (170), much as in PDE RCs introduced by *wh*-pronouns.

- (170) a Saga me hwæt sindon [_{DP} þa twegen fet
 say me what are the two feet.MASC.PL.NOM
 [_{CP} þa þeo sawul habban sceal]]
 which.MASC.PL.ACC the soul have shall
 ‘tell me what the two feet are which the soul shall have’
 (coadrian,Ad:26.1.61)
- b On þære ylcan scire Sicilian landes is [_{DP} an byrnende
 in the same province Sicilian land is a burning
 munt, [_{CP} þone menn hatað Ethna]]
 mountain.MASC.SG which.MASC.ACC.SG men call Etna
 ‘in the same province of the land of Sicily is a burning mountain
 which men call Etna’
 (coalive,æLS[Agatha]:217.2152)

Examples with both an RP and *þe* are given in (171).

- (171) a [_{DP} Se weig [_{CP} se ðe læt to heofonrice]] is
 the way which COMP leads to heaven is
 for ði nearu & sticol
 therefore narrow and steep
 ‘the way which leads to heaven is therefore narrow and steep’
 (cocathom1,+ACHom_I_10:264.169.1954)

- b Hwæt is god butan [_{DP} Gode anum
 what is good except God alone.MASC.SG.DAT
 [_{CP} se þe is healic godnisse]]
 who.MASC.SG.NOM COMP is sublime goodness
 ‘what is good except God alone, who is sublime goodness’
 (coalive,+ALS_[Christmas]:91.73)

Although *þe* is the most frequent complementizer, there are also some cases of invariant (complementizer) *þæt*, as illustrated in (172). In these cases the antecedent isn’t neuter singular, and thus the RP *þæt* (neuter sg) is not expected. This form, which later takes over, is still quite rare in OE in comparison to *þe*.

- (172) and besceawa þas eorðan, and [_{DP} ealle ða gesceafta [_{CP} þæt him on
 synd nu]]
 and behold the earth and all the creatures.FEM.PL.ACC COMP it in are now
 ‘and behold the earth and all the creatures that are now in it’
 (coalive,+ALS_[Maccabees]:174.4934)

In addition, there are a small number of examples of so-called *zero-* or contact relatives which have neither an RP nor *þe*. The relativized argument in this type is frequently the subject as in (173a), but can also be the object (173b).

- (173) a Seo mægð asprang of [_{DP} Noes yltstan suna
 the people sprang from Noah’s eldest son
 [_{CP} Ø wæs gehaten Sem]]
 was called Shem
 ‘that people sprang from Noah’s eldest son who was called Shem’
 (cocathom1,+ACHom_I,_1:186.222.234)
- b He ongann þa syððon geþencean [_{DP} þa god
 he began then afterwards reflect-upon the goods
 [_{CP} Ø he ær forleas]]
 he earlier lost
 ‘afterwards he began to reflect upon the goods he earlier lost’
 (cogregdH,GD_2_[H]:3.106.30.1067)

While the constructions with *þe* are always clearly RCs, the (non-restrictive) construction with a demonstrative pronoun alone is frequently ambiguous between a relative pronoun and a demonstrative reading. Thus the second clause in (174) is ambiguous between a non-restrictive relative and an independent matrix clause reading.

- (174) God forgiþ ð us mannum menigfealde wæstmas,
 God gives us men manifold fruits.MASC.PL.ACC
 þæra we sculon brucan
 these/which.MASC.PL.GEN we shall enjoy
 ‘God gives us men manifold fruits [, which we shall enjoy/. These we
 shall enjoy]’
 (coaelive,+ALS[Forty_Soldiers]:356.2703)

This is particularly the case as RCs frequently extrapose to sentence final position, and thus both RC and independent clause readings are frequently available. As Traugott (1992: 225) points out, the RC reading is only guaranteed when the RC is completely embedded in the matrix, as in (175), a fairly rare occurrence. But even here, the clause can sometimes be interpreted as an independent parenthetical.

- (175) [DP ðæt [CP þæt geworht is]] wæs lif on him sylfum.
 that which created is was life in him self
 ‘that which is created was life in himself’
 (coaelhom,+AHom_1:275.141)

8.7.5 (i) *Case attraction* As noted in section 8.7.5 *Relative clauses*, an RP generally takes the case appropriate to its function in the RC. Less frequently, the RP matches the case of its antecedent, so-called “case attraction,” as illustrated in (176). In these examples, although the antecedent is dative, genitive or accusative, the missing argument in the RC is in each case nominative. According to (Allen 1980a: 270 n. 15), case attraction is more common in *se þe* relatives than in those without *þe*, while Traugott (1992: 225) claims it only occurs in the *se þe* type.

- (176) a and we sceolon eft agifan ure sawla urum scyppende,
 and we shall again give our souls our creator.MASC.SG.DAT
þam ðe hi ær gesceop
 who.MASC.SG.DAT COMP (____.NOM) it earlier created
 ‘and we shall give again our souls to our creator who earlier created it’
 (colwgeat,+ALet_6_[Wulfgeat]:289.123)
- b Habbe ic þe awer benumen þinra gifena
 have I you anywhere deprived your gifts.FEM.PL.GEN
þara ðe from me comon?
 which.FEM.PL.GEN COMP (____.NOM) from me came
 ‘have I anywhere deprived you of your gifts which came from me?’
 (coboeth,Bo:7.17.17.272)

c Ic wat witodlice þæt ge seceað þone hælynd
 I know truly that you seek the Saviour.MASC.SG.ACC
 þone þe on rode ahangen wæs.
 who.MASC.SG.ACC COMP (____.NOM) on cross hung was
 ‘I know that you truly seek the Saviour who hung on the cross’
 (cowsgosp, Mt_[WSCp]:28.5.2139)

8.7.5 (ii) *Resumptive pronouns* The use of a resumptive pronoun to fill the gap left by the extracted RP in a relative clause, as in the PDE example in (177a), is generally considered ungrammatical in PDE but such constructions are not uncommon in colloquial speech (Prince 1990 and references therein), and can even be found occasionally in writing, as in (177b).

- (177) a There are always guests who I am curious about what they are going to say (AK:Dick Cavett; Prince 1990: (3a))
 b It was a background discussion which my understanding was that it would not appear anywhere (Guardian, 21.8.2003, p. 9, col. 5; Haegeman 2006: 364 (2))

In many cases in PDE (e.g., (177)), these pronouns occur where, due to island constraints, it would not be possible for a gap to occur. Thus they are often considered “rescue operations” to save a sentence that would otherwise be (even more) ungrammatical, and for this reason are mostly attested in speech. As Prince (1990: 485) points out, however, there are cases, such as (178) where processing is not an issue, and thus this explanation fails.

- (178) I have a friend who she does all the platters. (AK:Ellen Prince) (Prince 1990: (4c))

The OE situation appears to be analogous to spoken PDE, in that although not common, there are a handful of resumptive pronouns in most texts of any length. While many appear in a second or later conjunct, or otherwise complicated sentence, as in (179a), sometimes with a change in the role of the pronoun, as in (179b), an equal or greater number occur in simple relatives, as in (179c), akin to the PDE example in (178).

- (179) a Se þe his synnen adilgað & heo scuneð, & he heo
 he who his sins blots-out and them avoids and he them
 halewendlice andetteð, God se þe hire byð nu gewite,
 salutarily confesses, God who that to-them is now torment,
 he heora byð eft werigend.
 he of-them is afterwards protector

'he who [e] blots out his sins, and [e] shuns them and he salutarily confesses them, God, who is now their torment, he is afterwards their protector'

(coalcuin,Alc_[Warn_35]:348.253)

b Soðlice se ðe ealle þa gebytlu hylt. and hine nan ne berð.
 truly he who all the buildings holds and him none NEG carry,
 se is hælend Crist þe us ealle gehylt.

he is saviour Christ that us all holds

'truly he who holds all the buildings and noone carries him, he is the Saviour Christ who holds us all'

(cocathom2,+ACHom_II,_45:339.129.7609)

c Eadi ys se þeow þe hys hlafurd hyne gemet þus
 blessed is the servant who his lord him found thus
 dondne þonne he cymð

doing when he comes

'blessed is the servant, who his lord finds him doing thus when he comes'

(cowsgosp,Mt_[WSCp]:24.46.1713)

8.7.5 (iii) *Infinitival relatives* An infinitival relative, as in (180), never involves an overt RP in OE.

(180) a Hæbbe ge her ænig þing [_{CP} Ø_i [_{TP} PRO to etenne t_i ?]]
 have you here any thing to eat
 'do you have anything to eat here?'
 (cowsgosp,Lk_[WSCp]:24.41.5715)

b Heold swa þeah sumne dæl [_{CP} Ø_i [_{TP} PRO ham to
 kept nevertheless some part home to
 berenne t_i mid him]]
 carry with him
 '[he] nevertheless kept some part to carry home with him'
 (coaelive,+ALS_[Basil]:163.557)

The PDE type with pied-piping of a *wh*-PP (*a place in which to build*) does not occur in OE. In this construction, as in others where spec,CP is empty (or non-overt), OE requires preposition stranding, as in (181); cf. 8.6.1 *Preposition stranding*.

(181) a sume stowe [_{CP} Ø_i [_{TP} PRO mynster [_{PP} on t_i] to timbrienne]]
 some place minster on to build
 'some place to build a minster on'
 (cobede,BedeHead:3.16.8.75)

- b þæt he sylf sy gecweme hus & Gode licwurðe
 that he himself is pleasing house and God agreeable
 [_{CP} Ø_i [_{TP} PRO [_{PP} on t_i] to wunianne]]
 in to dwell
 ‘that he himself is a house pleasing and agreeable to God to dwell in’
 (cowulf, WHom_18:75.1470)

8.7.6 Free relative clauses

Free relative clauses (FRCs) differ from regular relative clauses in that they lack an external “head”, i.e., nominal antecedent (e.g., *Mary ate [DP the cake [CP that John baked]]*). Rather, in FRCs the head is internal to the CP (*I’ll have [CP what(ever) you’re having]*). They thus have the internal structures of CPs, but as they fill nominal positions in the clause, they have the distribution of DPs. FRCs in PDE can be headed by either a *wh*-word alone (definite FRCs) or *wh*-ever (indefinite FRCs).

In Old English, the equivalent of PDE *wh*-ever is *swa wh-X swa*, as illustrated in (182), or “sporadically in later prose” (Mitchell 1985: §2383) *loca wh-X*, as in (183).

- (182) þæt ic moste gifan Apollonio swa hwæt swa ic
 that I might give Apollonius so what so I
 wolde of þinum goldhorde
 wanted of your goldhoard
 ‘that I might give to Apollonius whatever I wanted [to give him] from
 your goldhoard’
 (coapollo, ApT:17.3.343)
- (183) Bide me loca hwæs þu wille
 ask me whatever you wish
 ‘ask me whatever you wish’
 (cocathom1,+ACHom_I,_32:451.16.6360)

The definite type, which are headed by a *wh*-word alone in PDE, are generally headed by a demonstrative pronoun in OE, with or without *þe*, as in (184a) and (184b), respectively, much as demonstratives are used as RPs in regular relative clauses.

- (184) a and he sceolde secgan Saule þam cyninge þæs þe
 and he should say Saul the king that COMP
 he befran on hys frecednyse
 he asked in his peril
 ‘and he should say to Saul, the king, what he asked in his peril’
 (coaelhom,+AHom_30:45.4104)

- b Ic undergyte þæt ic wylle undergytan and gemunan
 I understand that I want understand and remember
 ‘I understand what I want to understand and remember’
 (coalive,+ALS_[Christmas]:122.98)

FRCs headed by *þe* alone also occur, as in (185). Here there is no overt antecedent or RP. The FRC in these cases most frequently contains a subject gap, although object gaps also occur (185b, c). A common type functions as a predicate with *beon*, as in (185a). Subjects are also common, as in (185b), but generally extraposed. Mitchell (§2322) claims in his data the referent of the FRC is always non-specific, but both specific and non-specific examples occur in the YCOE.

- (185) a Ne synd ge þe þær sprecað
 NEG are you COMP there speak
 ‘you are not the ones who speak there’
 (coalive,+ALS[Lucy]:73.2211)
- b Tomiddes eow stod þe ge ne cunnon
 amidst you stood COMP you NEG know
 ‘amidst you stood one who you don’t know’
 (cowsgosp,Jn_[WSCp]:1.26.5784)
- c Witodlice in þam ylcan he þrowað, þe he gesyhþ
 truly in the same he suffers COMP he sees
 ‘truly in the same [fire] he suffers what/whatever he sees’
 (cogregdC,GDPref_and_4_[C]:30.304.5.4515)

Finally, there are cases that look like the PDE bare *wh*-type (*I’ll have what he’s having*), although their existence is disputed as they are indistinguishable on the basis of surface form from indirect questions (*I asked what he’s having*), and Mitchell (1985: §2051) gives it as his opinion that there are no examples that cannot be analyzed as questions. The same problem of distinguishing FRCs from indirect questions arises in PDE as well, and it is generally accepted that a structure of this form as complement of a predicate that doesn’t select questions is an FRC, while a complement of a predicate that only selects questions is an indirect question. With predicates that freely select both questions and DPs, it could be either (van Riemsdijk 2006: 340). Accepting this, the examples in (186), all of which function as complement of *habban* ‘have’, a verb that doesn’t select questions, must be FRCs.

