The Foot in the History of English: Challenges to Metrical Coherence

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1.   Introduction

Dresher & Lahiri (1991) argued that Old English displays a property called METRICAL COHERENCE, whereby different phonological and poetic processes are all sensitive to the same metrical structure. A grammar is a complex system, and over time it is affected by phonological or morphological changes that result in patterns that may not be consistent with the previous metrical structures. Such changes pose a threat to the metrical coherence of the grammar. In this talk we will look at how the grammar of English has dealt with some such challenges to metrical coherence. In some cases the challenges have come from within, as when a sound change makes a previous analysis untenable; other challenges have come from without, in the forms of large-scale borrowing of lexical items that are not compatible with the prevailing metrical system. We will show how the grammar has met these challenges, either by modifying the metrical system itself, or by modifying the segmental phonology to bring it line with the metrical system, or, for words that cannot be easily integrated into the new system, by treating them as exceptions subject to special treatment of some kind.

2.   Change in the early Old English metrical system

Many here (e.g., Bermúdez-Otero & Hogg 2003; Goering 2016a, b) have argued that the early Old English foot was a moraic trochee (see also Keyser & O'Neil 1985; Halle et al. 1993; Idsardi 1994; Hutton 1998; Bermúdez-Otero 2005). This analysis applies to a stage of the language in which some inflectional vowels still retained length inherited from Proto-Germanic, as illustrated by (1), which gives the Pre-Old English paradigm of the neuter *a*-stem nouns, according to Hogg & Fulk (2011).

(1)   Pre-Old English paradigms of neuter *a*-stem nouns (Hogg & Fulk 2011: 15)

NOM/ACC.SG	*STEM-Ø		NOM/ACC.PL	*STEM-u
GEN.SG	*STEM-as		GEN.PL	*STEM -õ̃
DAT.SG	*STEM-ǣ		DAT.PL	*STEM-um

The rule of High Vowel Deletion (HVD) deleted short *u* and *i* under certain conditions when in an open syllable. Bermúdez-Otero (2005) and Goering (2016a, b) show that the contexts for HVD emerge clearly from positing moraic trochees assigned from left to right, as in (2).

(2)   Pre-Old English moraic trochees and HVD (Bermúdez-Otero 2005; Goering 2016a, b)

a.   Stem-initial syllable is heavy: 'head'

NOM/ACC.SG	(xau) (ƀud)	> hēafud	NOM/ACC.PL	(xau) (ƀu du) > hēafudu
GEN.SG	(xau) ƀu (das)	> hēafdes	GEN.PL	(xau) ƀu (dõ̃) > hēafda
DAT.SG	(xau) ƀu (dǣ)	> hēafde	DAT.PL	(xau) ƀu (dum) > hēafdum

b.   Stem-initial syllable is light: 'army'

NOM/ACC.SG	(we rud)	> weorud	NOM/ACC.PL	(we ru) du > weorud
GEN.SG	(we ru) (das)	> weorudes	GEN.PL	(we ru) (dõ̃) > weoruda
DAT.SG	(we ru) (dǣ)	> weorude	DAT.PL	(we ru) (dum) > weorudum

The vowels affected by HVD in heavy stems (2a) are those that cannot be parsed into a moraic trochee, as in all the oblique cases. In the GEN.SG, for example, the first syllable *xau* is heavy (as it is throughout the paradigm) and forms a moraic trochee by itself; the final syllable, *das*, is also heavy and forms a foot on its own, leaving the medial light syllable, *ƀu*, on its own and unparsed into a foot, and subject to deletion. By contrast, the second syllable in the NOM/ACC.SG is heavy and not subject to HVD. The NOM/ACC.PL is the only form in this paradigm in which the final syllable is light; hence, the medial and final syllable can make up a moraic trochee, and both *u* are retained in OE *hēafudu*.

This analysis has the merit of being able to explain why we find *hēafudu* rather than **hēafdu* as the earliest attested form of the NOM/ACC.PL, in contrast to the other oblique forms which show HVD. Notice that in this analysis deletion depends not only on the weight of the syllable PRECEDING the unstressed high vowel, but also on the weight of the syllable that FOLLOWS it.

