

## A Diachronic Account of Old English High Vowel Deletion\*

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### 0. Introduction

This paper is devoted to an explanation of exceptions to a constraint on Old English High Vowel Deletion (henceforth, OE HVD), which is proposed in Okazaki (1987; to appear), on the basis of a survey of the data in The Anglo-Saxon Poetic Records (henceforth, ASPR).

In section 1, I will briefly review a proposal in Okazaki (1987; to appear) and point out that there are two kinds of exceptions to my proposed principle, called the Principle of Markedness for Phonological Derivation. In section 2, on the basis of an investigation into the data in ASPR, I will argue that a linguistic change arose in the early OE period which makes it possible for vowels to be deleted freely even in a case where their deletion seems to result in violation of the principle. Finally, in section 3, I will explain the problematic cases in terms of rule simplification and rule addition in the postlexical level and claim that they are not exceptions to the proposed principle.

### 1. A Problem

In Okazaki (1987; to appear), I proposed a universal principle governing the phenomenon of vowel deletion as in (1), called the Principle of Markedness for Phonological Derivation.

#### (1) Principle of Markedness for Phonological Derivation

Lexical rule application must produce a syllable structure in which the markedness value of the peak is equal to or lower than that of the immediately preceding stage in a derivation.

This principle explains exceptions to the previous generalization on OE HVD in (2), which is formulated in terms of heavy syllable (H:  $C_0VC_0$ ;  $C_0VC_1$ ) and light syllable (L:  $C_0\check{V}$ ).

#### (2) OE HVD

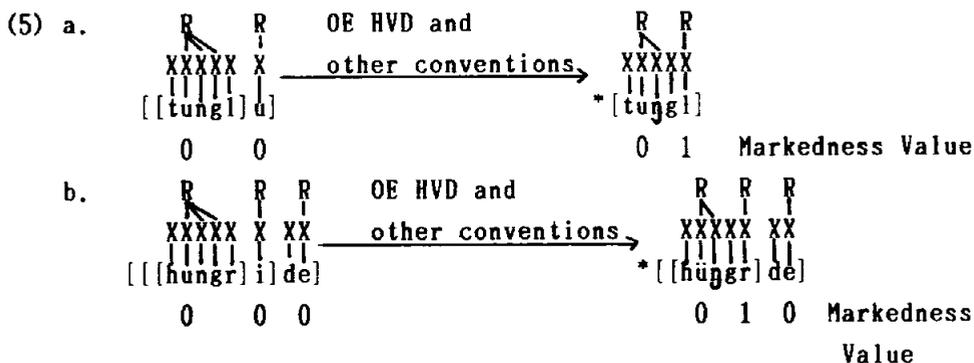
A high vowel is deleted when it is contained in an L which

immediately follows one H or two L's.

We give typical exceptions to (2) below': in (3), the high vowel /u/ is retained; in (4), /i/ is retained and lowered to /e/ by the rule of i-Lowering.<sup>2</sup>

- (3) a. tunglu: n.a.pl. of tungol 'star'  
 b. tācnu: n.a.pl. of tācen 'token'  
 c. wolcnu: n.a.pl. of wolcen 'ball'  
 d. wundru: n.a.pl. of wundor 'wonder'
- (4) a. hyngrede: pret.1.3.sg. of hyngran 'to be hungry'  
 b. timbrede: pret.1.3.sg. of timbran 'to build'  
 c. gierede: pret.1.3.sg. of gierwan 'to dress'  
 d. hierede: pret.1.3.sg. of hierwan 'to condemn'

In each of the above examples, if a high vowel is deleted, a syllabic consonant is derived. More specifically, the position of the peak in the second syllable of each word is occupied by a sonorant. That is, the markedness value of the peak of the second syllable becomes higher, as schematically expressed in (5).<sup>3</sup>



Obviously, the derivations in (5) violate principle (1). That is why the high vowels are retained in a deletion environment.<sup>4</sup>

An investigation into the data in ASPR reveals, however, that there are forms which seem to violate the proposed principle. The first class of exceptions are the nominative and accusative plurals of the TUNGOL-type nouns. Typical examples are:

- (6) a. tungol (as n.a.pl. of tungol)



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 evnde

---

 yiür(w)de

---

 hiür(w)de

We have shown above that a high vowel can possibly be deleted even if its deletion brings about violation of principle (1). Thus, our task in this paper is to answer a question as in (10).

- (10) Why is it that a high vowel is deleted even if its deletion seems to result in violation of principle (1)?

## 2. Fluctuation Described Diachronically

We begin by investigating the relevant data in detail from a statistical and a diachronic point of view.

### 2.1. N.a.pl. of the TUNGOL-Type Nouns

Let us first look at the numeral and the chronological distributions of the nominative and accusative plurals of the TUNGOL-type nouns such as those in (11).