- (186) a þæt ða welgan hæbben mid hwam hi mægen þæt eall gebetan
 that the wealthy have with which they may that all remedy
 ‘that the rich have wherewith they may remedy all that’ (Fox
 translation)
 (coboeth,Bo:26.60.12.1117)
- b he hæfþ hwa him deme
 he has who him judge
 ‘he has someone who will judge him’
 (cowsgosp,Jn_[WSCp]:12.48.6868)
 [Latin: habet qui iudicet eum]
- c and hi nabbað hwæt hi etað
 and they NEG-have what they eat
 ‘and they don’t have what they might eat [anything to eat]’
 (cocathom2,+ACHom_II,_29:231.30.5141)

The proper analysis of FRCs has been a matter of some dispute since the late 1970s. The major issue of relevance here is the nature and structural position of the head (i.e., the demonstrative/relative pronoun/wh-word). Due to the ambiguity of *se* as a demonstrative or RP (cf. 8.7.5 *Relative clauses*), it is not always clear whether in the definite types the head is internal or external to the FRC, roughly as illustrated in (187a, b); i.e., whether these are structurally relative clauses or FRCs. The same issue arises with the bare *wh*-word type (although not with the *swa wh-X swa* type), as the *wh*-pronouns are also used as indefinites (*anything/something*, etc.) in OE.

- (187) a Ic undergyte [DP þæt [CP Ø_i [IP ic wylle undergytan t_i]]]
 b Ic undergyte [DP Ø [CP þæt_i [IP ic wylle undergytan t_i]]]

An influential early analysis, Bresnan and Grimshaw (1978), argues that the head in FRCs was in fact external, as in (187a). The counter-proposal, that the head is internal, as in (187b), just as in RCs, is presented in Groos and van Riemsdijk (1981). Allen (1980a), the most comprehensive generative treatment to date of OE (free) relative clauses, adopts the Bresnan and Grimshaw approach on the basis of her conclusion that the features of the head, in particular its case, are always those required by the matrix verb, suggesting it has not been moved to spec,CP from a position in the embedded clause, but rather selected by the matrix verb. In fact, the patterns of “case matching” between the FRC head and the requirements of the matrix and embedded verbs, in OE, as in many languages, are more complicated than was previously apparent and this analysis can no longer be maintained.

As the examples in (188) show, the head of an FRC in OE can take either the case required by the matrix or the embedded verb (indicated in parentheses following the verb). The generalization appears to be, as in Gothic (Harbert 1983), that the FRC head takes the case which is lower on a case hierarchy $\text{NOM} < \text{ACC} < \{\text{DAT}/\text{GEN}\}$, and thus the case of the head is not indicative of the internal/external nature of the head. Evidence from preposition stranding/pied-piping, however, suggests that OE has both internally and externally headed constructions of this type, as both are attested (pace Allen 1980a: 280), as illustrated in (189a) and (189b), respectively (cf. 8.6.1 *Preposition stranding*). More work is needed here, however.

- (188) a Salomon eac forgeaf(+acc) þære cwene swa hwæs.GEN swa
 Solomon also gave the queen so what so
 heo gyrnde(+gen) æt him
 she desired from him
 ‘Solomon also gave the queen whatever she desired from him’
 (cocathom2,+ACHom_II,_45:340.169.7637)
- b Donne deah hyt him wið(+dat) swa hwylcum.DAT
 then is-of-use it him against so which
 earfoðum.DAT swa him on innan bið
 afflictions as him in are
 ‘Then it is of use to him against whichever afflictions are in him’
 (coherbar,Lch_I_[Herb]:90.10.1453)
- (189) a for ðan ðe we nabbað(+acc) ða.ACC [CP Ø_i ðe [TP he
 because we NEG-have that which he
 [PP on(+dat) t_i] ðrowade]]
 on suffered
 ‘because we don’t have that which he suffered on’
 (cocathom2,+ACHom_II,_19:175.53.3877) (Allen 1980a (45))
- b þæt him God forgeafe(+acc) [CP [PP_i mid hwam]
 that him God gave with which
 [TP he mihte gestillan þæs hatheortan mæssepreostes woffunga t_i]]
 he might calm the hot-hearted priest’s raving
 ‘that God gave him wherewith he might calm the hot-hearted
 priest’s raving’
 (cogregdH,GD_1_[H]:9.65.4.632)

8.7.7 Pronouns

The syntax of pronouns is very complicated in OE and overall not well understood. While some patterns have long been known and are now well

established, new descriptive generalizations, overlooked in the previous literature, continue to appear. As any coherent systematic account of the syntax of all the OE pronouns has yet to be developed, in this section I will discuss key patterns, but will not attempt coherence or systematicity.

In general, pronouns in OE favour left-peripheral positions, with this tendency being rather stronger with subject than non-subject pronouns, and in earlier (cf. 8.7.7 (i) *Early texts*) than in later texts. The situation is further complicated by the fact that the major early text is the poetic *Beowulf*, and there is no extant prose from as early a period.

8.7.7 (i) *Early texts* The syntax of pronouns is somewhat different in the earliest Old English, as exemplified in the poem *Beowulf*, from that found in the later prose texts. Unstressed pronouns appear at the left edge of TP along with light adverbs and other unstressed constituents (demonstrative pronouns, quantifiers, PPs with pronominal objects). Thus, in non-operator-fronting root clauses, they appear absolute TP-initial, as in (190), in operator-fronting root clauses they follow the verb in C, but precede the first stressed constituent of the TP, as in (191), and in embedded clauses, they appear immediately following the complementizer, as illustrated in (192). Subject pronouns are always unstressed and thus always appear in this position; other constituents, including non-subject pronouns, may be stressed, in which case they have the potential to appear in the same positions as other stressed constituents (193). In pronoun clusters ((190c), (191b), (192c)), a subject pronoun always precedes a non-subject pronoun, unless the pronoun is *man* (cf. 8.7.7 (iii) *The indefinite pronoun “man”*). Note that | indicates the line end and / the halfline break (caesura).

- (190) a | He beot ne aleh, /
 he vows NEG left-unfulfilled
 ‘he left no vows unfulfilled’
 (cobeowul, 5.80.62)
- b | Him se yldesta / ondswarode, | werodes wisa, /
 him the chief answered of-company leader
 ‘The chief, leader of the company, answered him’
 (cobeowul, 10.258.208)
- c | Ic hine cuðe / cnihtwesende. |
 I him knew boy-being
 ‘I knew him as a boy’
 (cobeowul, 13.371.308)

- (191) a | [_{CP} Hylde [_{TP} hine þa heaþodeor, /]]
 lay-down himself then brave-in-battle
 ‘then he, battle-brave, lay himself down’
 (cobeowul,22.688.578)
- b | [_{CP} Secge [_{TP} ic þe to soðe, /]]
 Say I you to truth
 ‘I say to you truly’
- c | [_{CP} Ne þyncedð [_{TP} me gerysne / þæt...]]
 NEG seems me fitting that
 ‘It does not seem to me fitting that...’
 (cobeowul,82.2653.2171)
- (192) a / [_{CP} þæt [_{TP} hit wearð ealgearo, | healærna mæst; /]]
 that it was fully-ready of-halls greatest
 ‘that it was fully ready, the greatest of halls’
 (cobeowul,5.76.59)
- b / [_{CP} þa [_{TP} him wæs manna þearf. |]]
 when him was of-men need
 ‘when he needed men’
 (cobeowul,9.198.160)
- c / [_{CP} gif [_{TP} he us geunnan wile | [_{CP} þæt
 if he us grant will that
 [_{TP} we hine swa godne / gretan moton. |]]]]
 we him so good greet may
 ‘if he will grant us that we may greet him, so good’
 (cobeowul,13.344.285)
- (193) | "Mæl is "me to feran; /
 time is me to go
 ‘it is time for me to go’
 (cobeowul,12.312.254)

8.7.7 (ii) *Later texts* Pronoun syntax in later texts is somewhat different from, and more complicated than, that found in *Beowulf*; in particular, the number of possible positions for pronouns proliferates, and while the tendency to left-peripheral positions continues, it is less strong. As subject pronouns have been discussed extensively in relation to verb position (cf. 8.2.3 *Verb position in OE*), they will not be addressed explicitly further here. Non-subject pronouns include direct and indirect object pronouns as well as pronominal objects of prepositions. Although the base position of these

elements differs, to a large extent they are both affected by the same kind of derivational processes, and thus will be dealt with together. See also sections 8.2.6 (i) *Scrambling and object shift* and 8.6 *Prepositional phrases (PP)*.

The base theta-marked position of object pronouns is presumably the same as that of full DP objects, i.e., to the left or right of the lexical verb, depending on whether the VP is head-initial or final. To abstract away from the movement of the finite verb, examples with a finite and a non-finite verb are given. In clear V/T-final clauses (i.e. those with *V-Aux* order; cf. 8.2.3 (i) *T-initial vs. T-final*), object pronouns appear only pre-verbally (Pintzuk 1999, Pintzuk and Taylor 2006), as in (194); in *Aux-V* clauses, object pronouns appear both before (195a) and after (195b) the non-finite verb, although the former order heavily outweighs the latter.

(194) and gelyf ðæt se hælend þe gehælen mæge
and believe that the Saviour you heal can
'and believe that the Saviour can heal you'
(coalive,+ALS[Agnes]:272.1903)

(195) a and nan lichamlic gesceaft ne mæg beon hyre wiðmeten
and no bodily creature NEG may be it compared
'and no bodily creature may be compared with it [the soul]'
(coalive,+ALS_[Christmas]:207.164)

b þæt se cwellere ne sceolde swencan hi na leng
that the executioner NEG should vex her no longer
'that the executioner should vex her no longer'
(coalive,+ALS[Ash_Wed]:228.2832)

As pronouns do not postpose (cf. 8.2.3 (i) *T-initial vs. T-final*), the order *Aux-V-O(+pro)*, as in (195b) is taken as evidence of the existence of underived *VO* order. Likewise *Aux-O(+pro)-V* order, as in (195a) can be taken as evidence of underived *OV* order, since, as Wallenberg (2009) shows, leftward movement of a pronoun over the main verb is restricted to clitic-movement to pre-T position³¹ (cf. 8.2.6 (i) *Scrambling and object shift*).

Non-subject pronouns can fill the pre-Vf slot in non-operator-fronting root clauses with a full DP subject, as in (196), giving them the appearance of topics.

³¹ There are some apparent counterexamples to this claim in the YCOE, but all are susceptible to other analyses.

- (196) **Us** segð seo ylce boc þæt...
 us says the same book that...
 ‘the same book says to us that...’
 (coaelhom,+AHom_28:83.4051)

When the subject is also a pronoun, the order is overwhelmingly *Subj(+pro)-XP(+pro)-Vf*, as in (197), but the V_3 order, *XP(+pro)-Subj(+pro)-Vf*, familiar in non-operator-fronting contexts, as in (198), also occurs at a low but non-negligible rate.

- (197) a **Hi** hit heoldon þa syððan symle on gewunon
 they hit held then afterwards always in common
 ‘afterwards they then always held it in common’
 (coelive,+ALS_[Swithun]:262.4383)
- b **Ic** him fyligde ða
 I him followed then
 ‘I followed him then’
 (coelive,+ALS[Agnes]:358.1962)
- (198) a **me** he clypað nu to his rice
 me he calls now to his kingdom
 ‘he calls me now to his kingdom’
 (cocathom1,+ACHom_I,_26:397.260.5192)
- b **Þe** ic me betæce ungewæmmode
 you I me commit undefiled
 ‘I commit myself to you undefiled’
 (comargaC,LS_14_[MargaretCCCC_303]:4.24.44)

Pronominal complements of prepositions may also topicalize, as in (199).

- (199) **me_i** coman [_{PP} to t_i] Silhearwan
 me came to Ethiopians
 ‘Ethiopians came to me’
 (coelive,+ALS_[Julian_and_Basilissa]:285.1114)

In operator-fronting clauses, non-subject pronouns, like subject pronouns, appear following the finite verb, as in (200). The subject pronoun always precedes the non-subject pronoun, frequently, but not always, immediately. When the pronouns are separated, often the intervening element is the secondary negator *na*, or another light element, as in (201). In addition, as is generally the case with non-subject pronouns, the pronoun may also remain lower in the clause, as in (202)

- (200) Ða andwyrde he him þus
 then answered he them thus
 ‘then he answered them as follows’
 (coalive,+ALS_[Christmas]:11.9)
- (201) a Ne behealde ic na þe
 NEG look I not you
 ‘I do not look at you’
 (coalive,+ALS_[Martin]:1188.6759)
- b Frægn he eac me to hwon...
 asked he also me why...
 ‘he also asked me why...’
 (coalex,Alex:35.5.441)
- (202) nelle ic leng mid wordum ac mid heardum swinglum
 NEG-will I longer with words but with hard scourging
 his hæsa eow cyðan
 his commands you make-known
 ‘I will no longer make his commands known to you with words but
 with hard scourging’
 (coalive,+ALS_[Denis]:226.5903)

In unambiguously T-initial root clauses (i.e., those with a post-verbal diagnostic (cf. 8.2.3 (i) *T-initial vs. T-final*)), non-subject pronouns may appear in the same position on the left periphery as subject pronouns, i.e. the high subject position, as in (203); cf. 8.2.3 (ii.b) *Non-operator-fronting V2*. If a subject pronoun is also present (203b), it generally precedes the non-subject pronoun. Pronouns do not precede the topic in these clauses.

- (203) a þa godan gastas hine tugon upp
 the good spirits him drew up
 ‘the good spirits drew him up’
 (cogregdC,GDPref_and_4_[C]:37.320.13.4805)
- b & for ðam he hi lædde ut
 and for this he them led out
 ‘and for this reason he led them out’
 (cootest,Deut:9.27.4687)

In embedded clauses, outside of CP-recursion and unaccusative contexts, the subject generally precedes the finite verb, whether a DP or a pronoun (cf. 8.2.3 (iii) *More on embedded clauses*). When a DP subject and a non-subject pronoun precede the finite verb in a head-initial projection in the TP-domain,

the pronoun most frequently follows the subject, as in (204) but may also precede, as in (205), although the first order is heavily favoured (Zimmermann 2009). The latter order, *C-nonSubj(+pro)-Subject*, is quite frequent, however, in clauses which are amenable to a V/T-final analysis, as illustrated in the clauses with *V-Aux* order in (206).