When the first syllable of the stem is light, as in (2b), the second vowel forms a moraic trochee with it in all the inflected forms. In the NOM/ACC.PL, the result is that the final suffixal *-u* is left unfooted and deletes. Note that the NOM/ACC.SG *weorud* shows that it is not the case that all feet have two moras: if a stem-initial syllable is light, it must form a foot with whatever syllable follows, creating in this case a tri-moraic trochee. In verse this phenomenon is called RESOLUTION, whereby the two syllables together make up a single metrical position. By Kaluza's Law, resolution occurs in subordinate metrical positions (or when following a heavy syllable with higher stress) only when it would create a bimoraic foot; sequences of L H are parsed as two metrical positions.

The shortening of unstressed vowels in early Old English made the metrical analysis just presented problematic, particularly in the heavy stem paradigm, as can be seen in (3).

(3)   Expected moraic trochees after shortening of unstressed vowels

NOM/ACC.SG	(hēa) (fud)	>	hēafud	NOM/ACC.PL	(hēa) (fu du)	>	hēafudu
GEN.SG	(hēa) fu (des)	>	hēafdes	GEN.PL	(hēa) (fu da)	>	*hēafuda
DAT.SG	(hēa) (fu de)	>	*hēafude	DAT.PL	(hēa) fu (dum)	>	hēafdum

The shortening of the inflectional vowels in the DAT.SG and GEN.PL lead us to expect that the medial high vowel should be the head of a binary foot and hence not subject to HVD, but this result is not observed in Old English. Rather, the medial vowel continues to delete in all the inflected cases, except for the NOM/ACC.PL. These latter cases now appear to be an exception to a new, and simpler, generalization governing HVD: an unstressed high vowel in an open syllable deletes when it directly follows a heavy syllable or a sequence of two light syllables. That is, the weight of the syllable that follows the potential HVD target is no longer relevant to the operation of HVD.

Therefore, after the shortening of unstressed vowels in early Old English, the moraic trochee became untenable. Rather, the synchronic facts of Old English are what motivated Dresher & Lahiri (1991) to propose what we called the Germanic Foot, given in (4) (see also Lahiri, Riad & Jacobs 1999; Fikkert, Dresher & Lahiri 2006). Some sample parsings are shown in (5).

(4)   Old English metrical analysis (Dresher & Lahiri 1991; Lahiri, Riad & Jacobs 1999; Fikkert, Dresher & Lahiri 2006)

   a. Germanic Foot: From left to right, construct a resolved and expanded moraic trochee of the form (|head| dependent), where the head must consist of at least two moras and the dependent may have at most one mora.

     b. Main stress is on the leftmost foot.

     c. Defoot a foot (|⚹|) that does not carry the main stress, is final in the word, and has no dependent.

(5) Old English stress: sample parsings (the head of the foot is indicated by |x |)

    a. 'word GEN.PL'   b. 'army GEN.PL'   c. 'king DAT.SG'

```
    x                      x                      x
   (|x|   .)              (|x    |  .)            (|x    |  .)
   [H    L]ω              [L  L   L]ω             [L  H   L]ω
   wór   da               wéo ru  da              cý  nin ge
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    d. 'dwelling NOM.PL'   e. 'other NOM.SG'   f. 'other ACC.SG'

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    x                      x                      x
   (|x   |)               (|x|)   (|⚹|)           (|x|)   (|x    |  .)
   [L  L]ω               [H       H]ω            H       H     L
   ló  fu                ő        þer            ő       þèr   ne
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Comparing the Germanic Foot with the Pre-Old English moraic trochee, we propose that the former moraic trochee became the head of the Germanic Foot, and that a following light syllable became the weak branch. HVD now deletes a high vowel in the weak branch of a foot, as shown in (6).

(6) High Vowel Deletion in the weak branch of a foot

    a. 'head NOM.SG'   b. 'head DAT.SG'   c. 'head DAT.PL'

```
    x                      x                      x
   (|x|) (|⚹|)            (|x|  .)   .           (|x|   .) (|⚹|)
   [H     H]ω             [L  L   L]ω            [H  L]   H]ω
   héa   fud              héa fṳ de              héa fṳ  dum
```

    d. 'army, NOM.SG'   e. 'army DAT.SG.'   f. 'army DAT.PL'