- |      |                |                 |
|------|----------------|-----------------|
| (11) | dēofol 'devil' | fācen 'sin'     |
|      | fōdor 'food'   | tācen 'token'   |
|      | tungol 'star'  | wæpen 'weapon'  |
|      | wolcen 'ball'  | wundor 'wonder' |

An exhaustive list of occurrence of the nominative and accusative plurals is given in (12)-(19). As TABLE I shows, there are 31 examples in total: 9 examples retain the inflectional ending -u (TYPE A), while 22 examples lack the ending and mostly have a parasite vowel in the word-final syllable (TYPE B).

- |      |    |              |   |          |
|------|----|--------------|---|----------|
| (12) | a. | dēofol (pl.) | 1 | Chr.1531 |
|      | b. | dēoflu (pl.) | 1 | Dan.749  |
|      | c. | dēofl (pl.)  | 0 |          |
|      |    | TOTAL        | 2 |          |
| (13) | a. | fōdor (pl.)  | 1 | P.103.13 |
|      | b. | fōdru (pl.)  | 0 |          |
|      | c. | fōdr (pl.)   | 0 |          |
|      |    | TOTAL        | 1 |          |

(14)	a.	fācen (pl.)	1	P.128.2
	b.	fācnu (pl.)	0	
	c.	fācn (pl.)	0	
		TOTAL	1	
(15)	a.	tācen (pl.)	2	Chr.1253; P.73.41
	b.	tācnu (pl.)	0	
	c.	tācn (pl.)	0	
		TOTAL	2	
(16)	a.	tungol (pl.)	2	Chr.933; Phx.96
	b.	tunglu (pl.)	4	Dan.368; Mx1.40; MB4.5, 29, 4
	c.	tungl (pl.)	4	MB.28.6, 12; 29.9, 12
		TOTAL	10	
(17)	a.	wæpen (pl.)	3	Wan.100; Bwf.292; Jud.290
	b.	wæpnu (pl.)	0	
	c.	wæpn (pl.)	0	
		TOTAL	3	
(18)	a.	wolcen (pl.)	4	P.77.251; 103.41; 113.43; 134.72
	b.	wolcnu (pl.)	3	Gen.212; MB.24.10; Mx2.13
	c.	wolcn (pl.)	0	
		TOTAL	7	
(19)	a.	wundor (pl.)	4	And.730; Glc.156; Bwf.2750, 3130
	b.	wundru (pl.)	1	P.87.12
	c.	wundr (pl.)	0	
		TOTAL	5	

TABLE I

TYPE A	TYPE B	TOTAL
9	22	31

Turning to diachronic consideration, we can find a rather striking fact, which is shown in TABLE II.<sup>6</sup> In alliterative poems written at the beginning of the eighth century or in the earliest period of OE, only TYPE A cases appear; on the other hand, in poems written in the later period, the examples of TYPE B prevail over

those of TYPE A.

TABLE II

TEXT	WRITTEN	TYPE A	TYPE B
Daniel Genesis	at the beginning of the 8c.	2 1	0 0
Beowulf	Early 8c.	0	3
Andreas Phoenix Christ Guthlac Maxim 1	Late 8c. — Early 9c.	0 0 0 0 1	1 1 3 1 0
Paris Psalter Meters of Boethius	Late 9c. — Early 10c.	1 3	7 4
Judith Maxim 2	10c.	0 1	1 0

On the basis of the chronological distribution exhibited in TABLE II, we can safely say that TYPE A is an older form than TYPE B. If this conclusion is plausible, it is not unreasonable to claim that a linguistic change came about probably in the early eighth century. The change, in fact, allows the high vowel /u/ to be deleted freely irrespective of the production of a syllabic consonant.

## 2.2. Preterite Forms of the HYN GRAN-Type and GIERWAN-Type Verbs

Let us next observe in (21)-(36) the numeral distribution of preterite forms of the HYN GRAN-type and GIERWAN-type verbs such as those indicated in (20).

- (20) a. HYNGRAN-type verbs
- |                      |                         |
|----------------------|-------------------------|
| æfnan 'to perform'   | geæfnan 'to sustain'    |
| efnan 'to level'     | geefnan 'to level'      |
| frēfran 'to console' | āfrēfran 'to make glad' |
| ræfnan 'to perform'  | āræfnan 'to accomplish' |
| timbran 'to build'   | getimbran 'to build'    |
- b. GIERWAN-type verbs
- |                      |                        |
|----------------------|------------------------|
| gierwan 'to dress'   | gegierwan 'to dress'   |
| hierwan 'to condemn' | gehierwan 'to condemn' |
| sierwan 'to plan'    | gesierwan 'to equip'   |

There are 80 preterite forms in ASPR relevant to our discussion, as indicated in TABLE III. Among them, 53 examples are synchronically derived without deleting /i/, as principle (1) requires (TYPE A); the other 27 examples are derived through the deletion of /i/ in word-medial position (TYPE B).

