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Phonological Change in Middle and Early Modern English: Syllable Quantity and Stress

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Introduction

Reversing de Saussure?

The 19th Century

The Century of History



Hermann
Paul

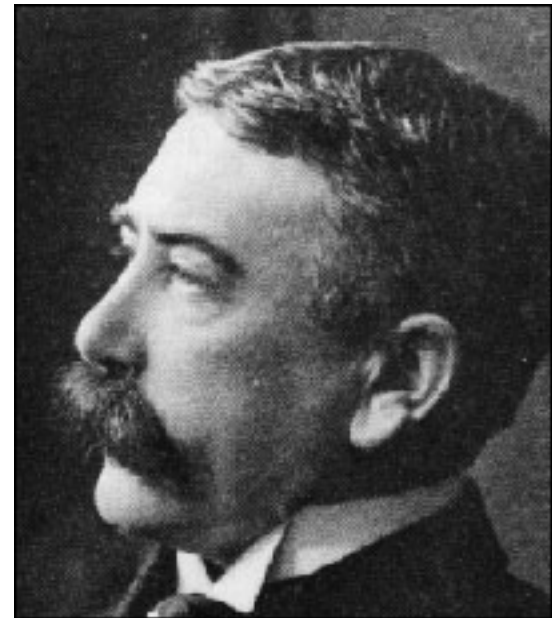
“It has been objected that there is another view of language possible besides the historical. I must contradict this...If we attempt to characterise the so called inner form of language, in the sense in which it is employed by Humboldt and Steinthal, we can only do this by going back to the origin of the forms of expression employed, and to their fundamental meaning.”

Principien der Sprachgeschichte (1886). Trans. as *Principles of the History of Language* by H. A. Strong (1890).

The 20th Century

The Century of Structure

A few years later, thanks to de Saussure, the main focus of linguistic theory began to shift to a concern with the synchronic structure of languages.



Ferdinand
de Saussure

The 20th Century

The Century of Structure



Morris Halle

The theory of
generative grammar
as developed by
Chomsky and Halle
turns Paul's statement
on its head:



Noam Chomsky

The 20th Century

The Century of Structure

To the extent that the inner form of a language (i.e., its underlying structure and system of rules) appears to reflect earlier historical stages, it is only because they are preserved in the synchronic data available to language learners.

The 20th Century

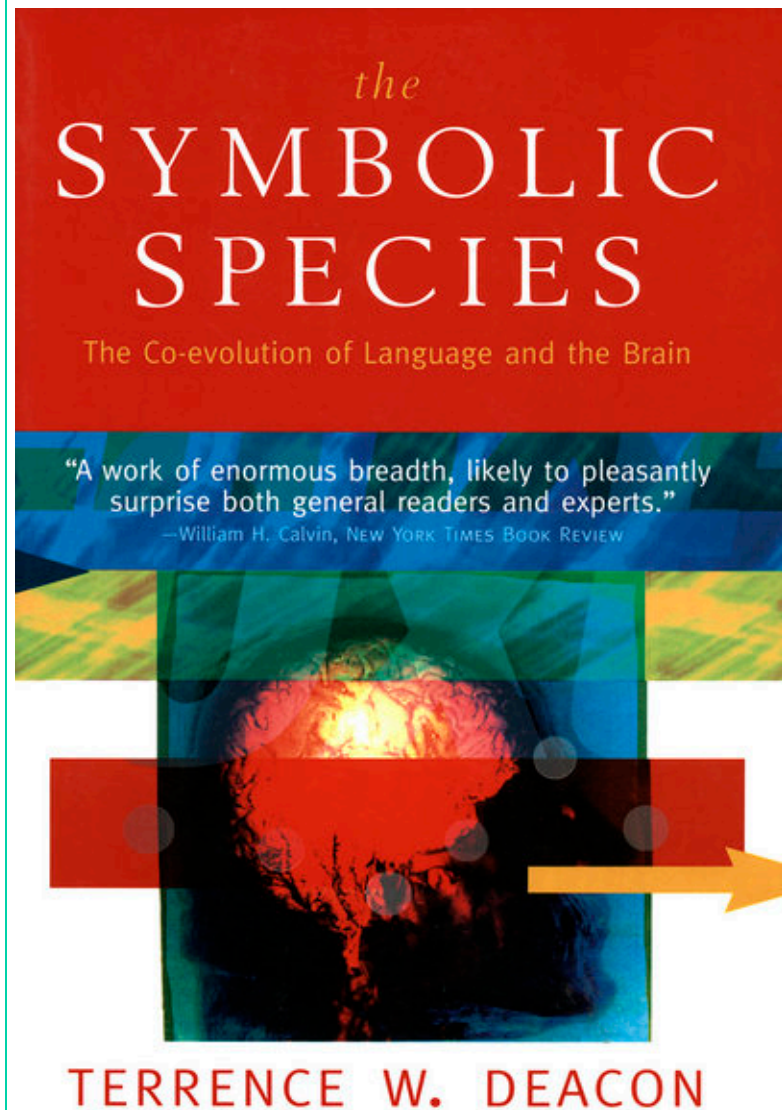
The Century of Structure

The hypothesis of generative grammar is that fundamental properties of language are explained in terms of **Universal Grammar (UG)**, the set of cognitive principles that humans bring to bear on language acquisition.

The 21st Century

Back to the Future?

A series of publications in the last two decades aim to make the 21st century more like the 19th than the 20th, advocating in various ways a return to Paul's perspective that historical explanation is primary.



Deacon (1997):

“Languages don’t just change, they *evolve*... Languages are under powerful selection pressure to fit children’s likely guesses... **The key to understanding language learnability...lies in... language change.**”



Haspelmath (1999):

“[O]bserved adaptive patterns in language can be explained through diachronic evolutionary processes...linguistic adaptation is in many ways analogous to biological adaptation”. “[A] linguist who asks ‘Why?’ must be a historian” [cf. Ridley 1994 on biological evolution].