```
    x                      x                      x
   (|x      |)            (|x    |  .)           (|x     |) (|⚹|)
   [ L   H]ω             [ L  L  L]ω            [ L   L    H]ω
   wéo  rud              wéo ru de              wéo ru   dum
```

HVD applies in a straightforward fashion to all forms in the *a*-stem paradigms except for *hēafudu*. Putting that form aside for the moment, we observe in (6b,c) that HVD applies consistently to the stem vowel *u* when it is in an open syllable following a heavy syllable, regardless of the weight of the following syllable. In (6a), *u* is in a closed syllable and does not delete. In (6d–f), the stem-internal *u* follows a light syllable and must be part of the head of the foot, where it does not delete.

    The form *hēafudu* stands out, in that it does not fit the pattern in (6). We have seen diachronically how this form came to be the odd man out in its paradigm, and indeed it appears to have been problematic even for Old English speakers. First, it should be noted that such forms show considerable variation across dialects (Fulk 2010), so it is clear that the same analysis will not be adequate for all Old English dialects. Second, we also find intra-dialect variation, sometimes in the same document. And third, because of all this variation it is difficult to disentangle the effects of phonology from analogy. Nevertheless, there is a growing consensus

that the phonologically expected outcome in early Old English is indeed *hēafudu*, a form that appears (though not the only form that appears) in the Mercian *Vespasian Psalter* (*Ps(A)*). We will here focus on that dialect.

This form and other nominal forms with inflectional -*u* require special treatment in any analysis. Bermúdez-Otero & Hogg (2003: 22) and Bermúdez-Otero (2005: 7), for example, propose that the nominal *a*-stem inflectional affixes have become PHONOLOGICALLY STRATIFIED: 'the neut.nom/acc.pl. ending is added at the stem level, whilst other *a*-stem noun affixes are word-level.' Similar in spirit is the analysis of Dresher (1978), who posits a special boundary before nominal inflectional -*u*. However, in that analysis the levels are the reverse of Bermúdez-Otero's: Dresher (1978) posited that -*u* is a word-level affix, while the other affixes are stem level. This analysis is consistent with that of Dresher (1993), shown in (7), which proposes that in Mercian, verbal inflectional agreement affixes are word level, and everything else—roots, stems, and noun affixes—are stem level, what is called there the extended stem, or E-stem level, because it includes stem extensions. Dresher's (1993) analysis of levels does not consider the problem of Vowel Deletion, but is based on the behaviour of several other rules that affect stressed vowels.

(7)   Mercian lexical phonology (Dresher 1993: 333)

	MORPHOLOGY	PHONOLOGY
E-stem level:	Roots, stems, nominal affixes	Breaking, Retraction, Back Mutation, *i*-Monophthongization, *i*-Mutation, Smoothing
Word level:	Verb AGR	Breaking, Retraction, Back Mutation

In terms of that stratification, the nominal -*u* inflection falls in with the word-level affixes. The rationale is that HVD applies to the second *u* of *hēafudu* as if the final -*u* were not present, treating *hēafudu* as if it were *hēafud*, as shown in (8a); compare *hēafde* in (8b).

(8)   High Vowel Deletion at the extended stem level (based on Dresher 1978)

    a. 'head NOM/ACC.PL'   b. 'head DAT.SG'

        x   x
        (|x|) (|x|)   .   (|x| .)   .
        [H   H]E-stem   L   [L   L   L] E-stem
        hḗa fud   u   hḗa f~u~ de

There is other evidence for the special status of -*u* in *Ps(A)*. In (9a), we find a stem-internal vowel *e* when the stem precedes a consonant, a word boundary, and -*u*; the vowel does not appear before other suffixes that begin with a vowel. Dresher (1978) argues that this stem has been reanalyzed in the *Ps(A)* dialect as deriving from an underlying monosyllable, with *e* the result of epenthesis when a vowel does not follow the stem; inflectional -*u* acts as if it is not present when epenthesis applies. A similar distribution occurs in (9b) 'many'.

(9)　Adjectives in the *Vespasian Psalter*

    a.　miċel- ~ micl- 'great'