## (21) æfnan

a. æfnede	0
b. æfnde	1 Bwf.1254
c. æfnedest	0
d. æfndest	0
e. æfnedon	0
f. æfnodon	0
TOTAL	1

## (22) geæfnan

a. geæfnede	0
b. geæfnde	2 Chr.1429; Glc.1108
c. geæfnedest	0
d. geæfndest	0
e. geæfnedon	0
f. geæfnodon	1 Bwf.538
TOTAL	3

## (23) efnan

a. efnede	1 P.118.131
b. efnde	4 Dan.186; Bwf.2133, 3007; P.118.148

c.	efnedest	0	
d.	efndest	0	
e.	efnedon	1	Dan.183
f.	efndon	1	Ele.713
	TOTAL	7	
(24)	geefnan		
a.	geefnede	0	
b.	geefnde	1	Ele.1014
c.	geefnedest	0	
d.	geefndest	0	
e.	geefnedon	0	
f.	geefndon	0	
	TOTAL	1	
(25)	frēfran		
a.	frēfrede	0	
b.	frēfrde	0	
c.	frēfredest	1	P.85.17
d.	frēfrdest	0	
e.	frēfredon	0	
f.	frēfrdon	0	
	TOTAL	1	
(26)	āfrēfran		
a.	āfrēfrede	1	P.152.24
b.	āfrēfrde	0	
c.	āfrēfredest	0	
d.	āfrēfrdest	0	
e.	āfrēfredon	0	
f.	āfrēfrdon	0	
	TOTAL	1	
(27)	ræfnan		
a.	ræfnede	0	
b.	ræfnde	0	
c.	ræfnedest	0	
d.	ræfndest	0	
e.	ræfnedon	0	

f. ræfndon	1	Jud.11
TOTAL	1	
(28) ar fnan		
a. āræfnede	2	P.68.20.2.; 129.5.2.
b. āræfnede	0	
c. āræfnedest	0	
d. āræfnedest	0	
e. āræfnedon	0	
f. āræfndon	0	
TOTAL	2	
(29) timbran		
a. timbrede	1	Gen.2841
b. timbrde	0	
c. timbredest	0	
d. timbrdest	0	
e. timbredon	0	
f. timbrdon	0	
TOTAL	1	
(30) getimbran		
a. getimbrede	2	Exo.391; Ele.1009
b. getimbrde	0	
c. getimbredest	0	
d. getimbrdest	0	
e. getimbredon	0	
f. getimbrdon	0	
TOTAL	2	
(31) gierwan		
a. gierede	6	Gen.941; Chr.1166; Glc.177; Bwf.1441; R.26.13; SnS.90
b. gier(w)de	5	Gen.2866; P.77.31; 88.301; Fnb.13; Mch.1
c. gieredest	0	
d. gier(w)dest	0	
e. gieredon	2	DrR.77; Bwf.994
f. gier(w)don	1	PCE.1
TOTAL	14	

## (32) gegierwan

a. gegyrede	10	Jln.40; Bwf.1028, 2192; P.64.41; 92.11; 92.22; 108.181, 281; 143.152; Mch.2.26
b. gegyrde	1	R.73.16
c. gegyredest	1	P.103.22
d. gegier(w)dest	0	
e. gegieredon	0	
f. gegier(w)don	0	
TOTAL	12	

## (33) hierwan

a. hierede	1	Xst.421
b. hier(w)de	6	Gen.797; SnS.453; MB.7.22; 13.31; 26.8, 41
c. hieredest	0	
d. hier(w)dest	0	
e. hieredon	12	Gen.15, 1855; Exo.576; Dan.256, 357, 444; And.873; Ele.892; Chr.470; Aza.68; Jln.560; Rim.19
f. hier(w)don	1	Ele.387
TOTAL	20	

## (34) gehierwan

a. gehierede	0	
b. geherde	1	MB.9.15
c. gehieredest	0	
d. gehier(w)dest	0	
e. gehieredon	0	
f. geherdon	1	Xst.235
TOTAL	2	

## (35) sierwan

a. syrede	1	Bwf.161
b. sier(w)de	0	
c. sieredest	0	
d. sier(w)dest	0	
e. syredon	1	And.610
f. sier(w)don		

TOTAL	2	
(36) gesierwan		
a. gesyrede	1	Jln.468
b. gesier(w)de	0	
c. gesieredest	0	
d. gesier(w)dest	0	
e. gesieredon	0	
f. gesier(w)don	0	
TOTAL	1	

TABLE III

TYPE A	TYPE B	TOTAL
53	27	80

Viewed from a diachronic perspective, some striking facts arise. First, as explicitly indicated in TABLE IV, the examples of TYPE A mainly appear in alliterative poems written in the early OE period; on the other hand, those of TYPE B appear in both the early OE and the late OE periods. A second fact to be noted is the change in the rate of occurrence of both types of examples: the rate of occurrence of TYPE B examples goes up from 25.4% to 52.0% towards the late OE period, while that of TYPE A examples goes down from 74.6% to 48.0%.