CAMBRIDGE STUDIES
IN LINGUISTICS

SUPPLEMENTARY VOLUME

Quantity adjustment

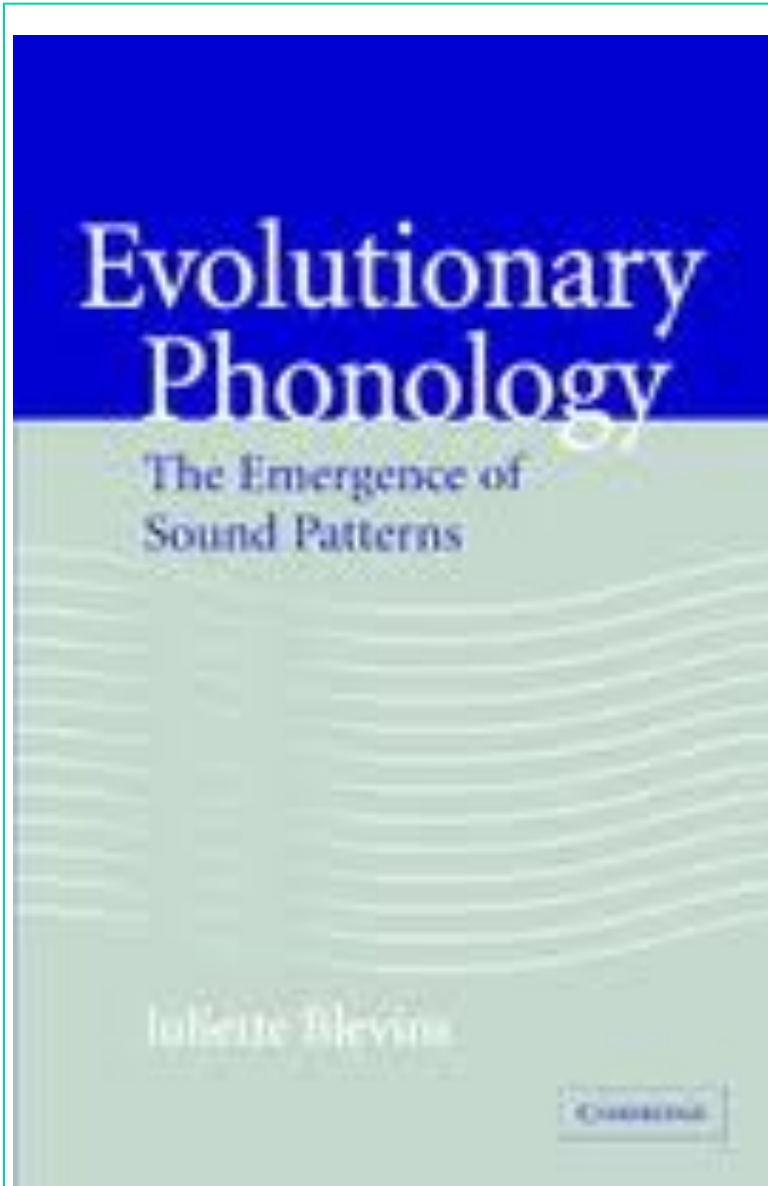
Vowel lengthening
and shortening in
Early Middle English

NIKOLAUS RITT

Ritt (2004):

“This book questions many established assumptions about languages, speakers, and what it is that linguists are describing.”

“In Darwinian terms, language evolution is something that happens to, rather than through, speakers, and **the interests of linguistic constituents matter more than those of their human ‘hosts’**”.



Blevins (2005):

“By showing how universal tendencies in sound structure emerge from phonetically motivated sound change, **Evolutionary Phonology** undermines a central tenet of modern Chomskyan linguistics: that **Universal Grammar**, an innate human cognitive capacity, **plays a dominant role in shaping grammars.**”

Synchronic patterns influence diachronic developments

I will argue, however, that a “vertical” diachronic perspective, focusing on individual sound changes, is liable to miss “horizontal” effects caused by the way seemingly unrelated elements of the synchronic system interact in the course of acquisition.

Synchronic patterns influence diachronic developments

I will present two case studies from the history of English of diachronic changes whose particular form, I will argue, can only be understood in the light of synchronic analysis.

Synchronic patterns influence diachronic developments

- The first case seems to be an example of sound change that is statistical rather than absolute. The key to solving it will be something that is **missing** from the synchronic pattern.
- The second case shows the importance of synchronic analysis in accounting for a shift in the native stress pattern.

Synchronic patterns influence diachronic developments

- Each case is intended to show different ways in which synchronic analysis contributes to our understanding of diachronic change.
- Conversely, the diachronic changes serve as evidence bearing on the synchronic theory.

Synchronic patterns influence diachronic developments

- Each of these changes is most easily understood as the result of a reanalysis carried out by language learners in the course of acquisition.
- These reanalyses must themselves be explained — I can think of only one plausible candidate, namely **Universal Grammar**.
- Language change is a fruitful source of evidence bearing on the nature of Universal Grammar.

Synchronic patterns influence diachronic developments

The basic view I take here is not at all new or original; it is the one pioneered in the modern period by Noam Chomsky and Morris Halle. My approach is much influenced by the work of Paul Kiparsky and David Lightfoot, and by my collaboration with Aditi Lahiri.

In the light of the diachronically-oriented citations I gave earlier, it may be a good time to restate this position and the sort of evidence it is based on.

As Morris Halle has been known to say: “I’m here to give the truth, not the news!”

1. Vowel Quantity Shifts in Middle English

[in collaboration with Aditi Lahiri]

Chaotic changes that raise
the question:

Are Languages Viruses that Colonize Children?