	FEMININE		NEUTER
NOM.SG	miċelu (3x) ~ miċel (1x)	NOM.PL	miċelu (5x) ~ miċel (3x)
DAT.SG	miċelre	GEN.PL	miċelra
NOM.PL	micle	DAT.PL	miclum

    b.　moniġ- ~ monġ- 'great'

	MASCULINE	FEMININE	NEUTER
NOM.PL	monġe	monġe (1x) ~ mong (1x)	moniġ (1x)
ACC.PL	monġe	monġe	monigu (1x)
GEN.PL	monigra	monigra	
DAT.PL	mongum		

The application of HVD and Epenthesis to stem-medial vowels is very consistent in *Ps(A)*. The same is not the case for the deletion of the final *-u* when it follows a stem of more than one syllable. We can see this already in (9), where we find *miċel* varying with *miċelu*, and *moniġ* varying with *monigu*. The presence of *-u* is unexpected no matter what the underlying representation of these stems (Fulk (2010) suggests that these adjectives may be influenced by *lȳtelu* 'little', where retention of *-u* after a heavy-light sequence is what we expect).

    We also find variation in nouns. A sample of such variation in *Ps(A)* is given in (10).

(10)　Variation between *-u* ~ *-Ø* in NEUTER NOM/ACC.PL nouns in the *Vespasian Psalter*

    a.　hēafudu (2x)　~　hēafud (5x)　'head'　　　c.　calferu (1x)　~　calfur (2x)　'calf'
    b.　wolcenu (2x)　~　wolcen (6x)　'cloud'　　d.　lomberu (1x)　~　lombur (1x)　'lamb'

The variation after surface disyllables is in contrast with the regular behaviour of *-u* after surface monosyllables in (11):

(11)　Behaviour of *-u* after surface monosyllables in the *Vespasian Psalter*

    a.　-u after light syllable in neuter *a*-nouns:　　　*lofu* 'glory', *geatu* 'gate', etc.
    b.　-Ø after heavy syllable in neuter *a*-nouns:　　*word* 'word', *gōd* 'good thing', etc.
    c.　-u after heavy syllable in neuter *ja*-nouns:　　*rīċu* 'dominion', *wītu* 'punishment', etc.

Evidently, there was some uncertainty as to how *-u* was incorporated into the metrical system at the word level in the former cases, but not in the latter one; see further Dresher & Lahiri (1991: 279–281) for why HVD became opaque when following two surface syllables in *Ps(A)*. This situation was unstable, and in other dialects of Old English it was regularized in various ways (Fulk 2010; Bermúdez-Otero 2005).

    To sum up this section, the shortening of unstressed inflectional vowels posed a challenge to the metrical coherence of the early Old English metrical system by making the original moraic trochees an unsuitable environment for HVD. We propose that metrical coherence was restored by adding one mora to the trochee, and treating the formerly regular *-u* suffix of forms like *héafudu* as exceptional.

3.   The change in directionality

Foot form is only one aspect of English foot-related metrical structure that has changed over time. Present Day English metrical structure resembles that of Latin (12)–(13): it is a moraic trochee computed from the right edge, and main stress is assigned to the rightmost foot (with various exceptions).

(12)   Latin main stress (Roca 1999)

    a.   Stress the penultimate syllable if it is heavy: *amīcus* 'friend', *reféctus* 'restored'.
    b.   Otherwise, stress the antepenultimate syllable, if there is one: *dóminus* 'master', *fēmina* 'woman', *refíciunt* 'they…restore'.
    c.   Otherwise, stress the first syllable: *vénīs* 'you-SG. come', *cónsul* 'consul'.

(13)   Latin stress: metrical analysis

    a.   A final syllable is extrametrical.
    b.   Build quantity-sensitive trochees from the right edge of the word.
    c.   Main stress falls on the rightmost foot in the word.

As in other Germanic languages, this shift in the metrical system occurred under the influence of Romance loanwords, but was not abrupt. We summarize our proposed chronology in (14).

(14)   Approximate dates of changes in English metrical structure

    a.   Pre-Old English   Foot type = Resolved moraic trochee: [H], [L X]
    b.   Old English   Foot type = Add optional L: (|H| L), [|L X| L]
    c.   Old and Middle English   Foot direction *left*, main stress *left*.
    d.   c1570   Foot direction is changing to *right*.
    e.   c1660–early 1800s   Main stress changes to *right* in stages

It can be shown that the influx of Anglo-Norman and Old French words following the Norman conquest made little impact on Middle English prosody (Dresher & Lahiri 2005; Lahiri 2015), contrary to what has sometimes been claimed.