On the basis an observation made just above, we can safely conclude that TYPE A examples are older preterite forms of the HYNGRAN-type and GIERWAN-type verbs. This suggests that a linguistic change occurred in the early OE period which makes it possible for a word-medial /i/ to be deleted freely. We can also say that the change continued to advance through the OE period, because the fluctuation between TYPE A and TYPE B is observed in poems written in both the early OE and the late OE periods.

TABLE IV

	TYPE A	TYPE B	TOTAL
Early OE (700-900)	41 (74.6%)	14 (25.4%)	55 (100%)
Late OE (900-1150)	12 (48.0%)	13 (52.0%)	25 (100%)
TOTAL	53	27	80

### 2.3. Summary

We have shown above the numeral and the chronological distributions of the two types of exceptions to principle (1) and adduced enough evidence to argue that high vowels can be deleted more freely in the late OE period than in the early OE period. Thus, our real task is to characterize a change which makes free vowel deletion possible in the late OE period. Particularly, to answer a question as in (37), a modified version of (10).

- (37) Why is it that a high vowel can be deleted freely in the late OE period even in a case where an apparent violation of principle (1) results?

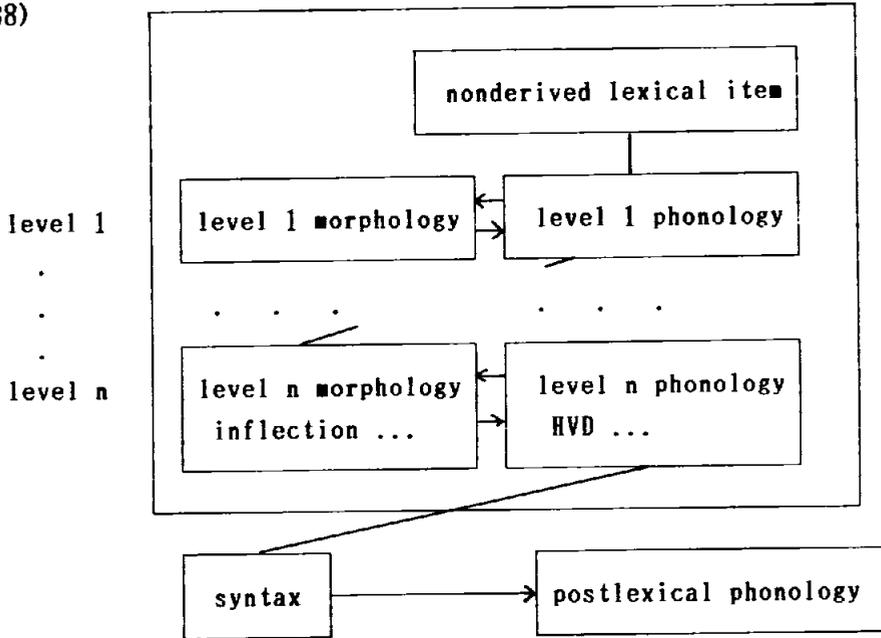
## 3. An Explanation of Type B Examples

### 3.1. Theoretical Backgrounds

Kiparsky (1982b), Halle and Mohanan (1985) and others propose that the lexicon of a language consist of a series of levels or strata. If this proposal is plausible, it must also hold for the lexicon of OE. So far as I know, however, the organization of OE lexicon has not been studied in any detail. Even under such circumstances, we must admit the fact that in OE, as in Modern English, no affix can be attached to a lexical item after the suffixation of an inflectional ending and that OE HVD is a cyclic phonological rule mostly triggered by the suffixation of an inflectional ending. (Cf. Keyser and O'Neil (1985) and Okazaki (1987).) From these facts follows

the assumption that in OE, as in Modern English, inflection belongs to the last level in the lexicon and that OE HVD is assigned to the same level. Thus, we tentatively assume a lexicon for OE as in (38), where the content of earlier levels is unspecified because of its irrelevancy to our discussion and of its necessity of further research.

(38)



Besides the lexicon, we assume the level of foot proposed by Keyser and O'Neil (1985), which is constructed according to an algorithm as in (39).

(39) Foot Construction

Gather rimes from left to right into binary, quantity-sensitive right-headed trees.

(keyser and O'Neil (1985: 6))

### 3.2. Postlexical u-Deletion and N.a.pl. of the TUNGOL-Type Nouns

#### 3.2.1. u-Deletion Motivated

In OE, there existed a rule which converts /w/ into /u/ in word-final or a preconsonantal position. We call this rule w-Vocalization, roughly formulated as in (40).<sup>7</sup>