- Deacon (1997): “innate Universal Grammar is a cure that is more drastic than the disease...the extra support for language learning is vested neither in the brain of the child nor in the brains of parents and teachers, but outside brains, **in language itself.**” In other words, “Children’s minds need not innately embody language structures, if languages embody the predispositions of children’s minds!”

Is there something to be gained from considering languages to be memes?

- Ritt (2004): “I shall argue that it is not only possible to speak, metaphorically, of languages as if they were entities with a life of their own, but that **they indeed are**. Although they are not made of genes, their constituents do qualify as replicators and are capable of evolution.” That is, they are *memes* in the sense of Dawkins (*The Selfish Gene*).

Vowel Quantity Shifts in Middle English

In Old English, vowel quantity was relatively stable: vowels were underlyingly either short or long, and their surface realizations tended to preserve underlying quantity.

In Middle English, vowel quantity became highly unstable, due to the interaction of an array of lengthening and shortening rules.

Vowel Quantity Shifts in Middle English

Ritt (2004) argues that the Middle English quantity shifts can be best understood by adopting the perspective that languages are memes, or replicators.

I will argue that this is not the case: in order to understand what happened to Middle English quantity, we must keep the focus on the *learners*, in whom the relevant cognitive principles reside.

Minkova (1982) sparked renewed attention to the Middle English quantity shifts by showing the extent to which there is variation in the Present Day English length of vowels that should have undergone the same changes.

- Thus, looking only at bisyllabic stems, we find...

Short Vowel

Long Vowel

Old English

sadol

cradol

beofor

dēofol

bēacen

Present Day English

săddle

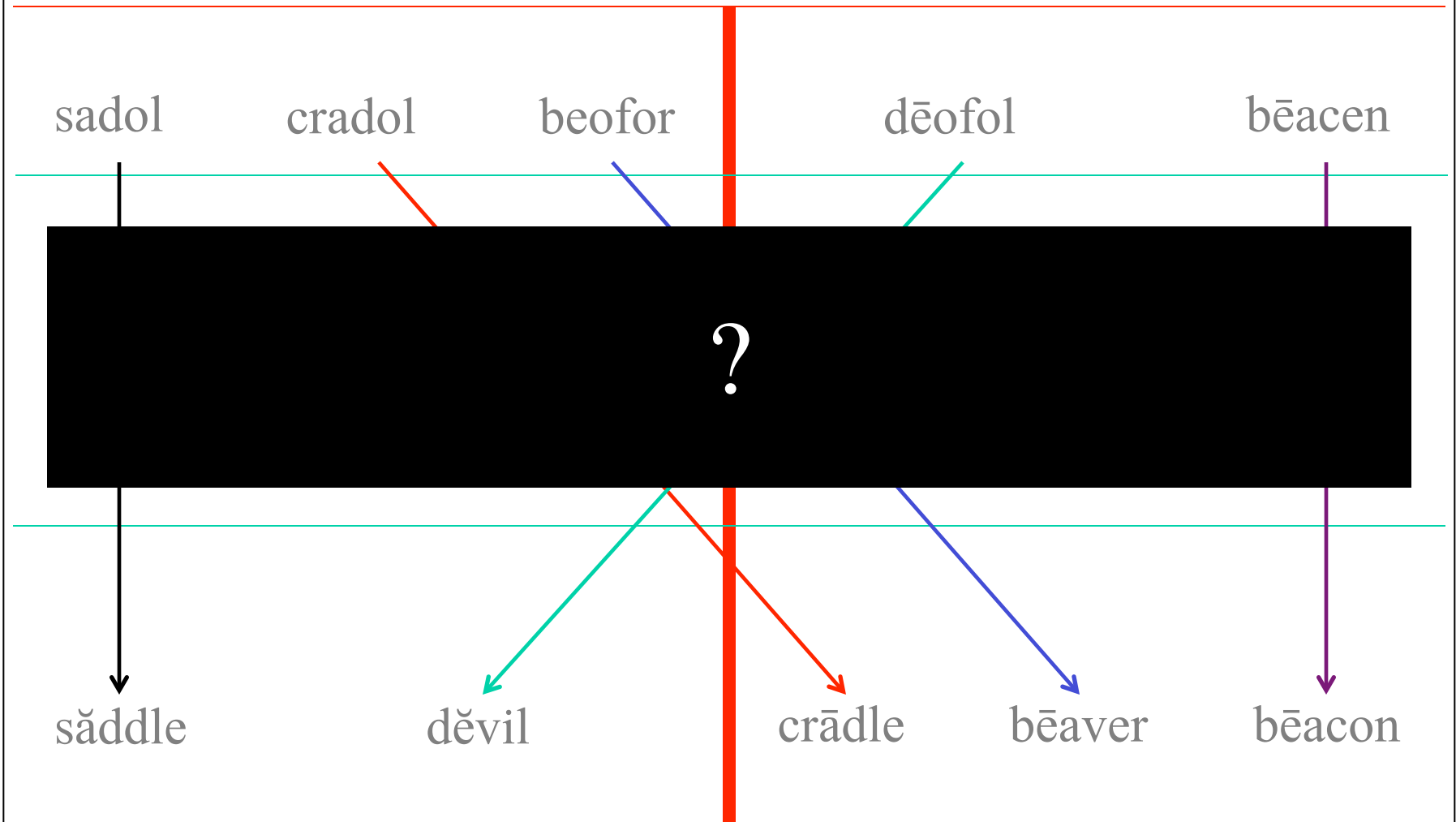
děvil

crădle

bēaver

bēacon

What happened in Middle English to create these outcomes?



In an earlier study, Ritt (1994) attempted to unify the various Middle English quantity changes in one probabilistic formula which he states in words as follows:

The probability of vowel lengthening is proportional to

- a. the (degree of) stress on it
- b. its backness
- c. coda sonority

and inversely proportional to

- a. its height
- b. syllable weight
- c. the overall weight of the weak syllables in the foot.

The probability of vowel shortening is inversely proportional to the probability of lengthening.