(204) þa þa seo burhwaru him_i com to t_i
 when the citizens him came to
 ‘when the citizens came to him’
 (coaelhom,+AHom_5:92.743)

(205) þætte him his feond mæge swa eaþe his mid wordum gestieran
 that him his enemy may so easily him with words stir
 ‘that his enemy may so easily restrain him with words’
 (coorosiu,Or_3:1.53.17.1023)

(206) a þæt hie nænig mon siþþan findan ne meachte
 so-that them no man afterwards find NEG might
 ‘so that no man might find them afterwards’
 (cochronA-1,ChronA_[Plummer]:418.1.124)

b gif him lefnys seald wære
 if him leave given were
 ‘if leave were given to him’
 (cobede,Bede_1:13.56.10.524)

8.7.7 (iii) *The indefinite pronoun “man”* OE has an indefinite form *man*, used only in the nominative, more or less equivalent in meaning to PDE subject *one* or French *on*. Although it has sometimes been assumed that *man* is nominal (van Kemenade 1987, Koopman 1997), van Bergen (2000, 2003), shows that the syntax of *man* is predominantly pronominal, as in most contexts it behaves like a subject personal pronoun. Thus, following a topicalized operator (207) it inverts, while following a non-operator (208) it does not.

(207) a þa bæŕ man þam cyninge cynelice þenunga on
 then carried one the king royal food on
 anum sylfrenan disce
 a silver dish
 ‘then one carried royal food to the king on a silver dish’
 (coaelive,+ALS_[Oswald]:87.5435)

b Ne do man nænne ele to þam fante
 NEG put one no oil to the font
 ‘let no one put oil into the font’
 (colwsigeXa,+ALet_1_[Wulfsige_Xa]:129.171)

- (208) a his fynd **mon** sceal lufian for Godes lufan
his enemy one shall love for God's love
'one shall love his enemy for God's love'
(cobenrul, BenR:4.17.10.254)
- b and on ælcere stowe **man** mot mærsian his Drihten
and in each place one must praise his Lord
'and in each place one much praise his Lord'
(coalive,+ALS[Pr_Moses]:64.2907)

The one context where the syntax of *man* is more reminiscent of nominals is in embedded clauses which also contain a object pronoun. In this context a personal pronoun subject precedes the object pronoun (209a), while a noun follows (209b), as is also often the case for *man* (209c). Van Bergen (2000: 119), however, suggests that this follows from the clitic status of *man*, and shouldn't be taken as an indication that it is a noun.

- (209) a þonne ge **min** behofiað, þonne ic helpe eow
when you me need, then I help you
'when you need me then I will help you'
(coalive,+ALS_[Basil]:375.704)
- b gif **him** lefnys seald wære
if him leave given were
'if leave were given to him'
(cobede, Bede_1:13.56.10.524)
- c and demde þæt **hi** man sceolde ofslean buta
and judged that them one should kill both
'and judged that they should both be killed'
(coalive,+ALS[Ash_Wed]:202.2812)

8.8 Non-finite subordinate clauses

8.8.1 Infinitives

8.8.1 (i) *Inflected and uninflected infinitives* Old English has two infinitive forms, the bare (simple, uninflected) infinitive and the inflected infinitive, illustrated in (210). The inflected infinitive (210a) appears after the infinitive marker *to* (originally a preposition), and is in origin the dative case of a neuter verbal noun. The bare infinitive (210b) is in origin the nominative/accusative caseform of the same and appears as complement of (pre-)modal verbs (cf. 8.4.1 *The (pre-)modals*), as well as in some other classes of constructions, particularly with perception and causative verbs (cf. 8.8.1 (ii.a) *AcI verbs*), much as in PDE.

- (210) a & hi begunnon ðis to wyrcente
 and they began this to make
 ‘and they began to make this’
 (cootest, Gen:11.6.432)
- b and hi heore diglan dæda eow bedyrnan ne mihton
 and they their secret deeds you conceal NEG can
 ‘and they cannot conceal their secret deeds from you’
 (coalive,+ALS_[Vincent]:137.7882)

Most verbs subcategorize for either a bare or a *to*-infinitive, although there are two classes (called INTENTION verbs and Aspectualizers in Los (1999)) that take both, with a difference in meaning (Aspectualizers) or not (INTENTION verbs); cf. 8.8.1 (ii.b) *Monotransitive subject control verbs*.

8.8.1 (ii) *Infinitival complements* The most detailed recent discussion of infinitival complementation in Old English is Los (1999) from which much of the following discussion is taken. Los corrects many of the misclassifications of Calloway (1913) and provides a clear and coherent picture of the complementation patterns of the relevant verbs. She argues that the traditional idea of the bare and *to*-infinitives being in competition, with the *to*-infinitive taking over in Middle English, is mistaken. Rather the major competition is between subjunctive/modal *that*-complements and the *to*-infinitive, the former being largely lost and replaced by the latter during the Middle English period. Competition between the bare and *to*-infinitive as complement is restricted to the class of INTENTION verbs (cf. 8.8.1 (ii.b) *Monotransitive subject control verbs*), with the *to*-infinitive ousting the bare infinitive in the post-OE period.

In addition to being categorized according to complement infinitive type (bare or *to*-), OE verbs taking infinitival complements can be divided into three classes according to argument structure, just as in PDE: AcI (Accusativus cum Infinitivo (cf. 8.8.1 (ii.a) *AcI verbs*);³² monotransitive subject control (cf. 8.8.1 (ii.b) *Monotransitive subject control verbs*); and ditransitive object control (cf. 8.8.1 (ii.c) *Ditransitive object control verbs*).

8.8.1 (ii.a) *AcI verbs* AcI verbs are two-place predicates in which the subject of the infinitival clause is non-coreferent with the subject of the matrix clause, as in the PDE examples in (211). As in PDE, OE AcI verbs are primarily verbs of perception and causation, as in (212a) and (212b), respectively, but there

³² AcI is the traditional term used for this construction in the Old English literature; The term used in the generative literature is ECM (Exceptional Case Marking).

are also a small number of directive verbs that can be AcI, particularly when their meaning leans towards the causative, as in (213). The infinitive in this type is always bare in OE.³³

- (211) a Mary saw [John win the race]
 b Mary made [John study]

- (212) a Þærrichte gehyrde se halga Martinus [þone hælend clypian]
 straightaway heard the holy Martin the Saviour call
 ‘Straightaway the holy Martin heard the Saviour call’
 (coalive,+ALS_[Martin]:79.6015)

- b se ðe deð [his sunnan scinan ofer ða yfelan. and ofer ða godan]
 he who makes his sun shine over the evil and over the good
 ‘he who makes his sun shine of the evil and the good’
 (cocathom2,+ACHom_II,_12.2:123.446.2695)

- (213) Þa het he [þysne biscop beon gelæded to þære stowe]
 then ordered he this bishop be led to the place
 ‘then he ordered this bishop to be led to the place’
 (cogregdC,GDPref_and_3_[C]:11.194.17.2490)

8.8.1 (ii.b) *Monotransitive subject control verbs* A monotransitive subject control verb is a two-place predicate in which the subject of the clausal argument is implicit and identical with (controlled by) the subject of the matrix verb, as in the PDE examples in (214). Verbs which belong to this class include INTENTION verbs (including verbs of mental perception, inclination, and will), as in (214a), and aspectualizers (verbs of beginning, delaying, and ceasing), as in (214b), as well as, in OE at least, the (pre-)modal verbs (214c).

- (214) a Mary_i intended [PRO_i to buy a car]
 b Mary_i began [PRO_i to laugh]
 c Mary_i will [PRO_i go]

Los (1998a, 1998b, 1999) argues convincingly (against Callaway 1913) that, apart from the (pre-)modals, all subject control verbs in OE can take either a bare or *to*-infinitive, as illustrated for an INTENTION verb in (215) and an aspectualizer in (216).

³³ PDE also allows ECM constructions with *to*-infinitives: *Mary expected John to study*. This construction postdates OE.

- (215) a þa ða ic gegyrnode [þa halgan deorwurðan rode geseon]
 when I desired the holy precious cross see.INF
 ‘when I desired [to] see the holy precious cross’
 (comary,LS_23_[MaryofEgypt]:496.324)
- b & þæt hig gyrnon [swiðor to scinenne
 and that they desire more-greatly to shine
 an haligre drohtnunge]
 in holy conduct
 ‘and that they should more greatly desire to shine in holy conduct’
 (cochrul,ChrodR_1:52.17.689)
- (216) a Þa ongann se apostol [hi ealle læran ofer twelf monað.
 then began the apostle them all teach for twelve months
 ða deopan lare be Drihtnes tocyme]
 the deep lore about Lord’s coming
 ‘Then the apostle taught them all for twelve months the deep lore
 about the Lord’s coming’
 (cocathom2,+ACHom_II,_18:170.27.3761)
- b and sona swa hi him on besawon eall heora nebwlite
 and as-soon as they them on looked all of-their faces
ongann [to scinenne swilce seo þurhbeorhte sunne]
 began to shine like the very-bright sun
 ‘and as soon as they looked on him, all of their faces began to shine
 like the very bright sun’
 (cosevensl,LS_34_[SevenSleepers]:750.593)

According to Los, the variation between bare and *to*-infinitive is free with INTENTION verbs, while with aspectualizers it is associated with a semantic difference. She shows that by Ælfric’s time, the aspectualizers *onginnan* and *beginnan* alongside their ingressive meaning (216b) had a “pleonastic” non-ingressive use (216a),³⁴ and the latter never occurs with a *to*-infinitive (Los 2000).

8.8.1 (ii.c) *Ditransitive object control verbs* A ditransitive object control verb is a three-place predicate in which the subject of the clausal argument is implicit and identical with (controlled by) the object of the matrix verb, as illustrated in the PDE examples in (217).

³⁴ The test for non-ingressive use is co-occurrence with non-repeatable punctual verbs or durative or iterative adverbials (Brinton 1988).

- (217) a Mary ordered John_i [PRO_i to buy a car]
 b Mary persuaded John_i [PRO_i to buy a car]

Los labels this class of verbs “directives,” as it includes verbs of commanding and permitting as well as persuading and inciting. Most verbs in this class take an inflected infinitive, as in (218).

- (218) a mid þy he hine_i trymede [PRO_i to onfonne Cristes leafan]
 with which he him.ACC encouraged to receive Christ’s belief
 ‘with which he encouraged him to receive Christ’s belief’
 (cobede, Bede_2:9.124.25.1185)
 b and his bebod tobræc þe he him_i bebead
 and his command broke which he him.DAT ordered
 [PRO_i to healdenne,]
 to keep
 ‘and [he] broke his command which he ordered him to keep’
 (coaelhom,+AHom_11:103.1545)

A small number³⁵ of these verbs are attested with a bare infinitive, as illustrated with *don* “cause” in (219a), as well as with the more usual *to*-infinitive, as in (219b). Los analyzes such verbs as AcI verbs (cf. 8.8.1 (ii.a) *AcI verbs*) the former case but as ditransitive object control verbs in the latter. Two verbs, *hatan* “command” and *lætan* “let,” are only attested in the AcI construction, although they occur as three-place predicates with two NP arguments (Los 1999: 181).

- (219) a Gif þu [me unwilles gewemman] nu dest
 if you me unwillingly marry now make
 ‘if you now make me marry unwillingly’
 (coaelive,+ALS[Lucy]:90.2220)
 b Genoh sweetollice us_i gedyde nu [PRO_i to witanne] Alexander
 enough clearly us made now to know Alexander
 hwelce þa hæðnan godas sindon to weorþianne
 which the heathen gods are to honour
 ‘Alexander has now made us to know clearly enough what it is to
 honour heathen gods’
 (coorosiu,Or_3:9.69.28.1365)

³⁵ The verbs are (*be*)*beodan* “command,” *biddan* “ask,” *don* “cause,” *ðafian* “allow,” and *sellan* “grant/give” (Los 1999: 181).

8.8.1 (ii.d) *Bare infinitives with verbs of motion and rest* Another class of verbs that appear to alternate between a bare and *to*-infinitive are the verbs of motion and rest. Los (1999: 220ff.) follows up and expands upon suggestions in the older literature (Callaway 1913, and references therein; also Richardson 1994) that the bare infinitive may express progressive/imperfective aspect with these verbs, while the *to*-infinitive is a purpose adjunct. The bare infinitive in these cases expresses action taking place simultaneously with that of the matrix verb, rather than consecutively, as would be required for a purpose (final) infinitive, and frequently must be translated into PDE using a participle rather than a bare or *to*-infinitive, as illustrated in (220).

- (220) a Ða com ðær yrnan sum olbenda
 then came there run.INF a-certain camel
 ‘then a camel came running there’
 (comart3, Mart_5_[Kotzor]:Se27, A.26.1887)
- b þæt scræf... þe ða seofon halgan lagon inne slapan
 the cave... that the seven saints lay in sleep.INF
 ‘the cave that the seven saints lay sleeping in’
 (cosevensl, LS_34_[SevenSleepers]:375.278)
- c and ic wille faran fandian ðæra;
 and I will go test.INF them
 ‘and I will go test them’
 (cocathom2, +ACHom_II, 26:214.43.4736)

Los accepts Richardson’s conclusion that the combination of a verb of motion or rest plus a bare infinitive expressed imperfective/progressive aspect in OE, and suggests for these verbs “a loss of lexical meaning, and a corresponding gain in the functional domain” (Los 1999: 221), making them similar to modals and the aspectualizers *beginnan/onginnan* (cf. 8.4.1 *The (pre-)modals*, 8.8.1 (ii.b) *Monotransitive subject control verbs*). Already in OE, however, the present participle competed with the infinitive in this function (cf. 8.8.2 (i) *Participial complements*), and later takes it over almost completely.

8.8.1 (iii) *Passive infinitives*

8.8.1 (iii.a) *ANALYTIC PASSIVE INFINITIVE* Old English has an analytic passive infinitive (*beon/wesan/weorþan* + passive participle), similar to that found in PDE, as illustrated in (221). *Beon* prevails as the auxiliary by about 20:1, while of the rest, *weorþan* is about three times as common as *wesan*.

