Spreading like wildfire: Morphological variation and the dynamics of the Great English Verb Regularization

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Overview of talk

• Part I: English verb inflection past and present
  – A brief introduction

• Part II: The Great Regularization

• Part III: Late-modern trends

• Part IV: "Wildfire" – the dynamics of large-scale regularization
Key points of talk (1)

The large-scale regularization of originally strong verbs was a historical event that took place in late Middle and Early Modern English...

NOT a constant tendency throughout the history of the language.
Key points of talk (II)

The metaphor of a "wildfire" (or epidemic) – that (1) feeds on itself for a time, but (2) eventually runs its course and ends captures the way this kind of regularization spreads through the lexicon – with regular-irregular variation playing a crucial role.
Part I:
English verb inflection
past and present:
A brief introduction
Regular vs. Irregular

Vast majority of verbs today are inflectionally "regular": form past tense and participle with (orthographic) -(e)d suffix: \textit{walk–walked}, etc.

A few dozen "irregular" verbs form past tense and participle in a variety of other ways, e.g.:

\begin{itemize}
  \item \textit{drive–drove–driven}; \textit{take–took–taken}...
  \item \textit{sing–sang–sung}; \textit{come–came–come}...
  \item \textit{set–set}; \textit{beat–beat–beaten}...
  \item \textit{leave–left}; \textit{keep–kept}; \textit{send–sent}; \textit{say–said}...
\end{itemize}
Strong vs. weak

Many of today's irregular verbs descend from Germanic "**strong**" patterns – forming past tense with root-vowel change (**ablaut**) but no tense suffix; participle (originally always) with -en suffix (with or without a further root vowel change): *drive–drove–driven*, etc.

-**(e)d** and **-t** suffixes reflect Germanic "**weak**" pattern – which originally never entailed any root-vowel change.
Irregular weak verbs

Verbs with orthographic -t suffix – and a few with -d are "weak irregulars"; some have developed root-vowel alternations:

keep—kept; mean—meant; leave—left...
tell—told; say—said...
teach—taught; seek—sought...

In a few cases, -t replaces root-final -d:

send—sent; lend—lent...
"No-change" verbs

Verbs whose past tense is identical to their present all end in -t or -d; historically they reflect a mix of old strong patterns:

let–let–let; beat–beat–beat(en)

and old weak patterns:

set–set–set; rid–rid–rid; put–put–put; etc.
"Vowel-shortening" verbs

Another class with roots ending in -t or -d that also reflects a historical mix of old strong:

- slide–slid
- bite–bit (–bitten)
- shoot–shot

and weak patterns:

- hide–hid (–hidden)
- feed–fed
Participles in -(e)n

The -n suffix for past participles reflects the old strong pattern but has developed a degree of productivity that is independent of other strong-vs.-weak issues:

mow–mowed–mown; shave–shaved–shaven
hide–hidden; show–showed–shown
Part II:
The Great Regularization
Beginning mainly in the 14th c. regular, weak past tense and participle variants start appearing for almost all originally strong verbs.

Why at this time?...
Morphological change as a reaction to non-morphological change

There had been only a handful of "irregular" verbs in Old English.

The inflectional properties of almost all OE strong and weak verbs were predictable from the phonological shape of the infinitive (or of most other present-tense forms).

This predictability progressively breaks down – due mainly to regular sound changes – over the course of the 11th, 12th, and 13th centuries.
Of the ~293 basic strong verbs of OE

- 102 have been lost with no sign of regularization
- 65 are still (more or less) entirely strong today
- 13 show some kind of strong–weak variation in PDE
- 15 have become irregular weak verbs
- At least 23 have merged with an originally weak verb
- 74 have regularized (17 of which were later lost).
For 62 of the 74 Old English strong verbs that have regularized, weak forms are first attested between 1300 and 1450.

**Seven** additional (more or less low-frequency) verbs come on board 1481–1589.

Strong–weak variation is widespread in the 15th and 16th centuries – among the verbs that would regularize, **but also** among the 78 verbs that have remained (partly or entirely) strong in PDE.

This variation is largely resolved – one way or the other – in later Early Modern English.
JOHANNIS WALLIS,
SS. Theol. Doctoris, & Geometriæ
Professoris Saviliani in Celeberrima
Academia
OXONIENSIBI
GRAMMATICA
LINGUÆ ANGLICANAÆ:
Iste
Tractatus Grammatico-Physicus
de LOQUELA
Sive Sonorum Formatio
ne.

Cui subjungitur
JOHANNIS PODENSTEINER
CLAVIS
LINGUÆ ANGLICANAÆ:
Juxta cum
GUILLAELMI PERKINS
Tractatu Anglico
De
FUNDAMENTO RELIGI
NIS CHRISTIANAÆ,

Anno M D C L XXXIX.
Sumibis Vides Gotfried Schultzen,
Bibliopolæ Hamburgensis.