(40) w-Vocalization

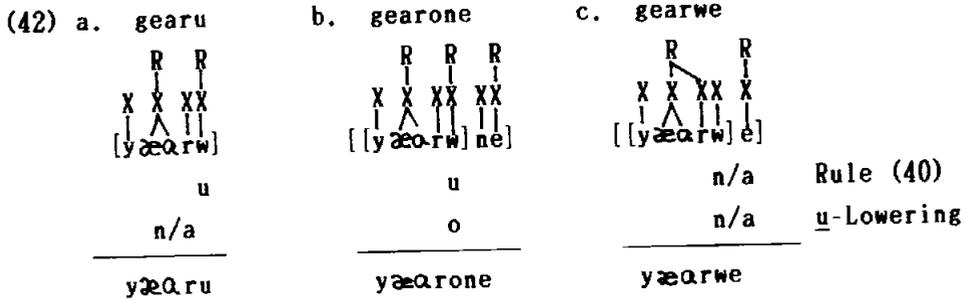
$$\begin{bmatrix} -\text{obs} \\ +\text{cons} \\ +\text{high} \\ +\text{back} \end{bmatrix} \rightarrow [-\text{cons}] / \underset{\text{R}}{\underline{\quad}} (\text{CX})$$

This rule applies to a form to which a zero suffix is attached as well as to that which has a phonologically overt ending. Keyser and O'Neil (1985: 45) demonstrate that in OE, the former type of word behaves like a non-derived lexical item. If this speculation is correct, rule (40) is a non-cyclic phonological rule.

Take as an example the paradigm of the adjective gearu 'ready' in (41). Cf. Wright and Wright (1925: 224) and Campbell (1959: 270).

(41)		msc.	fem.	ntr.
sg.	nom.	gearu, -o	gearu, -o	gearu, -o
	acc.	gearone	gearwe	gearu, -o
	gen.	gearwes	gearore	gearwes
	dat.	gearwum	gearore	gearwum
	inst.	gearwe		gearwe
pl.	nom./acc.	gearwe	gearwe	gearu, -o
	gen.	gearora	gearwe	gearora
	dat.	gearwum	gearwum	gearwum

In (41), the vowels /u/ and /o/ appears in word-final position or a preconsonantal position, while /w/ appears before a vowel. The stem of gearu is assumed to be /yæarw-/ rather than /yæaru-/ on independent grounds.<sup>8</sup> If this assumption is correct, the alternation of /w/ with the vowels can neatly be captured by w-Vocalization (40) and the rule of u-Lowering.<sup>9</sup> Notice further that the latter rule applies optionally in word-final position and obligatorily in word-medial position. Observe sample derivations in (42).<sup>10</sup>



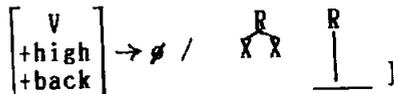
Recall that rule (40) applies in a non-cyclic manner and that the operation of inflection belongs to the last level of the lexicon, where phonological rules are supposed to apply in cyclic fashion. In fact, the rule must apply after suffixation. It then follows that the rule of w-Vocalization belongs to the postlexical level, where phonological rules apply non-cyclically. Keeping the above argument in mind, let us next consider w/ɸ-alternation in the paradigm of the noun lǣs 'pasture'.

(43) sg. nom.	lǣs
acc.; gen.; dat.	lǣswe
pl. nom.; acc.; gen.	lǣswa
dat.	lǣswum

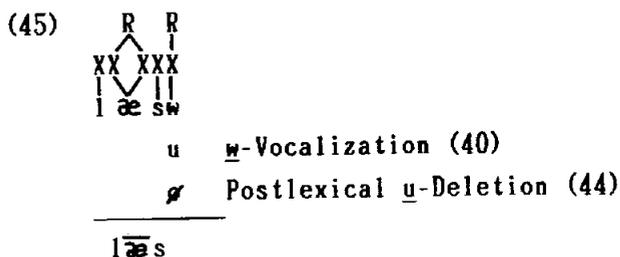
In (43), the glide /w/ surfaces in all the inflected forms other than the nominative singular, indicating that the stem is to be /lǣsw-/ rather than /lǣs-/.

How, then, can the surface form /lǣs/ be derived? Its underlying representation is /lǣsw/ and the /w/ in final position is changed into /u/ by the application of rule (40). We need another rule deleting the final /u/, which can be formulated as in (44). Note further that rule (40) feeds (44), so that the latter is also a postlexical rule.

(44) Postlexical u-Deletion



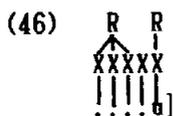
Thus, /lǣs/ is derived as illustrated in (45) below.



### 3.2.2. An Explanation of Exceptions

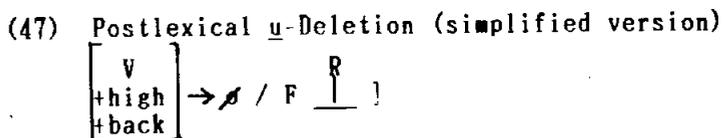
To account for u-deletion in TYPE B examples of (12)-(19), rule (44) seems most promising. If the high vowel /u/ in the relevant cases are deleted by a postlexical rule, its deletion is explained without modifying principle (1). For the application of a postlexical phonological rule is not constrained by principle (1).