- (221) a oððe hi sylfe sceoldon him beon geoffrode
 or they selves should him be offered
 ‘or they themselves should be offered to him’
 (coaelive,+ALS_[Eugenia]:369.413)
- b þæt seo burh sceolde abrocen weorþan & bereafod
 that the city should broken be and plundered
 ‘that the city should be broken and plundered’
 (coblick,HomS_21_[BlHom_6]:77.213.977)
- c mid þy mæg seo wund wesan gehæled
 with that may the wound be healed
 ‘with that the wound may be healed’
 (colacnu,Med_3_[Grattan-Singer]:185.3.849)

There is some disagreement as to whether this construction is native or purely a Latin translation effect (see, for example, Callaway 1913, who leans toward the latter view). As noted in Fischer (1991: 145), the most common use of the analytic passive infinitive, as complement of a (pre)modal, as in (221), occurs frequently in both native prose and poetry as well as Latin translated prose, and thus, if it indeed was originally a borrowing, it had already become a fully grammatical construction by the OE period. Outside of this environment, however, bare analytic passive infinitives are indeed rarer, and do occur predominantly in translations. (222a) gives an example with aspectualizer *onginnan* (cf. 8.8.1 (ii.b) *Monotransitive subject control verbs*), (222b) an *AcI* infinitive after a verb of commanding (cf. 8.8.1 (ii.a) *AcI verbs*), (222c) a subject control structure with an intention verb (cf. 8.8.1 (ii.b) *Monotransitive subject control verbs*), and (222d) an impersonal construction (cf. 8.5 *Impersonal constructions*). In the first case, according to Los (1999), *onginnan* is a raising verb like the (pre)modals, in the second, the subject of the infinitive is in the accusative case, and in the final two it is PRO controlled by the matrix subject (222c) or the dative EXPERIENCER (222d).

- (222) a Þa witodlice ongan þær [PRO_i beon gehyred] swyþe
 then truly began there be heard very
 mycel sweg & hleoðor;
 great din and noise
 ‘then truly there began to be heard a very great din and noise’
 (cogregdC,GDPref_and_4_[C]:16.284.23.4201)

- b Ðætte Cantwara cyning Erconbyrht bebead [deofolgyld
 that Kentish-men king Erconbyrht ordered idols
 beon toworpene]
 to-be overthrown
 ‘that Erconbyrht, king of the Kentish men, ordered idols be overthrown’
 (cobede, BedeHead:3.14.13.63)
- c þurh þæt he_i gearnode [PRO_i bion gehæled of þære
 through that he earned be healed of the
 blindnesse & fulluhtes onfon]
 blindness and baptism receive
 ‘through that he earned to be healed of the blindness and to receive
 baptism’
 (coverhom, HomS_11.2_[ScraggVerc_3]:115.481)
- d þæt hire_i lyste [PRO_i beon to þam mægdenum geþeoded]
 that her.DAT pleased be to the maidens joined
 ‘that [it] pleased her to be joined to the maidens’
 (cogregdC, GDPref_and_4_[C]:18.287.13.4248)

The passive participle may be inflected to agree with the subject or not (cf. 8.4.3 *The passive*). As the (pre)modals (221) and *onginnan* (222d) are transparent to the argument structure of their complement infinitives in this construction, when the passive infinitive is complement of such a verb, an agreeing participle is nominative. In the *AcI* constructions (cf. 8.8.1 (ii.a) *AcI verbs*) illustrated in (223) and (224), the participle may agree with the accusative subject (223), or lack inflection (224).

- (223) mid þy ic sylfa geseo [minne dom gedemedne beon]
 when I self see my judgement.ACC judged.ACC be
 ‘when I myself see my judgement to be judged’
 (cobede, Bede_5:15.444.6.4459)
- (224) Ða het he [þysne biscop beon gelæded
 then commanded he this bishop.ACC be led.Ø
 to þære stowe]
 to the place
 ‘then he commanded this bishop to be led to that place’
 (cogregdC, GDPref_and_3_[C]:11.194.17.2490)

In impersonal constructions, the PRO subject of the infinitive is commonly controlled by the EXPERIENCER argument, as in (222c) above, but can be overt, as in (225).

- (225) & on ealle þeoda; ærest gebyrað [beon þæt godspel gebodud]
 and among all people first is-fitting be the gospel preached
 ‘and among all people it is first fitting for the gospel to be preached’
 (cowsgosp, Mk_[WSCp]:13.10.3216)

8.8.1 (iii.b) *Active infinitive “in passive sense”* Outside of the complements of (pre)modal verbs, and in translation contexts under the influence of Latin (cf. 8.8.1 (iii.a) *Analytic passive infinitive*), is little evidence that the analytic passive infinitive was part of the OE grammar. Rather, in cases in which PDE uses a passive infinitive, OE uses an infinitive which is active in form with an arbitrary PRO subject (PRO_{arb}). The contexts in which this occurs in OE are discussed extensively in Fischer (1991), and include complements of *BE* (226) and adjunct purpose constructions (227) (cf. 8.8.1 (iv) *Adjunct purpose infinitives*), as well as with *easy*-type adjective (cf. 8.7.3 (v) *Adjective plus infinitive*).

- (226) Ðæt is soðlice [PRO_{arb} swa to understandenne]
 that is truly thus to understand
 ‘that is truly to be understood thus’
 (coaelhom,+AHom_11:430.1718)
- (227) & hi hine gelæhton & of þære byrig gelæddon.
 and they him caught and from the city led
 [PRO_{arb} to stænenne]
 to stone
 ‘and they caught him and led [him] from the city to be stoned’
 (cocathom1,+ACHom_I,_3:200.50.515–16)

Similarly a PRO_{arb} subject can be used in AcI constructions, as in (228).

- (228) Ðu gesyxt [PRO_{arb} hine bedyppan on þam sciran wætere]
 you saw him immerse in the clear water
 ‘you saw him be immersed in the clear water’
 (coaelhom,+AHom_13:127.1942)

8.8.1 (iv) *Adjunct purpose infinitives* The main use of non-complement infinitives (i.e. those not dependent on a verb, noun, or adjective) is to express purpose, as illustrated in (229). According to Los (1999: 213) the evidence supports the traditional assumption that the original function of the *to*-infinitive was as a purpose adjunct. Pace traditional wisdom (mostly based on Callaway 1913), she argues that bare infinitives were not used as purpose adjuncts in OE, although this was possible at an earlier pre-OE stage of the language. Bare infinitives with verbs of motion and rest, which make up most

of Callaway's examples of bare purpose infinitives, are analyzed as complements by Los (cf. 8.8.1 (ii.d) *Bare infinitives with verbs of motion and rest*).

- (229) a & hie þonne fleoð to muntum & to denum [hie to behydanne]
 and they then flee to hills and to valleys them to hide
 'and they then flee to hills and valleys to hide themselves'
 (coverhom, HomU_6_[ScraggVerc_15]:121.1952)
- b Ut eode se sædere [his sæd to sawenne]
 out went the sower his seed to sow
 'the sower went out to sow his seed'
 (cowsgosp, Mk_[WSCp]:4.3.2387)

Distinguishing purpose adjuncts from infinitival relatives can be problematic in OE, in the same way as it is in PDE (cf. 8.7.5 (iii) *Infinitival relatives*).

8.8.2 *Participial constructions*

Participles occur in a wide range of constructions, some leaning more toward the adjectival and others towards the verbal, although the distinction isn't always clear. The different participial constructions can be difficult to distinguish from one another, particularly in written material in a language in which word order is not as fixed as PDE. For example, a present participial clause following the subject, as in (230), is frequently ambiguous between a reduced relative (230a) and a free adjunct participial (230b) reading. In speech and written PDE this ambiguity would be resolved by intonation/punctuation and/or word order (230c), but these cues are generally lacking in the OE material. In what follows I have tried to choose unambiguous examples, but alternative analyses may be possible in some cases.

- (230) a [The girl walking down the street] saw the accident
 b The girl_i, [PRO_i walking down the street,] saw the accident
 c [PRO_i walking down the street] the girl_i saw the accident

This section covers subject-control participial complements (*Mary_i began [PRO_i laughing]*). Small clauses with participial predicates (*Mary saw [him laughing]*) are covered in section 8.8.3 *Small clauses*, while free adjunct participial clauses, appositive and absolute, are treated in section 8.8.2 (iii) *Adjunct participial clauses*. For participles forming part of the verbal complex, see 8.4 *Periphrastic verb constructions*.

8.8.2 (i) *Participial complements* In PDE a wide range of verbs of beginning, continuing, and ending ("aspectualizers," in the terminology of Brinton 1988)

may take a participial complement (often alternating with an infinitive) in which the subject is implicit and identical with (controlled by) the matrix subject, as illustrated in (231).

(231) Mary_i began/continued/stopped [PRO_i laughing]

The participial complement with verbs of beginning and ending appears to be rare to non-existent in OE.³⁶ Verbs of continuing (e.g., *wunian*/*þurhwunian*/*awunian*) offer more plausible examples, as illustrated in (232).

- (232) a Gyf he þonne þurhwunað [cnuciende]
 if he then continues knocking
 ‘If he then continues knocking’
 (cowsgosp, Lk_[WSCp]:11.8.4552)
- b Hi ealle þa wunodon [wuldrigende heora Drihten]
 they all then continued praising their Lord
 ‘They then all continued praising their Lord’
 (coelive,+ALS_[Chrysanthus]:216.7454)

Thus participial complements are highly restricted to a small number of aspectualizer verbs in OE and very rare in comparison to infinitival complements with the same verbs (cf. 8.8.1 (ii.b) *Monotransitive subject control verbs*). Outside of the progressive, however, present participles are relatively understudied in OE, and more work is needed here.

8.8.2 (ii) *Present participles with verbs of motion and rest* The use of present participles with verbs of motion (*come, go*, etc.) and rest (*sit, lie, stand*, etc.), as in (233), is frequently noted in the literature (e.g., Denison 1993: 385, Mitchell 1985: §968, Visser 1963: 1906ff.).

- (233) a And ðær com [ridende] sum egeful ridda
 and there came riding a terrible rider
 ‘And a terrible rider came riding there’
 (coelive,+ALS_[Maccabees]:773.5334)
- b swa þæt hi wurdon tocwysede and [cwylmiende] lagon
 so that they were crushed and dying lay
 ‘so that they were crushed and lay dying’
 (coelive,+ALS_[Maur]:90.1543)

³⁶ Visser (1963) offers only (rather dubious) cases with (*be*)*cuman* (§1790); the usual verbs of beginning in OE *onginnan*/*beginnan* do not appear to take participial complements. Visser suggests *anforlætan* and *geendian* as verbs of ending which take participial complements, but the two examples he gives appear to be the only ones attested.

c þæt se blinda be ðæm wege sæte [wædliende]
 that the blind by the way sat begging
 ‘that the blind sat begging by the way’
 (coblick, HomS_8_[BlHom_2]:17.62.229)

Visser (1963: 190ff.) treats this type under the category “Slight Subordination” along with the aspectualizers, while Denison discusses them in relation to the development of the progressive as the “collocations that come closest to the progressive,” implying that they are or might be complements, although, equally, one might take them as clauses of addition/accompanying circumstance, or exemplification/specification (cf. 8.8.2 (iii) *Adjunct participial clauses*). Mitchell (1985: §1543) notes that this type of participle “has been variously described as appositive, verbal or adverbial expressing manner.” Finally, Los (1999: 220ff.), depending to some extent on Richardson (1994), notes that this same set of verbs take bare infinitives in OE, and this construction expresses imperfective, progressive aspect, indistinguishable in sense from the examples in (233) with participles (cf. 8.8.1 (ii.d) *Bare infinitives with verbs of motion and rest*). Compare, for instance, the examples in (234), which occur within a couple of sentences of each other, where the (a) example, with a bare infinitive, must be translated into PDE with a present participle, just as the (b) example, which actually contains one (example from Los 1999: 220 (9)).

- (234) a þa com þær færlice yrnan an þearle wod cu,
 then came there suddenly run.INF a very mad cow
 ‘then a very mad cow suddenly came running there’
 (coalive,+ALS_[Martin]:1038.6643)
- b Heo com þa yrnende mid egeslicum eagum,
 he came then running.PRES.PPLE with fearsome eyes
 ‘She then came running with fearsome eyes’
 (coalive,+ALS_[Martin]:1043.6645)

If we follow Los (1999: 226) in accepting that verbs of motion and rest can function as aspectualizers as well as full verbs in OE, and as such take bare infinitival complements in the same way as modals and other aspectualizers, then the present participle with these verbs should also be taken as a complement, at least in some cases (cf. also Mitchell (1985: §1543)).

8.8.2 (iii) *Adjunct participial clauses* Adjunct participial clauses are non-finite clauses headed by a participle, present or past. Syntactically there is no connection between the participial clause and the matrix; semantically they

play an adverbial function, expressing almost any type of adverbial relation (means/manner, time, cause, condition, attendant circumstance, etc.), which must be deduced from context. Adjunct participial clauses come in two types, free adjunct (traditionally called appositive) participial clauses (cf. 8.8.2 (iii.a) *Free adjunct participial clauses*), which have an empty subject co-referent with the matrix subject, as in (235), and absolute participial clauses (cf. 8.8.2 (iii.b) *The absolute construction*), which have an overt subject, non-coreferent with the matrix subject, as in (236).