Rather, the extended trochee survived long and the direction of parsing changed from left-to-right to right-to-left only in early Modern English (after 1570: Dresher & Lahiri 2015; Lahiri 2015), when the number of Latin loanwords with stress-affecting suffixes, shown in (15), had passed a threshold derived from Yang's Tolerance Principle (Yang 2016) (16). In (15), we compare the number of stress-affecting Latinate suffixes in 1400 and in 1570.

(15)   Latinate words with stress-affecting suffixes in English (*L*) in 1400 and 1570

	L	*1400*	*1570*	*% δ*			*1400*	*1570*	*% δ*
a.	*-able*	204	906	344%	j.	*-ic*	87	279	221%
b.	*-al* (adj)	163	745	357%	k.	*-ify*	26	80	208%
c.	*-an* (adj)	64	313	389%	l.	*-ile*	35	69	97%
d.	*-ar* (adj)	41	104	154%	m.	*-ion*	507	1,717	239%
e.	*-ation*	242	957	295%	n.	*-ison*	34	52	53%
f.	*-efy*	3	10	233%	o.	*-itude*	9	41	356%
g.	*-etude*	2	3	50%	p.	*-ity*	144	563	291%
h.	*-ety*	19	40	111%	q.	*-ous*	168	657	291%
i.	*-ible*	40	146	265%					

(16) Tolerance Principle (Yang 2005; 2016)

Let R be a rule that is applicable to N items, of which e are exceptions. R is productive if and only iff

$$e \leq \theta_N \text{ where } \theta_N = \frac{N}{\ln N}$$

Rough numbers are shown in (17).

(17) Latinate suffixes and the Yang Threshold, Y

	a. All words (N)	b. $\ln N$	c. $N/\ln N = Y$	d. Latin suffixes (L)	e. L/Y
1400	30,568	10.33	2,960	1,788	60.4%
1570	69,364	11.15	6,223	6,682	107.4%

In 1400, the number of words with Latinate stress-affecting suffixes (L) is 60% of the Yang Threshold, Y: they can be treated as exceptions to the stress rule.

In 1570, L is 7% over the Yang Threshold: these words can affect the directionality of the English stress rule, changing it from *left* to *right*.

The shift in directionality reestablished a degree of metrical coherence that had been disrupted by the increasing number of Latin loanwords that were inconsistent with the old system. This is because many native words were also compatible with parsing from the right; again, special adjustments were required to incorporate some words into the new system.

An interesting snapshot of the stress patterns in the period close to where we believe the change in directionality was taking hold is provided by the *Manipulus Vocabulorum* by Peter Levins, published in 1570. It is a reverse (rhyming) dictionary and indicates main stress in many words. Some words are shown in (18).

(18) Levins' *Manipulus Vocabulorum* (1570): some stress patterns

Non-initial Stress			*Initial Stress*		
FINAL	PENULT	ANTEPENULT	2 σ	4, 5 σ	3 σ
quarrél (*v*)	oriéntall	antíquitie	quárel (*n*)	díuisible	túrpentine
rebéll (*v*)	aduénture	seuéritie	rébel (*n*)	húmidity	défectiue
lamént (*v*)	recógnise	memóriall	députe (*n*)	bárbaritie	cánonise
flagón (*n*)	conféssour	opínion	récorde (*n*)	príncipalitie	mármalad

Levins' list leaves little doubt that the grammar of stress was in flux though how to interpret this is not obvious (see Halle & Keyser 1971: 109–123 for a detailed study in a different framework). We propose that main stress is still mainly on the left, and that much of the variability in Levins can be accounted for by two ongoing changes listed in (19). Here we will focus on the second change in (19b).

(19) Changes in Levins' grammar of stress (Lahiri 2015)

a. An increase in the number of morphologically governed stress-alternating doublets: we find verbs *quarrél, rebéll, depúte, recórde* versus nouns *quárel, rébel, députe, récorde* (a few nouns like *flagón* are exceptions). It becomes increasingly difficult to regard the first syllables of these verbs as unstressed prefixes, suggesting a right-edge oriented reanalysis as in (20): the final syllable is becoming extrametrical.

b. Words with Latin stress-affecting suffixes show variation: words like *dívisible* and *húmidity* must be parsed from the left edge; words like *sevérity* and *opínion* must be parsed from the right; and words like *bárbarity* and *príncipality* are ambiguous as to direction. These facts suggest that the direction of parsing is changing from *left* to *right*, while main stress remains set to *left*.

(20) Noun~verb pairs in Levins

a. 'quarrel VERB'   b. 'quarrel NOUN'