In the underlying representations of the examples in (12)-(19), however, the high vowel /u/ follows a ternary-branching rime in the rime structure, as shown in (46). Consider the rime structures of underlying forms like /dēofl+u/ and /tunɣl+u/, for example.



Consequently, the deletion of /u/ in TYPE B examples of (12)-(19) cannot be accounted for by Postlexical u-Deletion (44), because the rule deletes a /u/ which follows a binary-branching rime in the rime structure.

Suppose, then, that rule simplification came about in the early eighth century, according to which rule (44) is simplified as indicated in (47).



It should be noticed that rule (47) is able to account for the deletion of /u/ in TYPE B example of (12)-(19) as well as that in (45). To make this clear, observe as an instance the derivation of wundor as a



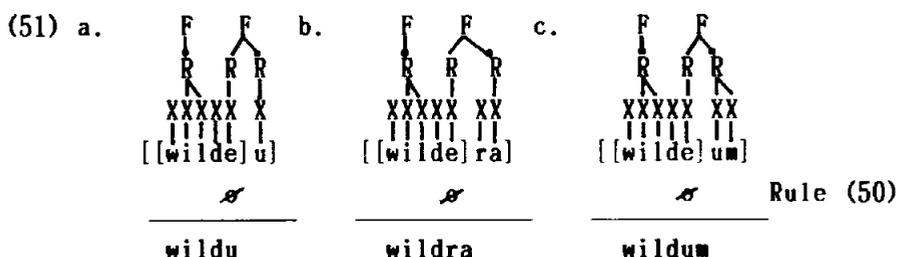
pl. nom./acc.	wilde	wilde	wildu,-o
gen.	wildra	wildra	wildra
dat.	wildum	wildum	wildum

In (48), the vowel /e/ appears only in word-final position; otherwise it does not surface. To describe this alternation, we need a rule as in (50), called e-Deletion.

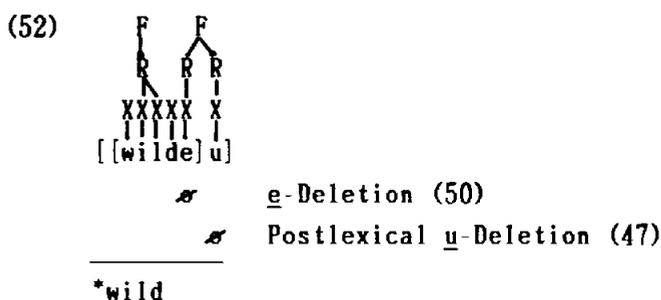
(50) e-Deletion

$$\left[ \begin{array}{l} V \\ -\text{high} \\ -\text{low} \\ -\text{back} \end{array} \right] \rightarrow \emptyset / \text{F} \_ \text{R}$$

This rule accounts for the e/∅-alternation as illustrated in (51).



I have some more points to make on the proposed rule. First, rule (50) must be ordered after Postlexical u-Deletion, which was proposed in the previous section. For, as shown in (52), if the application of the former precedes that of the latter, an unattested form like \*wild is derived. Thus, it is natural to conclude that the rule of e-Deletion is a postlexical phonological rule.



A second point to be made is that rule (50) was introduced into OE grammar in the middle of the eighth century. That is because it

has been said that the vowel /i/ in an unstressed syllable is lowered to /e/ in the middle of eighth century. Cf. Nakao (1985: 310). That is, at the beginning of the eighth century, the stem of wilde was /wildi-/ and it was changed into /wilde-/ in the middle of the century. In the earliest period of OE, the inflected forms in (49) to which the phonologically overt suffixes are attached are derived through the application of HVD, and in the later period they surface through that of e-Deletion.

### 3.3.2. An Explanation of Exceptions

It is worthy of note here that vowel deletion in TYPE B examples in (21)-(36) can be accounted for straightforwardly by rule (50), which is motivated on completely independent grounds. For example, preterite forms like gier(w)de and hier(w)don are derived as indicated in (53), where the rule of e-Deletion is ordered between i-Lowering and w-Deletion.

(53) a.		b.			
	[[yæurw]i]de]		[[hæurw]i]don]		
	iü		iü	<u>i</u> -Umlaut	lexical
	n/a		n/a	HVD	level
	e		e	<u>i</u> -Lowering	post-
	∅		∅	<u>e</u> -Deletion	lexical
	(∅)		(∅)	<u>w</u> -Deletion	level
	yiür(w)de		hiür(w)don		

Accordingly, I claim here that TYPE B examples of preterite forms of the HYNGRAN-type and GIERWAN-type verbs are not derived through HVD, but rather through the deletion of /e/.

I believe that this analysis has the following three advantages. First, a unified account of exceptional cases is possible without modifying or rejecting principle (1).

Second, it becomes feasible to explain the reason for an

apparent violation of principle (1). Because e-Deletion is a post-lexical rule, its application is not constrained by a principle on lexical rule applications. That is, the example of TYPE B in 2.2. are no counterexamples to principle (1).