- (235) Crist_i ableow þone halgan gast ofer ðam apostolon
 Christ blew the Holy Spirit over the apostles
 [PRO_i þa gyt wuniende on eorðan]
 still dwelling on earth
 ‘Christ blew the Holy Spirit over the apostles while he was still dwelling
 on the earth’
 (cocathom1,+ACHom_I,_16:309.54.2972)
- (236) and heo ða hal aras [þam folce onlocigendum]
 and she then whole arose the people.DAT looking-on.DAT
 ‘and she then arose whole with the people looking on’
 (coaelive,+ALS_[Martin]:501.6284)

8.8.2 (iii.a) *Free adjunct participial clauses* The most recent in-depth study of free adjunct (appositive) participial clauses in Old English is Callaway (1901). He divides them into two classes, adverbial use and co-ordinate use.³⁷ The former includes clauses expressing any sort of adverbial relationship with the matrix clause: modal (means/manner) temporal, causal, final (purpose), concessive, or conditional. The latter type is “substantially equivalent to an Independent Clause” (Callaway 1901: 268) and is divided into two categories: “circumstantial” and “iterating.” The former are what are sometimes called clauses of addition/accompanying circumstance or manner, i.e., they introduce a new event that holds true side by side in the same time and space as the event expressed by the matrix clause, while the latter are clauses of exemplification/specification, which do not introduce a new event, but rather elaborate the matrix event, by “restating it, clarifying it, refining it, or adding a descriptive attribute or comment” (Halliday 1985: 203). Unlike in PDE, where adjunct participial clauses frequently precede the matrix clause as do other

³⁷ Callaway actually has three categories since he includes reduced relative clauses among appositives.

adverbial clauses, in OE such clauses, with a very few exceptions, are non-initial. Examples from Callaway are given in (237)–(238).

- (237) a Mare miht wæs þæt he ðone deað mid his ariste
greater miracle was that he the death with his resurrection
tobræc. þonne he his lif geheolde: [of ðære rode astigende]
broke than he his life preserved from the cross descending
'It was a greater miracle that he broke death with his resurrection
than that he should have preserved life by descending from the
cross.' (means)
(cocathom1,+ACHom_I,_15:305.151.2878)
- b Gif he hit ðonne gemet he hit berð on his eaxlum to
if he it then finds he it carries on his shoulders to
ðære eowede [blissigende]
the flock rejoicing
'if he then finds it, he carries it on his shoulders to the flock,
rejoicing' (manner)
(cocathom1,+ACHom_I,_24:371.9.4667)
- (238) a & gebigde his cneowu. [mid micelre stemne cleopiende]
and bowed his knees with loud voice calling
'and [he] bowed his knees, calling with a loud voice' (attendant
circumstances)
(cocathom1,+ACHom_I,_3:200.56.521)
- b & him to spræc ymbe Godes rice: [samod mid
and him to spoke about God's kingdom together with
him reordigende]
him talking
'and [he] spoke to him about God's kingdom, talking together with
him' (iterating)
(cocathom1,+ACHom_I,_21:345.3.4105)

According to Callaway (and repeated by others e.g., Mitchell 1985: §1436, Swan 2003, Killie 2006, Killie and Swan 2009), most if not all adjunct participial clauses in OE are not native, but introduced under the influence of Latin. This view is based primarily on the fact that a large number (although by no means all) of the OE adjunct participial clauses have a direct Latin source. In addition, while all the older Germanic languages used this construction, only (written) PDE continues to use it with any frequency, and this modern usage largely dates from the Early Modern Period, during which, following a low

point for usage in early Middle English, both the type and token frequencies increase rapidly.

8.8.2 (iii.b) *The absolute construction* An absolute participial clause (APC) differs from the free adjunct primarily in having an overt subject. The subject is non-coreferential with the matrix subject, and in OE is in the dative or instrumental case, with which the participle agrees in person, number, and case. Suggestions that absolutes can also be in other cases (nominative, accusative) are denied by Callaway (1889), and indeed the examples commonly given in the literature (e.g., in Visser 1963 or van der Pol 2012) are from glosses. The YCOE contains no unambiguous accusative examples, and a small number of nominative examples (approx. 28), many of which are potentially susceptible to other interpretations.

The APC can be anchored either by the matrix clause itself or an NP within it. The former are called “adverbial proper” and the latter “adverbial-adjectival” by Timofeeva (2010). According to Timofeeva, adverbial APCs express time, cause, condition, and concession, as in the examples in (239), while adjectival-adverbial APCs express attendant circumstance, manner, and apposition (240).

- (239) a and Hubba belaf on Norðhymbralande, [gewunnenum
and Hubba remained in Northumberland, won.DAT
sige] mid wælhreownysse
victory.DAT with cruelty
‘and Hubba remained in Northumberland, the victory having been
won with cruelty’ (temporal)
(coalive,+ALS_[Edmund]:33.6982)
- b Ða [nydendre þære lufe] he gebohte, þæt him nan
then urging.DAT the love.DAT he bought what him no
þearf næs to habbenne
need NEG-was to have
‘then, love urging him, he bought what he didn’t need to have’ (cause)
(cogregdC,GD_1_[C]:10.79.5.883)
- (240) a and heo ða hal aras [þam folce onlocigendum]
and she then whole arose the people.DAT on-looking.DAT
‘and she then arose whole with the people looking on’ (attendant
circumstance)
(coalive,+ALS_[Martin]:501.6284)

b and mid blysum ontende his bare lic eall, [astrehtum
 and with torches burned his bare body all stretched-out.DAT
 limum]
 limbs.DAT
 ‘and [they] burned his bare body with torches, his limbs being
 stretched out’ (manner)
 (coalive,+ALS_[Vincent]:157.7899)

There is a long and unresolved debate over the origin of the OE absolute construction, an account of which can be found in any work on the topic (e.g., Callaway 1889, Timofeeva 2010, van de Pol 2012). It has been suggested that it is a completely native construction inherited from Indo-European (Visser 1963, Costello 1982, Holland 1986, Bauer 2000), a syntactic borrowing from Latin (Callaway 1889, Sato 2009), or a lexical borrowing (Timofeeva 2010), or that it is some kind of mix of the two, a native construction boosted by Latin influence (van der Pol 2012).

8.8.3 *Small clauses*

A small clause (SC) is a constituent made up of a subject and predicate, where the predicate lacks tense inflection. Non-finite verbal predicates (i.e. ECM/ACI infinitives: *Mary saw John leave*) are sometimes included in this category, but here are treated separately (cf. 8.1.2.1 ACI verbs). The predicate in a small clause can be a DP, AP, participle or PP.³⁸ Small clauses have not been subject to the same level of recent interest as infinitival complements. Many of the same semantic classes of verbs (physical/mental perception, causation, saying and declaring, etc.) are implicated as with infinitives, but details are lacking.

The widest range of controlling verbs occur in SCs with adjectival predicates, and the fewest with present participles with verbal force. Verbs of physical perception³⁹ (particularly *(ge)seon* ‘see’ and *findan/gemettan* ‘find’) occur frequently with adjectives and past participles, as illustrated in (241).

³⁸ I will not discuss PP predicates further here. Most of the examples to be found in the YCOE appear to be locations treated as names, as illustrated in (i). It is possible that other types exist (as in PDE *I consider him above average*), but were not parsed as small clauses and are thus not easily retrievable. More work is needed here.

(i) ðæm londe þe we nemneð æt Ely
 the land that we call at Ely
 ‘the land that we call Ely’
 (comart3,Mart_5_[Kotzor]:Ju23,A.12.1041)

³⁹ The division of verbs into physical and mental perception is long-standing but agreement of which verbs belong to which category is not uniform. Here I follow Fischer’s (1989) categorization.

(241) a *adjective*

þa gesawon hi [hine adligne]
 then saw they him sick
 ‘then they saw him sick’
 (cocathom2,+ACHom_II,_2:12.25.273)

b *past participle*

þa fand he [forbærnd... eall butan þa cyrece ane]
 then found he consumed all except the church alone
 ‘then he found all except the church alone consumed’
 (cochronE,ChronE_[Plummer]:1070.42.2612)

Verbs of mental perception (*ongitan* “perceive/recognize,” *talian* “consider/reckon,” etc.) occur with all predicate types except the present participle, as shown in (242).

(242) a *nominal*

þæt we [hine soðne God] ongeaton & wiston
 that we him true God recognized and knew
 ‘that we recognized and knew him [to be] God’
 (coverhom,HomS_2_[ScraggVerc_16]:93.2090)

b *past participle*

Gif ðanne soðlice ure scippend, ... [ure heortan &
 if then truly our creator our heart and
 ure mod þus gesetted] ongit,
 our mind thus set perceives
 ‘if then our creator truly perceives our hearts and minds set in this way’
 (coverhom,HomM_11_[ScraggVerc_14]:118.1820)

c *adjective*

þæt þu [þe ful halne and ful trumne] ongytst
 that you yourself fully whole and fully strong perceive
 ‘that you perceive yourself fully whole and fully strong’
 (cosolilo,Solil_1:34.19.456)

Causatives (*gedon*, *macian*, *lætan*) occur with nominal and adjectival predicates, as illustrated in (243). When these verbs occur with a participle, either present or past (rarely), the reading is generally adjectival, as in (244), although (245) is a possible case with verbal force.

(243) a *nominal*

& heo dyde [his deað hire agenne deað]
 and she made his death her own death
 ‘and she made his death her own death’
 (cocathom1,+ACHom_I,_30:434.142.5962)

b *adjective*

þa he [hine sylfne his scyppende gelicne] don wolde
when he him self his creator like make would
'when he would make himself like his creator'
(coverhom, HomS_34_[ScraggVerc_19]:13.2427)

(244) and, God, gedo [me lufiende and onfundne þines wisdomes]
and God make me loving and knowledgeable your wisdom
'and, God, make me loving and knowledgeable about your wisdom'
(cosolilo, Solil_1:14.4.176)

(245) Ðær hy gedydon [ðæt cild sprecende þæt ne wæs
there they made the child speaking which NEG was
anre nihte eald]
one night old
'there they made the child speak, which was not one night old'
(comart3, Mart_5_[Kotzor]:Oc28, A.9.2067)

Verbs of naming/calling (*nemnan*, *namian*, (*ge*)*cigan*, *clipian*, *hatan*) are extremely frequent with SCs with nominal predicates, as in (246), but also occur (particularly *hatan*) with adjectival predicates, as in (247).

(246) Abraham ða gecigde [Isaac hys sunu]
Abraham then called Isaac his son
'Abraham then called his son Isaac'
(cootest, Gen:21.3.862)

(247) And se ðe hine_i hæ_t [t_i stuntne], se bið wites scyldig
and he who him calls stupid he is of-punishment deserving
'and whoever calls him stupid, he is deserving of punishment'
(coaelhom, +AHom_16:150.2325)

For many verbs, the lack of a particular type of complement attested with other verbs of the same class is likely to be due to the low frequency of many of the verbs, although this area needs more work to clarify real from accidental omissions.

SCs with present participial predicates with verbal force appear to be restricted to verbs of perception, as in (248), although see (245) above for a possible example with causative *don*.

(248) a þæt heo gesawe [þone scinendan æncgel
that she saw the shining angel
cumende of heofenum to þam halgan wære]

coming from heaven to the holy man
 ‘that she saw the shining angel coming from heaven to the holy man’
 (coelive,+ALS_[Sebastian]:100.1271)

b & he gemette [swiþe manige on þæm folce wepende]
 and he found very many among the people weeping
 ‘and he found very many among the people weeping’
 (coblick,LS_20_[AssumptMor[BlHom_13]]:153.284.1918)

Callaway (1913: 228) claims this use of the present participle “with full verbal power” is unknown in poetry and rare in Early West Saxon, and then often found in translations. It is, however, frequent in Late West Saxon, especially Aelfric and the Gospels, although in the Gospels all but two of the cases are direct translations from the Latin. He concludes from this that the construction is not native, but was imported into OE chiefly by Ælfric and the Gospel translator(s).

8.9 Finite subordinate clauses

8.9.1 Declarative sentential complements

OE has much the same range of declarative finite sentential complements to verbs (249a), adjectives (249b), and nouns (249c) as is found in PDE.

(249) a Astriges se dry sæde [CP þæt hit wære byrnende stan]
 Astriges the wizard said that it was burning stone
 ‘Astriges, the wizard, said that it was burning stone’
 (coadrian,Ad:10.2.28)

b þæt he [AP wyrðe t_i] ne sy [CP_i þæt he gan mote
 that he worthy NEG be that he go might
 into Godes huse]
 into God’s house
 ‘that he should not be worthy that he might go into God’s house’
 (cowulf,WHom_15:51.1339)

c and we habbað nu [DP neode [CP þæt he dead gefylle
 and we have now need that he dead fulfill
 þæt he ne dyde on life]]
 that he NEG did in life
 ‘and we now have need that he should fulfill, dead, what he didn’t in life’
 (coelive,+ALS_[Martin]:1453.6933)

The PDE type with a *that*-clause in subject position (pre-verbal), as in PDE *That she will win is certain*, does not occur in OE, although the expletive

subject alternative *it is certain that she will win*, does occur, both with (250a), and without (250b), the subject pronoun. Verbs such as *gelimpan* ‘to happen’ also frequently occur with a post-verbal *that*-clause and an overt *hit* (251a) or empty subject (251b).

- (250) a þonne bið hit swutol [_{CP} þæt we mid yfelum
 then is it clear that we with evil
 dædum hine ær gegremedon]
 deeds him earlier provoked
 ‘then it is clear that we earlier provoked him with evil deeds’
 (coalive,+ALS[Pr_Moses]:30.2891)
- b Þam men is gecyndelic [_{CP} þæt he lufige þæt þæt god is]
 the man is natural that he love that which good is
 ‘[it] is very natural to the man that he love that which is good’
 (coalive,+ALS_[Christmas]:90.72)
- (251) a hit gelamp þa raðe [_{CP} þæt hi of life gewytan]
 it happened then quickly that they from life departed
 ‘it then quickly happened that they departed from life’
 (coalive,+ALS_[Julian_and_Basilissa]:78.986)
- b Æfter þisum gelamp [_{CP} þæt ða leasan hæðenan wrægdon
 after this happened that the false heathens denounced
 Philippum to ðam foresæden casere]
 Philip to the foresaid emperor
 ‘after this [it] happened that the false heathens denounced Philip to
 the foresaid emperor’
 (coalive,+ALS_[Eugenia]:284.361)

That-complements are also frequently used in apposition to demonstratives (252a) and nouns (252b).