- Ritt (2004) writes that the incompatibility of a probabilistic rule with categorical Neogrammarian sound laws led him to rethink the basis of linguistic theory and to adopt an evolutionary, meme-based theory.
- According to him (245), such an approach “does not imply at all that environments which may select for or against a particular replicator variant should be describable in categorical terms.”

- Ritt observes further an incorrect prediction that his earlier proposal made. His rule predicted that original CVC monosyllables, such as *hwæł* 'whale' and *god* 'god' should lengthen.
- The conventional wisdom since Luick is that they do not: compare *god*. Ritt (2004) now observes that sometimes they do, as in *whale*.

- Ritt (2004:286) writes that an evolutionary approach can solve this problem “which has so far been brushed under the carpet, or dealt with in terms of **explanatorily empty** terms such as ‘dialect mixture’ or ‘analogical levelling’.”
- His explanation is that monosyllables can be prosodically grouped with the syllables of a following word or words, effectively putting the syllable sometimes in a lengthening context and sometimes in a shortening context; hence the variability of the outcome.

An inescapable fact

Be that as it may, neither Ritt (1994) nor Ritt (2004) takes account of an inescapable fact about English singular ~ plural noun pairs: with the exception of *staff* ~ *staves*, and irregular pairs like *child* ~ *children*, **PDE nouns do not exhibit vowel-length alternations.**

This despite the fact that many such nouns would have been expected to show such an alternation, either on his account, or in more traditional accounts.

A More Traditional Account

Lahiri & Dresher (1999) propose that a pre-Minkova traditional style analysis can account for her observations concerning PDE outcomes of ME quantity processes.

A conventional view of these processes posits two central rules that ought to create singular ~ plural quantity alternations in major noun classes:

Open Syllable Lengthening (OSL)

A stressed vowel in an open syllable must be long.

t á l u → t á: l u

Trisyllabic Shortening (TSS or TRISH)

A stressed vowel followed by two unstressed syllables must be short.

d é : o f e l a s → d é o f e l a s

Predicted effects of OSL and TSS on OE noun classes (Lahiri & Dresher 1999)

CLASS A

open σ

open σ

Singular

Plural

talu

tala

OSL

OSL

ta:lu

ta:la

This class is expected to undergo OSL in all forms.

As Minkova observed, these nouns are consistently long in PDE: *tale, name, queen, smoke*, etc.

Predicted effects of OSL and TSS on OE noun classes (Lahiri & Dresher 1999)

CLASS B

closed σ

open σ

Singular

Plural

hwæł

hwælas

—

OSL

hwæł

hwæ:las

This class is expected to have short vowels in the singular, and long vowels in the plural by OSL.

PDE forms are mixed: *back, god*, are short, *crate, whale*, are long, *black, Blake*, has both outcomes.

Predicted effects of OSL and TSS on OE noun classes (Lahiri & Dresher 1999)

CLASS C

open 2 σ

open 3 σ

Singular

Plural

beofor

beoferas

OSL

TSS

be:ofor

b \ddot{e} oferas

This class is expected to have long vowels in the singular by OSL, and short vowels in the plural by TSS.

PDE forms are mixed: *beaver, cradle*, are long, *saddle, feather*, are short.

Predicted effects of OSL and TSS on OE noun classes (Lahiri & Dresher 1999)

CLASS D

open 2 σ

open 3 σ

Singular

Plural

de:ofol

de:ofelas

—

TSS

de:ofol

dēofelas

This class is expected to retain long vowels in the singular, and to have short vowels in the plural by TSS.

PDE forms are mixed:
fever, beacon, are long,
devil, weapon, are short.

What happened to all these alternations?

Before loss of schwa

Singular

Plural

sto:n

sto:nəs

bo:di

bodiəs

god

go:dəs

be:vər

bevərəs

The expected alternations are well-behaved and perfectly ordinary length alternations, governed by the rules of OSL and TSS.

But consider what happens when /ə/ is deleted in final syllables:

What happened to all these alternations?

After loss of schwa

Singular

Plural

sto:n

sto:ns

bo:di

bodis

god

go:ds

be:vər

bevərs

Assignment: Propose an analysis of these forms.

Evidently, Middle English speakers failed this assignment. No phonological or even morphological rule can make sense of these alternations.

As a result, learners were unable to acquire the grammar that had generated these forms. They adopted a non-phonological solution:

- Where all forms of a morpheme had a consistently long or short vowel, that is the vowel that was selected.
- Where there was variation, it appears from the word counts that learners picked one or the other with almost equal odds (Lahiri & Dresher 1999).

Conclusion 1

Therefore, appeal to analogical levelling in this case is not explanatorily empty: it happened for a perfectly understandable reason. It is hard to see any other explanation for the total destruction of what had been a pervasive set of alternations.

Conclusion 2

A further benefit of this account is that we have no reason to suppose that the phonological processes that caused the lengthenings and shortenings were themselves variable or had a statistical character.

The variable nature of the PDE outcomes is not a direct reflection of the original phonological rules, but rather of the non-phonological strategies that speakers used to select long or short lexical vowels *after the phonological generalizations had been lost.*

2. Main Stress Left in Early Modern English *[collaboration with Aditi Lahiri]*

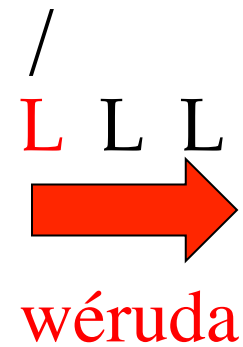
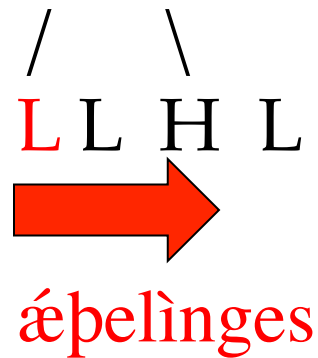
Why did native speakers of
English adopt the Latin
stress rule?