Third, the assessment of the date can be made when TYPE B examples began to increase in number. On the grounds that e-Deletion is added to OE grammar in the middle of the eighth century, it seems natural to assume that TYPE B cases began to appear in the late eighth century. It is interesting that this assumption is not incompatible with the fact that they mainly appear in alliterative poems written in the late OE period like Paris Psalter and Meters of Boethius.

#### 4. Concluding Remarks

In the preceding sections, we have argued that exceptional high vowel deletion is divided into two distinct processes: exceptional deletion of /u/ in word-final position is taken as Postlexical u-Deletion; exceptional vowel deletion which seems to be i-Deletion in word-medial position is in fact interpreted as Postlexical e-Deletion.

We have also claimed that the liberation of vowel deletion in the late OE period is due to two phonological changes: one is the simplification of Postlexical u-Deletion in the early eighth century; the other is the addition of Postlexical e-Deletion in the middle of the eighth century.<sup>12</sup> Notice that the two relevant changes are instances of rule simplification and rule addition, both of which have been thought of as typical phonological changes. Cf. Kiparsky (1982a: 16) and Nakao (1985: 21f.). In this sense, our explanation of apparent exceptions to principle (1) is quite natural. Moreover, because the simplification of u-Deletion happened earlier than the addition of e-Deletion, we can safely say that as indicated in (54), there are at least three stages which are concerned with a diachronic change of nominative and accusative plurals of the TUNGOL-type nouns and of preterite forms of the HYN GRAN-type and GIERWAN-type verbs.

- (54) a. at the beginning of the 8c.: no change  
 b. in the early 8c.: simplification of u-deletion  
 c. in the middle of the 8c.: unstressed i-Lowering  
 addition of e-Deletion

Finally, it can be said that no data adduced in section 2 are counterexamples to principle (1). That is because the vowels in the data are deleted by either of the two postlexical phonological rules mentioned just above and because postlexical rule applications are not constrained by principle (1). As a consequence, it is natural to assert that the Principle of Markedness for Phonological Derivation was working through the OE period, overtly in the early eighth century and covertly in the later period.

#### NOTES

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<sup>1</sup> Throughout this paper, I will use the following abbreviations: n(om).: nominative; a(cc).: accusative; dat.: dative; gen.: genitive; inst.: instrumental; sg.: singular; pl.: plural; pret: preterite; 1: the first person; 3: the third person; msc.: masculine; fem.: feminine; ntr.: neuter; n/a: not applicable. Other abbreviations are self-explanatory.

For abbreviations for the OE alliterative poems mentioned in this paper, see Appendix.

<sup>2</sup> The rule of i-Lowering may roughly be formulated as in (i).

(i) i-Lowering

$$\begin{bmatrix} +\text{syl} \\ +\text{high} \\ -\text{back} \\ -\text{stress} \end{bmatrix} \rightarrow [-\text{high}] / \text{ \_\_\_\_\_\_ } (\text{CX})\#$$

This rule accounts for i/e- and ø/e-alternations in the paradigms of Class I weak verbs. The i/e-alternation is observed in the paradigm of the FERIAN-type verbs, and the ø/e-alternation, in that of the FREMMAN-type, HYN GRAN-type and GIERWAN-type verbs. For details of

the paradigms of the above-mentioned types of verbs, see Wright and Wright (1925: 276-85) and Campbell (1959: 321).

Notice that rule (i) is further generalized as the rule of Lowering as indicated in (ii). Cf. Keyser and O'Neil (1985).

(ii) Lowering

$$\begin{bmatrix} +\text{syl} \\ +\text{high} \\ -\text{stress} \end{bmatrix} \rightarrow [-\text{high}] / \text{ \_\_\_\_\_\_ } (\text{CX})\#$$

(Keyser and O'Neil (1985: 102))

Rule (ii) accounts for w/o-alternation in the paradigms of adjectives like gearu, -o 'ready'. This alternation is discussed in section 3.2. Thus, see the section for further details.

It should be noted, however, that there is no explanation of the optional application of rule (ii) in word-final position of adjectives like gearu, -o and of its non-application in word-final position of nominative and accusative plurals of the TUNGOL-type nouns. This problem must therefore be left for future research.

<sup>3</sup> I assume in this paper that syllabification in OE obeys a convention and a constraint as in (i) and (ii), respectively.

(i) In a string of segments, a syllable is a maximal substring such that:

- a. No segment is lower on the hierarchy than both its neighbors.
- b. No two segments of equal ranking on the hierarchy are adjacent.

N.B. hierarchy: vowel>glide>sonorant>fricative>stop

(Lowenstamm (1981: 593))

(ii) At most one syllable-initial consonant can occur in morpheme-medial and morpheme-final syllables.

(Keyser and O'Neil (1985); Okazaki (1987; to appear))

I further assume that an output structure of the application of a phonological rule is always resyllabified in accordance with the following convention.

## (iii) Resyllabification Convention

The output of every rule is resyllabified according to the syllable structure rules examined up to that point in the derivation.