- (252) a Þæt is se wisdom, [_{CP} þæt man wislice libbe]
 that is the wisdom, that man wisely lives
 ‘that is the wisdom, that man wisely lives’
 (coalive,+ALS[Pr_Moses]:325.3055)
- b and Godes miht is geswutelod soðlice þurh hi,
 and God’s power is manifested truly through her,
 [_{CP} þæt he mæg aræran ða formolsnodon lichaman]
 that he may raise the decayed bodies
 ‘and God’s power is manifested truly through her, that he may raise
 the decayed bodies’
 (coalive,+ALS_[+Athelthryth]:107.4206)

The complementizer is generally *þæt*, as shown in (251) and (252), but *þætte* (possibly from original *þæt þe*) is also used with verbs (253), but not generally with adjectives and nouns.

- (253) *Ða cwædon men [CP þætte hie wendon þæt þæt*
 then said men that they thought that that
wære goda eorre]
 was of-gods anger
 ‘then men said that they thought that that was the anger of the gods’
 (coalex,Alex:30.18.385)

There are a small number of cases, all appearing in Latin translations, which appear to have complementizer *þe*. These clauses appear as verbal complements (254a), and as appositives on demonstratives (254b) and nouns (254c).

- (254) a *þæt hwylc man þenceð & cwepeð, [CP þe God wæs beotiende*
 that any man thinks and says that God was threatening
mid þam ecum witum to synfullum mannum]
 with the eternal punishment to sinful men
 ‘that any man thinks and says that God was threatening sinful men
 with eternal punishment’
 (cogregdC,GDPref_and_4_[C]:46.334.11.5032)
- b & *luflice geþancað þæs [CP þe hi on life him*
 and dearly gives-thanks for-this that they in life him
rihte gehyrdon]
 rightly heard
 ‘and [he] dearly gives thanks for this, that they rightly heard him in life’
 (cowulf,WHom_7:145.491)
- c An *ðas redenne ic hit ðider selle, [CP ðe se monn... sie,*
 on this condition I it thither sell, that the man be
se min & minra erfewarda forespreoca & mundbora]
 the of-me and my heirs advocate and defender
 ‘I sell it thither, on this condition, that the man... be the advocate
 and defender of me and my heirs’
 (codocu1,Ch_1482_[HarmD_2:46.44)

With verbs at least, a zero complementizer, as in PDE *He said he would come*, is also possible, as illustrated in (255), although less frequent than in the modern language.

- (255) and cwæð [CP Ø he wolde wiðsacan his Criste]
 and said he would deny his Christ
 ‘and said he would deny his Christ’
 (coalive,+ALS_[Basil]:371.702)

8.9.2 Interrogative complements

Interrogative complements in OE may be either content questions headed by a *wh*-word/phrase, as in (256), or yes/no questions headed by *hweþer* ‘whether,’ as in (257). As in PDE, indirect questions in PDE exhibit declarative clause word order; i.e., the verb does not move above the subject.

- (256) a Þa iudeiscan axodon Crist [CP hwæt he wære]
 the Jews asked Christ what he was
 ‘The Jews asked Christ what he was’
 (coalive,+ALS_[Christmas]:11.8)
- b and began to wundrigenne [CP hu he wurde ðider gebroht]
 and began to wonder how he was thither brought
 ‘and [he] began to wonder how he was brought thither’
 (coalive,+ALS_[Maur]:174.1596)
- c þæt þu leornian mæge... [CP hwa þin scyppend sy]
 that you learn may who your Creator is
 ‘that you may learn who your Creator is’
 (coalive,+ALS_[Sebastian]:216.1340)
- d Sum Iudeisc man wolde gewytan... [CP hwylce mihte heo hæfde]
 some Jewish man would know which power he had
 ‘A Jewish man wanted to know which power he had’
 (coalive,+ALS_[Basil]:153.550)
- (257) a Nyte we [CP hweþer se weardmann wære æfre gefullod]
 NEG-know we whether the watchman was ever baptized
 ‘We do not know whether the watchman was ever baptized’
 (coalive,+ALS[Forty_Soldiers]:293.2671)
- b þæt hi sceoldan secgan [CP hweðer hit soð wære]
 that they should say whether it true was
 ‘that they should say whether it was true’
 (coalive,+ALS[Ash_Wed]:187.2803)

As in PDE, indirect yes/no questions may also be introduced by *gif* “if,” as in (258)

- (258) nu ic sceal geseon [_{CP} gif Crist ðe gehældð]
 now I shall see if Christ you heals
 ‘Now I shall see if Christ heals you’
 (coaelive,+ALS[Agatha]:167.2120)

Both content and yes/no questions also appear as complements of adjectives (259) and nouns (260).

- (259) a þæt þu sy [_{AP} gemyndig [_{CP} hwæt min fæder þe gedyde]]
 that you be mindful what my father you did
 ‘that you should be mindful what my father did for you’
 (coblick,LS_20_[AssumptMor[BiHom_13]]:151.245.1887)
- b þæt hie þa æt nihstan wæron [_{AP} ortriewe [_{CP} hwæþer
 that they then at last were despairing whether
 him ænig moneaca cuman sceolde]]
 them any monks come should
 ‘that they then at last were despairing whether any monks should
 come to them’
 (coorosiu,Or_4:1.85.24.1724)
- (260) a Her is on [_{DP} sio swutelung [_{CP} hu Ælfhelm his are
 here is in the declaration how Aelfhelm his property
 & his æhta geuadod hæfð for Gode & for wurulde]]
 and his possessions disposed has for God and for world
 ‘Herein is the declaration how Aelfhelm has disposed his property
 and his possessions for God and for the world’
 (codocu3,Ch_1487_[Whitelock_13]:1.220)
- b þæt he ðurh þæt ænig þara goda forgulde... in [_{DP} weninge
 that he through that any of-the goods indemnify in doubt
 [_{CP} hwæðer he eft þæs morgendæges gebidan moste]]
 whether he still the morrow live might
 ‘that he might indemnify through that any of the goods... in doubt
 whether he would still live on the morrow’
 (coverhom,LS_17.2_[MartinVerc_18]:39.2254)

Finally, embedded questions may act as (extraposed) subjects, with or without an overt expletive *hit* “it,” as (261).

- (261) a swa þæt næs gesyne syððan on his hricge
so that NEG-was seen afterward in his back
[_{CP} hwær se hofor stode...]
where the hump stood
'so that afterwards [it] was not seen on his back where the hump had
stood'
(coalive,+ALS_[Swithun]:104.4278)
- b swa ðæt hit næs gesene [_{CPi} hweðer he seoc wære]
so that it NEG-was seen whether he sick was
'so that it was not seen whether he was sick'
(coalive,+ALS_[Maur]:257.1649)

Unlike in PDE, *hweþer* can also be used to introduce apparent direct questions in OE. While in a small number of cases, *hwether* is clearly a wh-pronominal, meaning "which of two" as illustrated in (262), there are many more cases where there is no apparent argument gap, and the reading is a simple yes/no question, as in (263a), or a choice of alternatives, as in (263b). In the former (wh-pronominal) type, as can be seen from the position of the pronoun subject in (262b), the verb moves to C, as expected in a direct wh-question (cf. 8.2.3 (ii.a) *Operator-fronting V2*). In the latter type the verb remains below the subject, as can be seen in (263), giving the word order expected in indirect questions. See Allen (1980b) and van Gelderen (2009) for further discussion.

- (262) a Hwæþer lufode hyne swyðor?
which loved him more
'which [of them] loved him more?'
(cowsgosp,Lk_[WSCp]:7.41.4182)
- b hwæðerne woldes þu deman wites wyrðran, þe ðone
which would you judge of-punishment worthy, either the-one
þe ðone unscyldgan witnode, ðe ðone þe þæt wite þolade?
who the innocent injured or the-one who that injury suffered
'which [of them] would you judge worthy of punishment, the one
who injured the innocent, or the one who suffered that injury'
(coboeth,Bo:38.122.28.2444)
- (263) a Hwæðer ge nu secan gold on treowum?
whether you now seek gold in trees
'do you now seek gold in trees?'
(coboeth,Bo:32.73.24.1363)

- b Hwæðer ic cume ðe mid ege ðe mid lufe?
 whether I come either with fear or with love
 ‘shall I come with fear or with love?’
 (cocura,CP:17.117.6.784)

8.9.3 Finite adverbial clauses

OE has a range of finite adverbial clause types, traditionally divided into the semantic categories, place, time, concession, condition, comparison, purpose, result, and cause, although purpose, result, and causal clauses, which frequently have the same surface form, can sometimes be difficult to distinguish. It is not possible, for space reasons, to discuss in detail all the OE subordinate clause types, but only to touch on some issues. Details can be found in Mitchell (1985: §§2416–3721).

8.9.3 (i) *Subordinating conjunctions* Finite adverbial clauses are introduced by a large range of subordinating conjunctions, which can take various forms. Mitchell (1985: §§2419–20) recognizes non-prepositional and prepositional forms. The former are single words, which, for the most part, may or may not be accompanied by a complementizer *þæt* or *þe* (*þæt*, *swa þæt*, *þæs þe*, *swa . . . þæt*, etc.), as in (264). The latter consist of a preposition with an oblique case of the demonstrative, frequently accompanied by a complementizer (*forþon þe*, *mid þæm þe*, *forþy . . . þæt*, etc.), as in (265). In both cases, when a complementizer is present it may be grouped with or separated from the rest of the phrase, although grouped forms are more common. For details of the subordinators used to introduce the various types of clauses, see Mitchell.

- (264) a þæt heo hæbbe mihte, [swa þæt heo leahtres forbuge]
 that she has power so that she sin avoid
 ‘that she has power so that she may avoid sin’
 (coaelive,+ALS_[Christmas]:155.123)
- b [þeah ure hwylc wið oðerne gegylte on worde
 although of-us each against other sins in word
 oððe on worce]
 or in deed
 ‘although each of us sin against another in word or in deed’
 (coverhom,HomU_8_[ScraggVerc_2]:79.361)

- (265) a *Beflion þa helle wita, [for þan hit is ðærinne swiðe*
 flee the hell punishments for that it is therein very
sarlic to wuniganne]
 painful to dwell
 ‘flee the punishments of hell, because it is very painful to dwell
 therein’
 (coverhom, HomS_4_[ScraggVerc_9]:167.1312)
- b *Hine ne mihte nan þing gewyrcean, [for ðon þe nan*
 him NEG could no thing make for that COMP no
þing næs ær he]
 thing NEG-was before he
 ‘nothing could make him because nothing existed before him’
 (coalive,+ALS_[Christmas]:66.53)

8.9.3 (ii) *Correlative clauses* Adverbial clauses in OE are frequently correlative; i.e., they contain balanced matching elements in both the matrix and subordinate clause, e.g., *þa (þa) ... þa* ‘when ... then,’ *þeah ... þeah* ‘although ... nevertheless,’ *þær ... þær* ‘where ... there,’ *þider ... þider* ‘whither ... thither,’ etc., as illustrated in (266). Although the formal similarity between the subordinator and adverb can sometimes cause difficulties of interpretation, the word order (matrix VS vs. subordinate SV) can give a clue, as in (266a, d), as can the order of the clauses, since the subordinate clause is most often initial in these constructions. In some cases, however, context may be the only guide.

- (266) a *Þa he ðas word gehyrde, ða sealde he me an gewrit*
 when he these words heard then gave he me a document
 & *ænne epistolan*
 and a letter
 ‘when he heard these words he gave me a document and a letter’
 (coalex, Alex:24.19.288)
- b *ðeah ðu stille sy and unrot, þeah ic þine*
 although you quiet are and sad, nevertheless I your
æðelborennesse on ðe geseo
 nobility in you see
 ‘although you are quiet and sad, nevertheless I see your nobility in
 you’
 (coapollo, ApT:15.11.294)

- c swa hwider se lichama byþ, þider beoð gesomnode þa earnas
so whither the body is thither are gathered the eagles
'wherever the body is, there the eagles are gathered'
(cogregdC,GDPref_and_4_[C]:26.295.20.4374)
- d Ðær man Godes lof singð, þær swegð þæs Gastes stemn
where one God's love sings there sounds the Spirit's voice
'where one sings God's love, there the Spirit's voice sounds'
(coaelhom,+AHom_13:156.1955)

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Addenda and corrigenda to Volume I

I here include those additions and corrections which seem to me most urgently needed; fuller consideration of the discussion of Schulte 2007, and especially of the useful and detailed remarks of Neri 2009, will have to await a complete revision of the volume.

Ad vol. i, 2.1, p. 4

For a sophisticated and detailed archaeological hypothesis regarding the “IE homeland” see now Anthony 2007.

Ad vol. i, 2.2.4 (i), p. 12

PIE ‘bear’ is better reconstructed as *h₂rt̥kos; see the corrigendum to pp. 18–20 with references.

Ad vol. i, 2.2.4 (i), p. 15

The basic reference for the loss of laryngeals before *y is Pinault 1982; that PIE phonological rule is sometimes called “Pinault’s rule.”

Ad vol. i, 2.2.4 (ii), pp. 16–17

For extensive discussion of Sievers’ Law, Lindeman’s Law, and other problems of PIE phonology, with comprehensive bibliography, see now Byrd 2010a, 2010b.

Ad vol. i, 2.2.4 (iii), pp. 18–20

For more detailed discussions of the “thorn”-cluster problem see Melchert 2003, Pinault 2006: 118–31, Ringe 2010, all with references.

Ad vol. i, 2.3.3, pp. 27–41

For very different reconstructions of the PIE verb which attempt to take the Anatolian (mostly Hittite) evidence into account see Jasanoff 2003, Mottausch 2003.

Ad vol. i, 2.3.4 (iii) through 2.3.6 (i), pp. 47–54

The accents of the vocatives in all the PIE noun paradigms are *underlying* (as determined by the accent-and-ablaut pattern of the lexeme). They never appear *on the surface* because vocatives are deaccented and are assigned default accent on the leftmost syllabic, as explained on p. 22 of vol. i.