Change in the English stress system

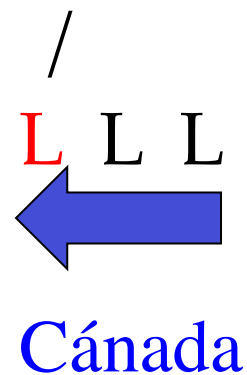
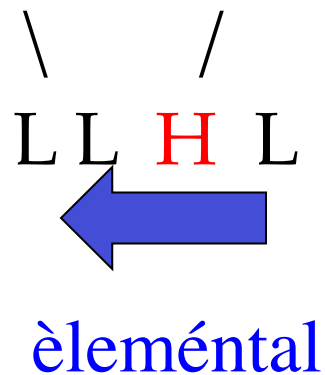
The change from the Old English Germanic stress system to the Modern English Latinate stress system involves a number of changes, of which two are particularly important:

- Change in **direction**, from left-to-right to right-to-left
- Change in **position** of main stress, from the left side of a word to the right side

Germanic: Stress on the stem-initial syllable, regardless of quantity, building secondary stress from left to right



Latinate: Stress on the penult if heavy, otherwise on the antepenult, secondary stresses from right to left



Change in the English stress system

Did a new group of people take up English and bring with them their native Latinate prosody? We know this is not what happened. But even if we didn't know this directly, we would have been tipped off by a peculiar fact:

- Observation:

Through the changes in the grammar of stress, all native Old English words retained their output stress contours: *wáter, hópefulness, begín* all retain their original stress contours, though the metrical structures that underlie them have changed.

Change in the English stress system

So what brought about the change?

- Hypothesis:

Contrary to Halle and Keyser (1971), who placed the origins of the change in the time of Chaucer (c1350), we date the important innovations to a later time (stage 1 c1530, stage 2 c1660) due to the influence of Latin borrowings.

Change in the English stress system

How are borrowings able to effect such a big change in the system?

- Hypothesis:

When the core native vocabulary does not decide between grammars. The persistence of the surface stress contours of native forms suggests that the change was carried out by native speakers, influenced by new vocabulary that resolved ambiguities in the grammar.

An Early Generative Account: Halle and Keyser (1971)

- Hypothesis:

The Romance stress rule was added to English in the time of Chaucer.

This rule originally competed against the dominant Old English stress rule, and was gradually extended over the subsequent centuries.

An Early Generative Account: Halle and Keyser (1971)

- According to Halle and Keyser, the Romance stress rule subsumed two different patterns commonly attributed to separate stress rules:
 - A. The French pattern responsible for Chaucer's final stress in words like *virtúe* and *honóur*.
 - B. The Latin pattern – stress on the penultimate syllable iff heavy, otherwise on the antepenult – that came to be dominant in later English.

An Early Generative Account: Halle and Keyser (1971)

- **Merits:**

The great advantage of this account, with respect to our topic, is that it accounts for the origin of the Latinate stress pattern in English.

The relatively few early borrowings from Latin are now reinforced by the more numerous words with the French stress pattern (since the French and Latin stress rules are united in their analysis).

An Early Generative Account: Halle and Keyser (1971)

- **Merits:**

Moreover, the external conditions appear to be favourable: England actually **was** invaded by speakers of Norman French (1066) who made French the language of government for several hundred years.

The later flood of Latin borrowings could thus simply provide further evidence for a pattern that had already gained a foothold in English.

An Early Generative Account: Halle and Keyser (1971)

- **Problems:**

Unfortunately, this account appears to be wrong in a number of respects.

An Early Generative Account: Halle and Keyser (1971)

- **Problems:**

- 1. The French and Latin stress rules are different.**

The French Stress Rule

- a. Stress the final vowel unless it is schwa:

vertú, honóur, degréé, chanóun, abbót

- b. Otherwise, stress the penultimate vowel:

divíne, Egípte, servíce, govérne, exíled

The Latinate Stress Rule

- a. Stress a tense final vowel:

vertú, honóur, degré, chanóun

- b. Otherwise, stress the penultimate syllable iff it is heavy (either having a tense vowel or closed by a consonant):

divíne, Neptúnus, govérne, Caríbdis

- c. Otherwise, stress the antepenult:

Týdeus, Zépherus, Cappáneus

The stress rules differ in case

- a. the final vowel is lax but not schwa

The French rule gives final stress:

(1) *Jhesús, abbót, Judíth, Oréb, tempést*

The Latin rule would give nonfinal stress:

(2) *Jhésus, ábbot, Júdith, Óreb, témpest*

In the above examples alternants with initial stress (2) would be generated both by the Germanic and the Latin stress rules. However, under the Latin stress rule there would be no source for the forms in (1). Thus, Halle and Keyser must mark these as exceptions to the unified Romance stress rule.

The stress rules differ in case

- b. a word has more than two syllables where the final vowel is schwa and the penult is in a light syllable.

The French rule gives penultimate stress, the Latin rule gives antepenultimate stress.

According to Halle and Keyser, Old French words all had heavy penults, thus avoiding a conflict in words borrowed from that source. But many words borrowed into English from Latin had light penults and followed the Latin, not the French rule, undermining a unified approach to Old French and Latin stress patterns.