```
        x                                              x
      (|x |)                                         (|x |)
    [  L    H ]VERB                                [  L   <H> ]NOUN
     qua   rél                                      quá    rel
```

This change concerns the treatment of complex Latin words. In the earlier period such words had come in as simplex forms, and were assimilated to the native pattern of stress assignment from the left. Such words remained in the grammar. Hence, we find *dívisible* and *húmiditie*, which must be parsed from the left edge (21); there is no plausible way to get main stress on the first syllable parsing from the right.

(21) Words in Levins with Main stress *left*, Direction *left* (older grammar)

a. 'dívisible'   b. 'húmidity'

```
    x                                              x
   (|x    |   .)   .                             (|x    |   .)   .
   [L  L  L   L ]ADJECTIVE                        [L  L   L  L ]NOUN
    di ui  si  ble                                 hu mi   di tie
```

Nevertheless, unlike the earlier period where *all* words were parsed from the left, we now find words like *sevéritie* and *opínion* which must be parsed from the right (22).

(22) Words in Levins with Main stress *left*, Direction *right* (newer grammar)

a. 'sevérity'   b. 'opínion'

```
       x                                             x
   .  (|x    |    .)                             .  (|x    |   .)
   [L L   L    L ]NOUN                           [L  L  L    L ]NOUN
    se ve  ri  tie                                o  pi  ni  on
```

Many words with initial stress have ambiguous directionality, because the main stress parameter remains set to *left*, and Levins does not indicate secondary stresses; therefore, words like *bárbaritie, príncipalitie* can be parsed from either direction (23).

(23) Words in Levins with Main stress *left*, Direction ambiguous

a. 'bárbarity' from the *left*   b. 'bárbarity' from the *right*

```
     x                                              x
   (|x|   .)   |x    |)                           (|x|)  (|x    |   .)
   [ H   L    L    L ]NOUN                         [ H    L    L   L ]NOUN
    bar  ba   ri  tie                               bar   ba  ri  tie
```

4. The change in the edge of main stress

While the change in directionality of foot parsing was well underway by 1600, the change in the position of main stress (14e), from *left* to *right*, started later. In Dresher & Lahiri (2005) we speculated that the change may have occurred around 1660, the year, which according to Danielsson (1948: 29) was the 'turning point' when French words kept their final accent in English, as with suffixes like those in (24).

(24) Suffixes retaining main stress

-ade, -ee, -eer, -esque, -ette, -oon.

(25) Words with final stressed suffixes in Present Day English

parade (1656), *payee* (1758), *cannoneer* (1562), *grenadier* (1676), *arabesque* (1611), *musette* (1811), *bassoon* (1727).

While the addition of these suffixes would have helped to push main stress to the right, Lahiri (2015) finds that the change to main stress *left* took a long time to complete, and may not be entirely completed yet.

John Walker's 1791 *A critical pronouncing dictionary and expositor of the English language* is a justly celebrated account of English stress in his time (see Halle & Keyser 1971 for discussion). We observe that the change in parsing direction that was ongoing in Levins appears to have been competed in Walker. Thus, we observed that the words with initial stress in the penultimate column of (18), parsed in (21) and (23), were either parsed from the left, or had ambiguous directionality in Levins. These words are stressed in Walker on the antepenultimate; all these words are now consistent with a direction of parsing from the right edge.

(26) Words in Walker (1791) with Main stress *right*, Direction *right*

divísible, humídity, barbárity, principálity

That is, *divísible* and *humídity* can now be parsed like *sevérity* and *opínion* in (22). Moreover, *barbárity* and *principálity* also show that main stress is on the right (27).

(27) Walker: Main stress *right,* Direction *right*

a. 'barbárity'

```
       x
(|x|)  (|x  |  .)
 H    L  L   L
bar  ba  ri  ty
```

b. 'principálity'

```
        x
(|x|  .) (|x   |  .)
 H   L   L   L   L
prin ci  pa  li  ty
```

Nevertheless, the old rule of putting main stress on the left continued to have influence. Walker writes (1791: 67), 'nor has even the interposition of two consonants been always able to keep the accent from mounting up to the antepenultimate syllable, as we may see in *minister, sinister, character, magistrate,* &c. and this may be said to be THE FAVOURITE ACCENT OF OUR LANGUAGE' [emphasis added]. Note that the antepenultimate syllable in these words is the initial syllable.

We still have words like in (28), such as *mátrimony, húrricane, láboratory*, etc., with main stress on the left, against the now general rule. These words require some sort of special

treatment in the modern language: in terms of Halle & Keyser, a series of stress retraction rules, for example.

(28)   Words that continue to have main stress on the *left*

> *mátrimony, húrricane, láboratory, ánecdote, tábernacle, cávalcade, brígantine, túrpentine*

Like *hēafudu* long before, words that were once mainstream in the old grammar persist as exceptions in the new one.

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