Ad vol. i, 2.3.6 (ii), p. 55

The paper by Jay Jasanoff referred to has now appeared as Jasanoff 2009.

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Ad vol. i, 3, pp. 67–212

For a somewhat divergent sketch of the development of Proto-Germanic (with very different emphasis) see now Euler 2009; the numerous relevant questions raised therein can only be addressed in a full revision of vol. i.

Ad vol. i, 3.2.1 (ii), p. 73

As Patrick Stiles reminds me, a reconstructable PGmc adverb ending reflects PIE abl. sg. *-ead as *-ō̄, e.g. in Goth. *þaþro* ‘from there, from then on;’ since the loss of the final consonant must have occurred long after the sound changes that yielded trimoric *ō̄ (see vol. i, p. 152), this is reasonable evidence that the contraction of nonhigh vowels after the loss of laryngeals yielded trimoric vowels in all positions, not only those in which they are still discoverable by their reflexes in the daughter languages.

Ad vol. i, 3.2.3 (i), pp. 87–8

Skt *vittás* means only ‘found’ and is probably not a true cognate of PGmc *(ga)wissaz. Av. *vistō* also clearly means ‘found’ in most instances (cf. e.g. *Yasna* 29.8, Humbach et al. 1991: 122, Kellens and Pirart 1988: 109); whether it can ever be interpreted as ‘known’ is not so clear (cf. *Yasna* 29.6, Kellens and Pirart 1988: 109 vs. Humbach et al. 1991: 121). The only clear cognate of the Germanic word is OIr. *ro-fess* ‘it has been known’. For a very different suggestion regarding the origin of PGmc *wisaz ‘wise’ see Heidermanns 1993: 665; for fuller discussion of double dental clusters see Hill 2003: 74–8.

Ad vol. i, 3.2.4 (i), p. 96

PGmc *haftaz probably meant ‘bound’, cf. Goth. dat. pl. *haftam* ‘bound, constrained’.

Ad vol. i, 3.2.4 (i), p. 99

ON *þokk* ‘thanks, satisfaction’ < *þankō (fem.) is probably a collective of the (masc.) *þankaz ‘thought, thanks, satisfaction’ reflected in OE *þanc*, OF *thonk*, OS *thank*, OHG *dank*, and (probably) Goth. acc. sg. *þagk*, given that both words have acquired a range of meanings divergent from that of *þankijanaþ ‘to perceive, to think’, the verb which is (probably) their derivational basis.

Ad vol. i, 3.2.4 (i), p. 100

In discussing the Grimm’s Law development of breathy-voiced stops into voiced obstruents with stop and fricative allophones, I suggested the following chronology. All three parts of Grimm’s Law occurred in counterfeeding order, with breathy-voiced stops yielding voiced obstruents with stop and fricative allophones; then inherited voiceless fricatives were voiced in appropriate environments by Verner’s Law, and the new voiced fricatives automatically became stops in the relevant environments. This amounts to saying that Verner’s Law was added to the sequence of ordered

phonological rules at a point in the sequence before the rule(s) governing stop and fricative allophones of voiced obstruents, even though the latter rule(s) were already part of the grammar. For some decades it has been believed that such a chronology is unexceptional.

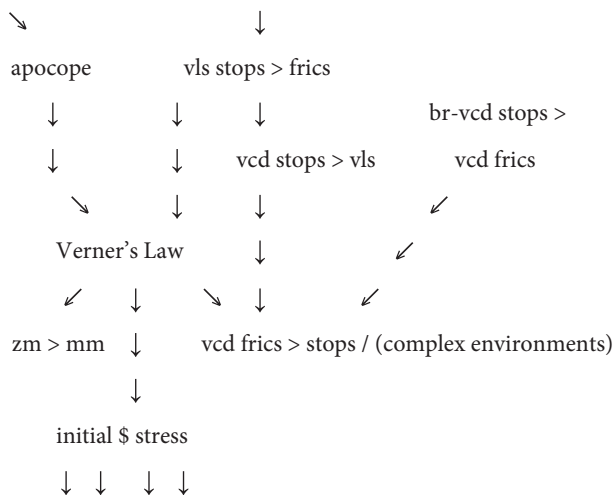
But Gress-Wright 2010 has raised serious doubts about whether such an “insertion” of a rule before the end of the ordered sequence is possible. It turns out that the apparently best examples of such a development actually developed in other ways. For instance, in Netherlandic the rule devoicing word-final obstruents was already in place in the 12th century, when adequate attestation of the language begins; the much more recent loss of word-final /-ə/ is widely believed to have fed the devoicing rule, such that newly word-final voiced obstruents were devoiced as soon as they became word-final. But there is actual evidence from dialect geography that that is not what happened; rather, a *second* word-final obstruent devoicing rule identical to the first was added to the grammar after the loss of (most) word-final /-ə/’s occurred, and the spread of this second devoicing rule across the dialect map can actually be documented (Goossens 1977). It seems likely that the addition of a new phonological rule before the end of the ordered sequence is not possible (see the discussion of Gress-Wright 2010: 115–42); what really happens is that sometimes the addition of a new rule creates an opaque grammar, and native learners subsequently eliminate the opacity by altering or reordering the rules (mistakenly; all structural changes in language begin as learner errors). Moreover, it seems that the end result can be equivalent to adding a rule before the end of the sequence only if the opacity involved only a few forms, which were thus exceptions to a rule which applied almost universally on the surface; in that case native learners would be very likely to interpret the exceptions as errors and “correct” them (see Gress-Wright 2010: 142–60).

Since Verner’s Law would have created widespread exceptions to the allophonic rules for voiced obstruents if the latter had already been in place (yielding numerous examples of *[ð] after *[n] and *[l], for example), it probably could not have been added to the grammar in non-sequence-final position. It follows that Grimm’s Law probably shifted breathy-voiced stops to voiced *fricatives*, that Verner’s Law added substantially to the number of instances of voiced fricatives, and that superficial rules creating stop allophones of those fricatives probably entered the language even later.

If that is true, then the “third part” of Grimm’s Law cannot be ordered chronologically with respect to the other two, since its output was a class of sounds previously unknown in the language; further, Verner’s Law can be ordered chronologically only with respect to the first part of Grimm’s Law—though the change of voiced fricatives into voiced stops in various environments does have to have followed the first two parts of Grimm’s Law. In other words, the scenario that I downplayed in vol. i, p. 100, is probably what really happened.

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The chronology of sound changes in vol. i, p. 152, should therefore be revised as follows:



Ad vol. i, 3.2.4 (iv), pp. 114–15

Delete OE *slīc*, which is apparently a ghostword (Heidermanns 1993: 508).

ON *sækja* can signify ‘go to get’ as well as ‘visit’ and several related notions; delete ‘meet’, ‘met’.

Ad vol. i, 3.2.5 (i), p. 116

An OHG form *aba* ‘off, away’ occurs beside *ab*; it seems possible that it reflects a proclitic form in which the word-final vowel was not lost because it did not occur at the end of a phonological word.

Ad vol. i, 3.2.5 (ii), p. 120

Another interaction of sound changes contrasts sharply with the Verner’s Law case discussed above (Gress-Wright 2010). The resolution of syllabic sonorants into *uR-sequences would have created only a few violations of Sievers’ Law, which we know was inherited from PIE. Native learners are therefore likely to have interpreted the resulting anomalous sequences as mistakes and to have applied Sievers’ Law to them more or less immediately. The “reapplication”—or, better, the continuing productivity—of Sievers’ Law therefore still seems the likeliest hypothesis to account for PGmc **wurkijana*, etc.; that a second Sievers’ Law sound change, identical to the first (except that it affected only *j), occurred in pre-PGmc cannot be excluded but seems less likely. See also Byrd 2010b.

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Ad vol. i, 3.2.5 (iii), pp. 124–6

OE gen. sg. **mȳs* happens not to occur (though the innovative *mūse* does). Parallel unlauded gen. sg. forms of other fem. root-nouns do occur (Campbell 1962: 252–4, Brunner 1965: 227–8).

In 2010 I learned that Jens Rasmussen had already suggested that **ew* became PGmc **aw* word-finally and before final consonants. Such a sound change is listed in the relative chronology of changes in Rasmussen 1983: 214–15 and discussed Rasmussen 1983: 207–8 n. 10; in the latter passage Rasmussen also suggests that *i*-stem gen. sg. *-*aiz* is modelled on *u*-stem *-*auz* (as in vol. i, 4.3.4, pp. 272–3). A development *-*ews* > *-*auz* was also posited (without further discussion) by Bazell 1937: 4.

Ad 3.2.6 (i), p. 129

It should perhaps be stated explicitly that the **y* of tautosyllabic diphthongs survived (traditionally written *i* in Germanic philology).

Ad 3.2.6 (i), p. 131

The usual OHG masc. nom. of ‘three’ is inherited *drī*; *drīe* is late OHG. For exhaustive discussion see Eichner 1987: 191–6.

Ad vol. i, 3.2.6 (iii), pp. 139–41

One regular sound change was omitted from the first volume by oversight, missed because it had no consequences for PGmc grammar and interacted with no other sound changes. PIE **sr* became PGmc **str*; there are at least two certain examples:

- PIE **srew-* ‘to flow’ (cf. Skt *srāvati* ‘it flows’, Gk *ῥεῖ* /*hrēi*/ < **hréwei*) in derived noun **srówmos* ‘stream’ > PGmc **straumaz* (cf. ON *straumr*, OE *strēam*);
- PIE **h₂éwsōs* ‘dawn’ → **h₂usōs* (cf. Skt *uṣās*, Homeric Gk *ῥῶς* /*εῖ:ῥ:s/*) with post-PIE derived stem **ausrā-* (cf. Lith. *ausrà*) >→ PGmc **austrōn-* ‘festival of the dawn goddess’ > (cf. OE *Ēastron*, OHG *Östrūn*, both “Easter”).

PGmc **swestēr* ‘sister’ (OE *sweostor*, OHG *swester*) is not a certain example of this sound change (regardless of the ablaut of its suffix), since it could owe its *-*t-* to lexical analogy with **duhtēr* ‘daughter’ (and **mōdēr* < PIE **meh₂tér* ‘mother’, if the analogy occurred before Grimm’s Law operated); on the other hand, it is possible that the application of this sound change to such forms as dat. sg. **swésrey*, which should have become pre-PGmc **swéstrei* > PGmc **swistrī*, prompted the shift of ‘sister’ into the class of relationship terms in *-*ter-* (Stiles 1984b: 121–2).

Ad vol. i, 3.3.1, pp. 151–69

For a somewhat different sketch of the development of the PGmc verbal system, positing a greater role for the aorist, see now Mottausch 2013.

Ad vol. i, 3.3.1 (i), pp. 153–5

For a different reconstruction of the origin of the preterite-presents see now Tanaka 2011. Bammesberger 2000 agrees that PGmc **ar-* was a preterite-present but suggests

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that its PIE etymon is *h₂er- ‘fit’, which might make it easier to account for the verb’s lack of ablaut.

Ad vol. i, 3.3.1 (iii), p. 164

For Av. “*v̥arəštō*” read *varštō*.

Ad vol. i, 3.3.1 (iii), p. 165

For Goth. “*soþ*” read *soþa*.

Ad vol. i, 3.3.1 (iv), pp. 167–8

In 2009 I learned that Jens Rasmussen had already proposed that the weak past developed from the past participle plus “did” by haplology (Rasmussen 1996; I am grateful to Ronald Kim for the reference). Though there are inevitably differences of detail, Rasmussen’s idea is clearly the same as mine, and I am happy to acknowledge his priority. Whether the fact that we have reached the same conclusion independently makes the idea more plausible must be left to the reader to decide.

There is still no unanimity regarding the origin of the weak past; on the contrary, every researcher who has dealt with the question has proposed a different scenario. In addition to Tops 1974 (for the older literature), 1978, Lühr 1984, Jasanoff 1995, Rasmussen 1996, Hill 2004, and Ringe 2006: 179–92, see now Kim 2009, Stiles 2010, Mottausch 2013: 28–35, and Hill (forthcoming). As might be expected, the different proposals account for different subsets of the data more or less well and are more or less compatible with what is known about morphological change; interested readers would be well advised to read the above articles and draw their own conclusions. Here I will only offer a brief defense of my own proposal and discuss a further article that changes the balance of evidence substantially.

An often repeated objection to my proposal is that I need to posit haplology in the weak past twice, once for the indicative singular forms (in (pre-)PGmc, since Gothic shares the nonsyllabic suffix *-d-*) and again for the rest of the paradigm (in NWGmc only, since that subgroup exhibits nonsyllabic **-d-* against Gothic *-ded-*). Strictly speaking, that is not true: once the nonsyllabic suffix alternant **-d-* had arisen in part of the paradigm, it could have spread to the rest of the paradigm by levelling—a morphological, not a phonological, change. But in any case repeated haplology in allegro forms of long, morphologically complex words is not at all implausible; on the contrary, a class of forms in which it happened once are likely to remain potential targets of such a change. Nor is it necessary to suppose that the long vowel of **-dēd-* underwent haplology while still long; shortening of unstressed vowels in long words is also a common feature of allegro speech, and once shortened the vowel would be more susceptible to haplology. To the objection that haplology is not a regular sound change I can only repeat what I have said elsewhere: haplology is known to be a widespread type of change, and if we emphasize methodological rigor to the point of excluding developments which we know are unremarkable, we will be flouting the uniformitarian principle.