An Early Generative Account: Halle and Keyser (1971)

- **Problems:**

1. The French and Latin stress rules are different.
2. **The French stress pattern had no lasting effect.**

The French Stress Rule in Chaucer

1. Doublets

It should be noted that words with French stress in Chaucer (c. 1343–1400) could in general also be stressed according to the native English pattern, as required by the meter. Hence we find many doublets:

a. divérs ~ díverse

b. geáunt ~ géant

c. Plató ~ Pláto

d. comfórt ~ cómfort

e. presént ~ présent

f. citée ~ cítee

The French Stress Rule in Chaucer

2. Outcomes

With very few exceptions, the PDE reflexes of Romance words with French stress in Chaucer have initial stress consistent with Germanic stressing:

vírtue

fórtune

bárren

Égypt

cómfort

góvern

sólemn

hónour

mércy

Jésus

ábbot

Júdith

témpest

gíant

présent

Pláto

cíty

díscord

sérvant

tórment (noun)

týrant

The French Stress Rule in Chaucer

2. Outcomes

With very few exceptions, the PDE reflexes of Romance words with French stress in Chaucer have initial stress consistent with Germanic stressing:

Also:

cánon	Chaucer chanóun
ascéndant	Cf. <i>ascénd</i> , Chaucer <i>ascendént</i>
purvéyance	Cf. <i>purvéy</i> , Chaucer <i>purveyáunce</i> . More usual ME forms <i>púrvey(-)</i>

The French Stress Rule in Chaucer

2. Outcomes

Some types of words systematically have non-initial stress in PDE:

Non-initial stress in PDE:

divíne

degréé

rewárd

The French Stress Rule in Chaucer

2. Outcomes

But even these words fit into an existing Old English pattern.

Old English had many unstressed prefixes, more commonly on verbs than on nouns; hence, there are pairs like:

án-ǵìn ‘beginning’

an-ǵínnan ‘to begin’

bí-ǵènga ‘inhabitant’

be-ǵán ‘to occupy’

ín-stæpe ‘entrance’

in-stæppan ‘to enter’

(Hogg 1992: 48–9).

The French Stress Rule in Chaucer

2. Outcomes

Therefore, Romance words—particularly verbs, but also adjectives and nouns—with initial unstressed syllables that look like prefixes could fit into this native English pattern (Minkova 2006: 114).

di-víne

de-grée

re-wárd

an-ǵínnan ‘to begin’

be-ǵán ‘to occupy’

in-stáeppan ‘to enter’

Apart from such words, bisyllabic Romance loans borrowed before the 15th century have initial stress in PDE.

a. Stem vowel is short in Present Day English

<i>English</i>	<i>Date</i>	<i>English</i>	<i>Date</i>
talent	893	coral	1305
baron	1200	profit	1325
senate	1205	metal	1340
jealous	1250	satin	1366
palace	1290	moral	1380
channel	1300	volume	1380
gallon	1300	second	1391
panel	1300	Latin	1391

Apart from such words, bisyllabic Romance loans borrowed before the 15th century have initial stress in PDE.

b. Stem vowel is long in Present Day English

<i>English</i>	<i>Date</i>	<i>English</i>	<i>Date</i>
basin	1220	paper	1374
moment	1240	raisin	1382
vacant	1290	patent	1387
odour	1300	famous	1400
process	1330	razor	1827

By contrast, bisyllabic Romance loans with final stress in PDE tend to have been borrowed much later.

<i>English</i>	<i>Date</i>	<i>English</i>	<i>Date</i>
cement*	1300		
canal	1449	champagne	1664
bourgeois	1564	ballet	1667
gazelle	1582/1700	salon	1715
moustache	1585	bouquet	1716
gazette	1605	brochure	1765
hotel	1644	beret	1850

*ME *síment*: initial stress until the 19th c.

An Early Generative Account: Halle and Keyser (1971)

- **Problems:**

1. The French and Latin stress rules are different.
2. The French stress pattern had no lasting effect.
3. **The Latin stress pattern, as distinct from the Old French one, is hardly attested in Chaucer.**

The Latin Stress Rule in Chaucer

We have argued that the Latin stress pattern is distinct from that of Old French. Thus, evidence for the introduction of a Latin-type stress rule into English in Chaucer's time must rest on words that particularly exemplify this pattern. However, such words are quite rare in Chaucer, and tend to be Latin names. Halle and Keyser cite the following instances:

- a. "For if my fader **Týdĕūs**," he seyde (TC.5.932)
- b. And also how **Căppánĕūs** the proude (TC.5.1504)
- c. The snowes molte, and **Zéphĕrūs** as ofte (TC.5.10)
- d. **Sătúrnĕs** doughter, Juno, thorough hire might (TC.4.1538)
- e. My ship and me **Căríbdīs** wol devoure (TC.5.644)
- f. For certein, Phebus and **Nĕptúnūs** bothe (TC.4.120)

TC = *Troilus and Criseyde*

An Early Generative Account: Halle and Keyser (1971)

We conclude that there is no evidence that either the Old French or the Latin stress rule gained a foothold in English at the time of Chaucer (see also Minkova 1997).

We must look to a later period for the introduction of the Latin stress pattern.

A Parametric Account

- Hypothesis:

The Latinate stress rule of PDE was not added all at once to the grammar of English.

A stress system is the result of interacting parameters. These parameters can change independently. In the case of English, the main changes involved:

- a. change in directionality (parsing from the **left** vs. parsing from the **right**); and
- b. the position of main stress (**left** vs. **right**).

Old English Stress

(Dresher and Lahiri 1991)

Foot type: The Germanic Foot (a resolved and expanded moraic trochee of the form (Hd Dep), where Hd= μ $\mu(-\mu)$, Dep= (μ))

Direction of parsing: **Left to right**

Main stress: **Left**

Old English Stress: Sample Parsings

(x .)	(x .)	(x .)
([$\mu\mu$] μ)	([$\mu\mu$] μ)	([$\mu\mu\mu$] μ)
H L	L L L	L H L
wor da	we ru da	cy nin ga

In our analysis, all these words constitute a single metrical foot.

Middle English Stress

The stress system in Middle English remained essentially as in Old English.

Old English words already tended to be short, no longer than a single foot. Further, many OE suffixes were, as they still are today, 'stress neutral', meaning they do not participate in the stress domain.

Therefore, evidence for setting the parameters of directionality and main stress was in short supply.