(Clements and Keyser (1983: 54))

<sup>4</sup> For further details of this analysis, see Okazaki (1987; to appear). For the marking conventions on which this analysis is essentially based, see Cairns and Feinstein (1982).

<sup>5</sup> See the Resyllabification Convention in note 3.

<sup>6</sup> A chronology of the OE alliterative poems referred to in this paper is thoroughly dependent on commentaries in Krapp and Dobbie (1931-42). See also Appendix, where an exhaustive chronological list is given.

Notice further that the poem The Wanderer (abbreviated as Wan) is excluded from TABLE II. For, according to Krapp and Dobbie (1931-42), there is little direct evidence for deciding when the poem was composed.

<sup>7</sup> Following Lass and Anderson (1975: 9-14; 223f.), I assume here that OE /y/ and /w/ are both interpreted as liquids. Thus, the feature specification for /w/ is to be [-obs, +cons, +high, +back], not to be [-voc, -cons, +high, +back] as in Modern English.

<sup>8</sup> One might argue that the stem of gearu is /yæaru/ instead of /yæarw/. This argument does not stand, however. As indicated in (i), the derivational history of the verb gierwan becomes longer by one step in a case where the former is selected as the stem than the history is in a case where the latter is selected.

(i) a. yæaru+tan	b. yæarw+tan	
w	n/a	Glide Formation
iü	iü	i-Umlaut
∅	∅	HVD
yiürwan	yiürwan	Output

Other things being equal, derivation (ib) is selected in accordance with what Kiparsky calls the Derivational Simplicity Criterion, which is restated in (ii).

## (ii) Derivational Simplicity Criterion

Among alternative maximally simple grammars select that which has the shortest derivations.

(Kiparsky (1982b: 52))

Therefore, /yæarw/ is selected as the stem of gearu. For further details of this argument, see Okazaki (1987; to appear).

<sup>9</sup> See note 2.

<sup>10</sup> There are eight diphthongs in OE, both short and long. Their prominent feature is that their metrical behavior is exactly parallel with that of their respective counterparts. That is, metrical behavior of short diphthongs is completely the same as that of short monophthongs, and long diphthongs, as that of long monophthongs. For this reason, I assume phonological representations for OE diphthongs as in (i), following a proposal made by Lass (1984).

(i) a. short diphthong



b. long diphthong



N.B.  $V_1$  is not the same vowel as  $V_2$ .

<sup>11</sup> In chapter 7 of their 1985 book, Keyser and O'Neil also discuss the derivations of such nominative and accusative plurals as wundor and wuldor in Vespasian Psalter (VP), which was written in the the Mercian dialect of OE in the middle of the ninth century. They argue that those forms are derived through HVD and the later rule of epenthesis. This analysis is, however, untenable on the grounds that the deletion of /u/ in such underlying forms as /wundr+u/ and /wuldr+u/ brings about violation of principle (1). I maintain here that wundor and wuldor in VP are also derived through Postlexical u-Deletion (47) and epenthesis, the former of which is formulated on the basis of the data in the West-Saxon Dialect.

<sup>12</sup> It might be possible to adopt here a parameter-based analysis, which explains language change as a change of a parameter-value which a language-learner selects. In fact, a parameter can be formulated which explains difference between a language where a marked peak can be derived and that where it cannot. In terms of this parameter, OE in

the earliest period is characterized as the latter type, and OE in the later period, as the former. Under this analysis, two kinds of exceptional vowel deletions are interpreted as a single phenomenon, i.e. HVD. There is, however, little independent motivation for the parameter mentioned above, so that I do not adopt a parameter-based analysis at present.

## APPENDIX

## A Chronology of the OE alliterative Poems in Section 2

TEXT	ABBREVIATION	WRITTEN
Andreas	And.	L8c.
Azalias	Aza.	E0E
Beowulf	Bwf.	E8c.
The Battle of Finnsburg	Fnb.	8c.
Christ	Chr.	L8c.-E9c.
Christ and Satan	Xst.	L8c.-E9c.
Daniel	Dan.	beginning of 8c.
The Dream of the Rood	DrR.	L8c.
Elene	Ele.	L8c.
Exodus	Exo.	beginning of 8c.
Genesis	Gen.	beginning of 8c.
Guthlac	Glc.	L8c.-E9c.
Judith	Jud.	10c.
Juliana	Jln.	L8c.
Maxim 1	Mx1.	L8c.-E9c.
Maxim 2	Mx2.	middle of 11c.
The Meters of Boethius	MB.	L9c.-E10c.
The Metrical Charms	Mch.	9c.
The Metrical Epilogue to the Pastral Care	PEC.	9c.
Paris Psalter	P.	L9c.-E10c.
Phoenix	Phx.	L8c.
Riddle	R.	L8c.
The Riming Poem	Rim.	8c.
Solomon and Saturn	SnS.	L10c.
The Wanderer	Wan.	?

N.B. c.: century; E: early; L: late

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