But in one respect all hypotheses, including mine, need to be reconsidered. Paul Kiparsky has shown convincingly that at least some Old High German weak pasts behave phonologically like nominal compounds; in particular, the *-i- of class I weak past stems is lost after a heavy syllable (though syncope is not regular in non-compound words), the subjunctive vowel *-ī- fails to trigger i-umlaut (like high front vowels in the second members of compounds, but unlike high front vowels in suffixes), and in some dialects the stem vowels of the weak past unexpectedly fail to be shortened (Kiparsky 2009). It is difficult to see why weak past stems should have been *reanalyzed* as compounds within the separate history of Old High German; it seems much more likely that their compound-like phonology is inherited, and in fact it is easy to see how univertation could have given rise to such a situation. But that undermines my objection to the idea that a free-standing past *dēd- might have influenced the shape of an inherited suffix *-ded- in Gothic (perhaps in Gothic only; see Ringe 2006a: 179–80 with references). If *-ded- were merely an unstressed suffix, my objection would be reasonable; but if it was actually a secondarily stressed member of compounds, it is obviously realistic to suggest that it could be influenced by a related monomorphemic stem. In other words, the replacement of *frawárdidēdun ‘they ruined’ (or even *frawárdidūn?) by *frawárdidēdun under the influence of *dēdun ‘they did’ is no more surprising than the replacement of Old English *cynedōm* ‘royal authority, kingdom’ by *cyningdōm* (which is also attested) under the influence of *cyning* ‘king’. At a minimum, this means that we can no longer project the suffix alternant *-dēdun into PGmc with confidence (though we probably do still need *dēdun ‘they did’).

On the other hand, I reject the hypothesis that the Alemannic weak past endings 1pl. *-tōm*, 2pl. *-tōt*, 3pl. *-tōn* preserve the original PGmc vocalism of the endings (Hill 2004: 290–2) for a simple and compelling reason. The *ō of these endings is restricted to one part of the OHG speech area; not only the more northerly and easterly varieties of WGmc, but also Old Norse and Gothic, exhibit *u in these endings instead. No two of the three languages (or dialect continua) with *u form a subgroup, as the first two chapters of this volume demonstrate. Therefore, if *ō was the PGmc vowel in these endings, even if we suppose that Norse and the “Ingvaenic” dialects of WGmc remained in close enough contact long enough for significant changes to have spread across the dialect boundary, *u would have to have been introduced by morphological change at least twice, in Gothic and in NWGmc; possibly the change would have to have occurred independently three times, in Gothic, ON, and WGmc. Since morphological changes are less repeatable than sound changes, this scenario violates Occam’s Razor, other things being equal; we should instead prefer a purely High German solution to this purely High German problem. I adopt and develop the solution of Hollifield 1980: 151, noting its consequences in section 3.2.1.

Ad vol. i, 3.3.2, pp. 169–70 and 4.3.5 (i), pp. 281–3

A more accessible reference for the pronominal inflection of strong adjectives is McFadden 2003.

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Ad vol. i, 3.4.3 (i), pp. 180–1

Ilya Yakubovich (p.c.) points out that the merger of the stative and factitive classes under the form of the factitives is problematic only if it occurred after the PGmc period, when the factitives had become comparatively rare. He suggests an alternative which strikes me as highly plausible: most statives adopted the inflection of the factitives in pre-PGmc, when the latter can have been more numerous; only ‘have’, ‘say’, ‘live’, ‘be silent’, and perhaps a few others, such as ‘follow’ (see 3.3.2), retained the old stative paradigm in *-ai- ~ *-ja-. The subsequent developments in the daughter languages amount largely to the elimination of this relic class.

Ad vol. i, 3.4.3 (ii), pp. 190–1

It is easier to explain the Anglian OE class VII strong pasts *heht* ‘called’, *leort* ‘let’, etc. on the assumption that the past stems of *lētanaþ ‘to let go, to allow’ and *rēdanaþ ‘to advise’ exhibited ablaut between the indic. sg. and the rest of the paradigm: indic. 1, 3sg. *lelōt, *rerōd, 2sg. *lelōst, *rerōst, default stem *lelt-, *rerd- (Bammesberger 1980: 7–8, Jasanoff 2008: 244). The lost root-vowel in the latter forms was zero-grade *ə < *h₁ (see vol. i, 3.2.6 (ii), pp. 137–9). In that case the generalization of *ō throughout the past stem was an independent innovation of Gothic and the Scandinavian dialects (cf. OSwed. *lót*, 3pl. *lōtu*, and perhaps ON *tók*, 3pl. *tóku*).

Ad vol. i, 3.4.3 (iii), pp. 195–6 and 4.3.3 (iv), p. 262

Patrick Stiles (p.c.) points out that the *z of *izum ‘we are’, etc., is a good reason to believe that such forms existed in PGmc, not merely in PNWGMc. The argument is as follows. Before the pre-PGmc change of *zm to *mm (see vol. i, 3.2.6 (iii), p. 141) both 1sg. *izmi ‘I am’ and 2sg. *izi ‘you are’ exhibited root-final *z; an extension of the root-alternant *iz- to all other first- and second-person indicative forms would therefore have been natural. After *izmi had become *immi, however, only the 2sg. still exhibited root-final *z, and that seems too small a basis for levelling into the non-third-person non-singular forms. Since that was the situation already in PGmc, analogical creation of a stem *izu- in PNWGMc is very implausible, perhaps even impossible.

Ad vol. i, 3.4.4 (ii), pp. 201–2

See now Cowgill 2006b: 524–6, 528–9.

Ad vol. i, 3.4.5 (ii), p. 206 and 4.3.6 (i), p. 288

Jens Ulff-Møller (p.c.) points out that the shift in the formation of numerals between ‘twelve’ and ‘thirteen’ and the shift in the formation of decads between ‘sixty’ and ‘seventy’ both point to a duodecimal rather than a decimal system of counting (cf. e.g. Ulff-Møller 1991). So far as I know, the development of this pattern in PGmc and its early daughters has never been explored in detail.

Ad vol. i, 3.4.5 (iii), pp. 207–8

See now Cowgill 2006b, which offers a more definite and detailed assessment of the prehistory of Germanic pronominal inflection.

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Ad vol. i, 3.4.5 (iv), pp. 210–11

The PGmc 2du. oblique pronoun *ink^w- can have been created on the model of 1du. *unk^w- by native learners (i.e., small children) according to the following principle. Since 1pl. nom. *wiz and 2pl. nom. *jüz differ only in that the buccal features of the high vocalics have been reversed, and (originally unstressed) 1du. nom. *wit and 2du. nom. *jut likewise differ in exactly the same way, 1du. oblique *unk^w- can be modified by the same rule to give 2du *ink^w-. Conceivably the same rule could then have been used to “adjust” 2pl. oblique *uzw- (which we would expect on etymological grounds) to *izw-; we would thus have an analogical source for the unexpected *i- of the latter stem (though the rule does not predict the persistence of *-w-). Unfortunately such “crazy” rules are rare, and it is somewhat surprising that the output of such a rule was accepted and generalized in the (pre-)PGmc speech community (if that is what happened).

Ad vol. i, 4.2.1, pp. 219–20

On the possible origins of PGmc *st reflecting a cluster of coronal stops see the exhaustive discussion of Hill 2003: 78–217.

Ad vol. i, 4.2.2 (i), p. 222

The late WS spelling *firgen-* probably represents *fiergen-, with a “broken” first-syllable vowel and velar (rather than palatal) g; see section 6.6.4 of this volume for discussion.

Ad vol. i, 4.2.2 (ii), p. 227

That at least some class II strong verbs with *ū in the root might be modelled on class I has been seen by several earlier scholars; see e.g. Prokosch 1939: 150, Nielsen 1985: 202–3 with references.

Ad vol. i, 4.3.3 (ii.e) and (ii.f), pp. 256–9

See the addenda to pp. 180–1 above. Note also that we apparently must reconstruct for PGmc a verb meaning ‘think’ with a unique inflection: weak class I pres. *hugjanaþ but weak class III past *hugdē. In Gothic and ON, and for the most part in OHG, the reflex of this verb is an ordinary class I weak verb, but the split paradigm just described is robustly attested in OE and OS, and relics of the class III past occur also in OHG.

Ad vol. i, 4.3.3 (iii), p. 262

See also Tanaka 2011 for in-depth discussion of preterite-present verbs.

Ad vol. i, 4.3.3 (iv), p. 262

In one point my reconstruction of the paradigm of ‘do’ should probably be revised. I suggested (p. 264) that the past participle ‘done’ was PGmc *dōnaz or *dōnaz. Such a form probably must underlie OS *andōn*, (*gi*)*duan* (cf. Gallée 1993: 271), since PWGmc *ā was not usually rounded before a surviving nasal consonant in OS (cf. OS *quāmun* ‘they came’, *nāmun* ‘they took’, *māno* ‘moon’, *sān*, *sāno* ‘immediately’, *wān* ‘hope’),

quān ‘wife’, *jāmar* ‘lamentation’; contra only *rōmon* ‘to strive’). However, OHG *gitān* and occasional OS *indān*, *tōgidānemo* instead exhibit PGmc *ā < PGmc *ē. (OE *dōn* is ambiguous; on the OF forms, which are difficult to evaluate, see van Helten 1890: 241.) It is not inconceivable that the *ā of the southern WGmc forms has been introduced from the default finite past stem *dād-; but it seems more likely that the PGmc participle was *dēnaz > PWGmc *dān, and that the *ō of the northern WGmc forms (to the extent that it is not simply the sound change outcome of *ā before a nasal) was levelled in from the present stem (so Hill 2004: 284). It does not follow that some form of the present stem *must* also have exhibited PGmc *ē (Hill 2004: 285); this verb is simply too anomalous to permit inferences about its original pattern of inflection with any certainty. Note especially that pre-PGmc *d^heh₁-nó- could have replaced expected *d^hh₁-nó- as a result of whatever remodelling of ablaut eliminated the zero-grade forms of *d^heh₁-tí- ‘deed’ (> PGmc *dēdiz).

Ad vol. i, 4.3.4, pp. 268–80

For a much fuller treatment of the inflection and derivation of PGmc nominals, and different judgments of numerous details, see Bammesberger 1990. On the a-stem nom. pl. masc. see further 4.2.2 of this volume.

Though the Gothic and ON inflection of r-stem kinship terms reflects generalization of the zero grade of the suffix throughout the plural, the WGmc forms probably demand reconstruction of a full-grade suffix in the nom. and acc. pl. This problem is addressed in sections 4.2.2 and 7.2.2 of the current volume.

Ad vol. i, 4.3.4 (i), pp. 272–3

I remain unconvinced that there are any traces of amphikinetic u-stems in Gothic (pace Braune and Heidermanns 2004: 101–2, §105 Anm. 2 with references). Hesitation between the spellings ⟨u⟩ and ⟨au⟩ in the singular endings of u-stem nouns can be explained by (1) a merger of unstressed *u* and (necessarily shortened) *au* in late Gothic and (2) a conservative spelling tradition which faithfully maintained the graphic distinction in most morphological categories but failed to do so in this one. On PGmc. gen. sg. *-auz see the addenda to pp. 124–6 above.

Ad vol. i, 4.3.4 (i), pp. 274–5

While certainty about the development of the nom. sg. of masculine n-stems in Norse is probably unattainable, it still seems to me unlikely that PGmc *ē in final syllables was written ⟨a⟩ in Early Runic but remained front enough to yield ON *-e* > *-i* (pace Nedoma 2005, Schulte 2007: 405, Neri 2009: 5–6). Note especially that the coexistence of ⟨-o⟩ and ⟨-a⟩ as nom. sg. endings for some centuries is not a clinching argument that the latter was not an innovative replacement of the former; morphological replacements can take generations to go to completion, the competing variants being distributed along geographical and/or sociolinguistic lines (a possibility noted by Nedoma 2005: 162). Early Runic *swestar* is not supporting evidence for ⟨a⟩ = *ē, since Stiles 1984 has demonstrated that it can reflect a vocative in *-er rather than a nominative in *-ēr. The development of the masc. n-stem nom. sg. ending outlined in vol. i goes back to Lid 1952; see also the discussion of Syrett 1994: 134–52.

Ad 4.3.5 (i), pp. 281–3

On the stem formation of adjectives see especially the exhaustive list and extensive commentary of Heidermanns 1993.

Ad vol. i, 4.4.2 (ii), pp. 294–5

It is possible that already in the PGmc period two lexemes which had been the second members of compounds were already developing into adjective-forming suffixes, since all the daughter languages show such a development. The following details seem worth noting (Meid 1967: 226–7).

An element *-sama- ‘same’ developed into an adjective-forming suffix at such an early date that the process can no longer be reconstructed. Note the following examples:

PGmc *lustusamaz ‘longed-for’ > Goth. *lustusams*, OS, OHG *lustsam* ‘gratifying, pleasant’; with further suffix in ON *lystisamligr* ‘delightful’, OE *lustsumlic* ‘pleasant’;

PNWGMc *friþusamaz ‘peaceful’ > ON *friðsamr*, OHG *fridusam*; OS adv. *fridusamo*;

PWGMc *langasam ‘long-lasting’ > OE *langsum* ‘protracted, tedious’, OS, OHG *langsam*;

PWGMc *ganuhtisam ‘sufficient’ > OE *ġenyhtsum* ‘abundant, satisfying’, OHG *ginuhtsam* ‘abundant, overflowing’;

PWGMc *lobasam ‘praiseworthy’ > OE *lofsum*, OHG *lobosam*.

The PGmc noun *liką ‘body’ was the second member of numerous bahuvrihi compounds in which it meant ‘shape, form’. In all the attested Germanic languages, including Gothic, it has become a suffix meaning ‘of...kind’. Some examples are reconstructable for PGmc, e.g.:

PGmc *swalikaz ‘of such a kind’ > Goth. *swaleiks*, ON *slikr*, OE *swelc*, OS *sulik*, OHG *sulih* (with the phonology of allegro forms in all the daughters except Gothic);

PGmc *h^walikalaz, *h^wilikaz ‘of what kind?’ > Goth. *hwileiks*, ON *hwílikr*, OE *hwelc*, *hwilc* ‘which’, OF *hwelik* ‘which’, OS *hwilik* ‘what kind of, which’, OHG *welih* ‘what kind of, which’;

PGmc *leubalikaz ‘desirable, lovely’ > OE *lēoflic*, OS *lioblik*, OHG *lioblih*; OF adv. *liāflike* ‘cordially’.

Still others are reconstructable for PWGMc (see Meid 1967: 227).

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