Impact of Latin Loan Words

Among the Latin words that began entering the language in great numbers in the 16th century were many that were relatively long.

These Latin loan words were thus able to fill the gap left by the native words. Without contradicting the majority of the native words, the loan words caused the resetting of the directionality parameter from **Left** to **Right**.

Approximate Dates of Changes in Metrical Structure

-1530: Foot **Dir Left**, Main Stress **Left** (as in OE)

1530: Foot **Dir Right**, Main Stress **Left**.

1660: Foot **Dir Right**, Main Stress **Right**

Foot = Resolved moraic trochee

Change of Direction of Parsing

The first significant change was a shift in directionality (edge orientation), from left to right, which happened around 1530.

Following commentators such as Danielsson (1948) and Poldauf (1981), we associate this change with the accumulation of words with Latin suffixes such as:

-ation, -ic(al), -ity, -ator, -able/-ible etc.

Change of Direction of Parsing

In such forms, stress is computed from the right side.

For example,



can be assigned stress by a unified rule computing from the right edge (both have stress on the antepenult), but not from the left edge.

Latin Words at First Borrowed as Morphologically Simplex

Latin words had been borrowed into English in earlier periods as well. Why didn't they cause the change in English stress before the 1500s?

I follow Minkova & Stockwell (1996) and Lahiri & Fikkert (1999), who argue that Latin words were originally borrowed as morphologically simplex.

Latin Words at First Borrowed as Morphologically Simplex

- Thus, *reverence* was not initially derived from *revere*, nor *austerity* from *austere*.
- Often, the 'derived' word was borrowed earlier, as can be seen from the following word pairs:

'Derived' forms borrowed earlier

abstain	1380	withhold oneself from
abstinence	1300	forbearance of any indulgence of appetite
confide	1455	to trust or have faith
confidence	1430	reliance, faith
reside	1460	†to settle
residence	1386	to have one's dwelling place
resident (adj.)	1382	having an abode in a place
revere	1661	regard with respect
reverence	1290	deep respect
finite	1493/1597	†fixed, determined; limited
infinite	1385	unlimited in number

potent	1500	powerful
impotent	1390	physically weak
preside	1611	to act as president
president	1375	the appointed governor of a province
precede	1375/1485	†to go before or beyond in quality or degree; to go before in rank or importance
precedence	1484	preceding in time
precedent	1391	preceding in time
divide	1374	to separate into parts
division	1374	action of dividing
divisible	1552	capable of being divided
compare	1375	to speak of as similar; ME comper
comparable	1413	capable of comparison

Notice that the ‘derived’ (actually, the earlier) forms all have initial stress, consistent with the native pattern to which they were evidently assimilated.

Conversely, the stressed vowel in the ‘underived’ word (actually borrowed later) is unstressed and lax in the ‘derived’ word:

‘Underived’

revere

admire

preside

confide

relate

‘Derived’

reverence

admirable

president, presidency

confident

relative

These words exhibit so-called ‘Medial Laxing’, and are treated as exceptional in any morphophonological analysis:

Lieberman & Prince 1977:	Morphological shortening
Kiparsky 1979:	Sonorant destressing
Myers 1987:	Medial laxing
Kager 1989, Gussenhoven 1994:	Lexical exceptions

‘Underived’

revere

admire

preside

confide

relate

‘Derived’

reverence

admirable

president, presidency

confident

relative

Later Latin Borrowings are Morphologically Complex

What appears to have made the difference is that in the later period Romance borrowings were so common that their morphological composition could be recognized by English speakers.

At that point, English speakers could identify recurring morphemes, such as derivational suffixes. The rightward directionality of stress in words with these suffixes could then become apparent. Consider in this regard the following words:

Alternations with suffix *-al* that point to right-edge orientation of stress

accidental	(c1400)	áccident	(c1400)
instruméntal	(1398)	ínstrument	(c1290)
matrimónial	(1449)	mátrimony	(1357)
medícinal	(1384)	médicine	(?c1225)
oríginal	(a1325)	óorigin	(c1450)
philosófical	(a1425)	philósophy	(c1325)
poétical	(c1450)	póet	(a1382)
sacraméntal	(c1400)	sácrament	(c1175)
satírical	(a1529)	sátire	(1509)
univérsal	(a1393)	úniverse	(a1425)

Once native speakers could decompose these words into their constituent morphemes (at least into stems and suffixes), then a learner could arrive at right-edge computation of stress along various paths.

accidental	(c1400)	áccident	(c1400)
instruméntal	(1398)	ínstrument	(c1290)
matrimónial	(1449)	mátrimony	(1357)
medícinal	(1384)	médicine	(?c1225)
oríginal	(a1325)	óorigin	(c1450)
philosóphical	(a1425)	philósophy	(c1325)
poétical	(c1450)	póet	(a1382)
sacraméntal	(c1400)	sácrament	(c1175)
satírical	(a1529)	sátire	(1509)
univérsal	(a1393)	úniverse	(a1425)

Thus, a comparison of a derived word with its base would show stress being moved to the right under the influence of the suffix: for example,

áccident ~ accidéntal, úniverse ~ univérsal, etc.

accidéntal	(c1400)	áccident	(c1400)
instruméntal	(1398)	ínstrument	(c1290)
matrimónial	(1449)	mátrimony	(1357)
medícinal	(1384)	médicine	(?c1225)
oríiginal	(a1325)	óorigin	(c1450)
philosóphical	(a1425)	philósophy	(c1325)
poétical	(c1450)	póet	(a1382)
sacraméntal	(c1400)	sácrament	(c1175)
satírical	(a1529)	sátire	(1509)
univérsal	(a1393)	úniverse	(a1425)

Alternatively, comparing words with the same suffix would show the same thing: for example, **accidéntal**, **univérsal**, with stress on a penultimate heavy syllable, contrast with **medícinal**, **satírical**, which have light penults and stress on the antepenultimate syllable.

accidéntal	(c1400)	áccident	(c1400)
instruméntal	(1398)	ínstrument	(c1290)
matrimónial	(1449)	mátrimony	(1357)
medícinal	(1384)	médicine	(?c1225)
oríiginal	(a1325)	óorigin	(c1450)
philosóphical	(a1425)	philósophy	(c1325)
poétical	(c1450)	póet	(a1382)
sacraméntal	(c1400)	sácrament	(c1175)
satírical	(a1529)	sátire	(1509)
univérsal	(a1393)	úniverse	(a1425)

Later Latin Borrowings are Morphologically Complex

Unlike earlier periods, the English native words did not provide robust conflicting evidence with respect to this aspect of stress.

Monomorphemic words were metrically short, and were ambiguous with respect to directionality.

Later Latin Borrowings are Morphologically Complex

Words with native suffixes operated differently from the Romance suffixes, and it is presumably from this period that the bifurcation into stress-affecting and stress-neutral suffixes originated.

If native suffixes are treated as stress-neutral, they do not contradict computation of stress from the right edge.

Loans in *-ity* : appx. date of borrowing

able	1382	having sufficient power
ability	1380	sufficient power; ME ablete, abilite
austere	1541	making the tongue dry and rough
austerity	1340	harshness to the feelings
hostile	1594	pertaining to the enemy
hostility	1531	the state or fact of being hostile
divine	1380	pertaining to god
divinity	1374	the quality of being devine
grave	1541	weighty, important
gravity	1519	seriousness, dignity

humane	1500	characterised by such a behaviour towards others that befits a man
humanity	1382	the character of being humane
serene	1503/1508/1635	honorific; calm weather; calm persons
serenity	1450/1538/1599	title of honour; calm weather; tranquility
sane	1694/1721	of the body; sound in mind
sanity	1432-50/1602	†bodily health; mental soundness
severe	1548	rigorous condemnation or punishment
severity	1530	strictness or sternness in dealing with others

sublime	1604	set or raised aloft
sublimity	1526/1563	high excellence; high or lofty position
vain	1300/1692	worthless; inordinate opinion of oneself
vanity	1230/1325	worthless thing; quality of being vain
verbose	1672	wordy
verbosity	1542	wordiness

rare	1420/1482/1542	in open order; of uncommon excellence or merit; seldom found
rarity	1560/1592/1598	relative fewness in number; a rare or uncommon thing; (obs.) the fact of being set at wide intervals
inane	1320/1662	†in one and the same state; empty void
inanity	1607	emptiness
cave	1220	underground hollow
cavity	1591	hollow place
sincere	1536	genuine; pure
sincerity	1546	purity
obese	1651	very fat
obesity	1611	the condition of being obese

Shift in Main Stress from Left to Right

Though the directionality of stress shifted from left to right around 1530, by our hypothesis, the position of main stress remained on the left for some time after.

The 'Counter-tonic Principle'

Danielsson (1948) attributes to Walker (1791) the observation that classical words were pronounced, in the English pronunciation, with alternating secondary stresses two before the tonic, e.g. L. *àcadémia*, or the French version *acàdemie*. When 'Englished', the tonic and counter-tonic change places to conform to English 'speech habits', e.g. *ácademy*, or *acádemý*.

Reference here is specifically to the habit of putting the main stress **left**. The Counter-tonic Principle shows that the main stress parameter remained set to **left** for some time after the change of directionality to **right**.

The 'Countertonic Principle'

It is worth noting that the addition of words stressed according to the Countertonic Principle would have *increased* the evidence for main stress **left**. Thus, a word like *academy* clearly shows two feet, of which the **left** has the main stress.

Therefore, it is not correct to say that English gradually moved from a 'Germanic' to a 'Romance' stress system. In this case, the same words that provoked a change of directionality to **right** reinforced the evidence for main stress **left**.

Main Stress Right

What exactly caused the main stress parameter to finally switch to **right** is not entirely clear to us. However, a likely place to look is around or before 1660. According to Danielsson, that year was the 'turning point' when French words kept final accent in English, as with suffixes:

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

It is plausible to suppose that these words can come in after the change of main stress to **right**.

Stress on word-final suffix vowels in PDE

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

Though some words like these may have entered the language before 1660, they may not have systematically retained final stress until around that date. It is plausible to suppose that final stress in words with these suffixes became more systematic after the change of main stress to the **right** edge.

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

Continuity Amid Change

In our account, then, both the core grammar (foot type, quantity sensitivity) and the core data (surface stress patterns) remained essentially unchanged in the course of these seemingly radical changes to the English stress system.

Change occurred most readily in areas of the grammar where the native vocabulary did not provide decisive cues. In these areas, the new loan vocabulary could provide the key evidence for reanalysis of the grammar.

Direction

Main stress

énd

L/R ?

L/R ?

fínish

L/R ?

L/R ?

tèrminátion

R !

R !

Conclusion

On causes and effects

Causes and Effects

Diachrony v. Synchrony

The issues I have looked at can be discussed in terms of causes and effects. The historically-oriented theorists I have cited argue, in various ways, that change is the cause of synchronic patterns that have been incorrectly attributed to Universal Grammar.

But the examples I have discussed are cases where synchronic patterns play a significant role in shaping diachronic changes.

Causes and Effects

Production / Perception v. Grammar

Similarly, there is a tendency to suppose that change is caused by constraints on production and perception, firmly rooted in the world of concrete entities, and that grammar is simply the result of these changes.

But I have argued that grammar, abstract and immaterial though it may be, influences production and perception. The flow of causation is not just one way.

Causes and Effects

Adults v. Learners

Finally, it has also been argued against the notion of UG that the role of language learners as agents of change has been greatly exaggerated, or even that acquisition has little to do with change.

Certainly there are changes in which adults participate. But the most natural interpretation of the changes I have discussed is that they are due to reanalyses carried out by language learners.

Thank you very much!

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