...udo, to sit sedeo, to quilt libero, to write scribo, to life mordeo, to bite percuto, somet occurro, sehoos ex machina projicio. Item lent, rent, sent, girt, &c. (pro lend, send, &c. vel lends, sends, &c. a verbis to lend mutud dos, send mitto, to rend lacero, to gird cingo.

Verba autem hanc Anomaliam seu contractionem passa, admittent ut plurimum etiam formam regularem, non minus eleganter quam hanc contractam; ut placed, fished, beleeved, bereaved, girded &c. vel plac'd, fis'h'd &c. Nisi fortasse cacophonia nonnullam impediat syncopen passa, (ut gird'd) aut etiam (in Verbis frequentissimi usus) celeritas pronunciandi contractionem formam in quibusdam ut plurimum suadeat; unde kept, swept, sere semper dicimus; keepe'd, swept, tariu's.

Anomalia secunda etiam frequentis est, sed solummodo Participium Passivum spectat: Nemo participium Passivum olim sapissime formabatur in en: Cuiusmodi satis multa adhuc retinemus, praeertim ubi Praeteritum Imperfectum insignem aliquam anomaliam patitur. (Atque hae
Cap. 12. De Verbis Anomalia

haec quidem Altera Participii Formatio, potius quam Anomaly, non incommode dici potest.

Ut been, taken, given, sayn, known, &c., a Verbis to be crite, so take accipio, so give do, so say occido, so know cognoco.

Et quidem nonnunc post Präteriti Imperfecti & Participii Passivi communem five contractionem fives anomalias, etiam haec Participii Passivi peculiaris anomaly ascendent. Scilicet tam written, bitten, eaten, beaten, hidden, chidden, shotten, rotten, choosen, broken, &c., quam writ, bit, eat, beat, hidd, chid, shott, rott, chote, broke, &c., in Participio Passivo (at nonitem in Präterito Imperfecto) promiscue efferuntur; a verbis so scribe scribo, so bite mordeo, so was edo, so beat verbero, so hide abscendo, so chide objurgo, so shoo projicio, so rote pterecco, so choose eligo, so break frango; aliaeque ejusmodi multa.

Item promiscue formantur Participia sown, shown, bown, mow'n, loaded, laden; arque sow'd, shew'd, bow'd, mow'd; loaded, laden; & Verbis to sow fero, to shew ostendo, to bow dolo, to mow meco; so load vel lade, onero, Aliaeque forsitan aliquid similis.

alia, sed rarius. Quaedam in Participio Passivo assumunt etiam en, ut stricken, drunenk, bounden. Sed et utroque forma analoga fere in omnibus retinetur, ut spinned, swummed, &c.

2. Fugio, pugno, tecno, doceo, reacio, extendo, secto, quæro, besecche, ovo, sascio, capio, buio, emo, bringo, asfero, think, cogito, work, operor; faciunt fuit, caught, rought, sougth, besought, caught, boughed, broughed, thought, wrougth. Sed et ex his non paucis analogiam retinent, ut reached, reached, beseeched, escheat, worked, &c.

3. Taceo, capio, shaxe, quatio, forsake, delibo, wake, (awake) ecigilo, fand, (olim fied) fio, break, frango, feeh, loguer, bear, ferio, pario, bear, tendo, swear, juro, tero, lacero, wear, induo, tero, weaver, texo, cleave, hæreo, cleave (olim clyve) fendo, shrive, contendo, thrive, diteco, drive, pello, shone, splendes, rife, (arife) surgo, smite, percutio, write, cribbon, bide, (abide) maneo, ride, equito, chofse, (chise) eligo, treed, conculco, get, acquiro, beget, gigno, forget, oblivicro, steche, coquo: faciunt utroque took, shook, forpok, Woke, awoke, sound, broke, foke, bore, shore, smore, tore, woxe, Wode, cleve, strone, struve, drive, shone, rode, aringe, smote, Wrote, bode, abode, rode, chofe, trodd, got, begots, forgst, sod. Sed et utroque dicimus etiam.
thrive, sild, smite, wright, abideth, ridd. In Præterito Imperfecto quædam etiam formantur. per a ut bake, shake, bare, share, sware, tart, Ware, clave, gat, begat, forgat, & fortæ se quædam alia sed rarius. In Participio Pasivo formantur eorum non paucæ etiam per en; ut taken, shaken, forsaken, brō, ken, shaken, born, (born) thorn, sworn, torn, worn, woen, cloven, thriuen, driven, risen, smitten, written, ridden, chōsen, trodden, gesen, begoten, forgotten, sodden. Multa etiam, utroque reinent analogiam, ut waked, awaked, beared, sheared, weared, cleared, shrived, abided, choosed, seathed, & c.


5. Draw, traho, know,icio, snow ning, go, grow cresco, throw jacio, blow flo, crow cano, (infin. Galli) fy volare, slay occido, see video, ly, jaceo, faciant Præte- rita Imperfecta drew, knew, knew, grew, threw, blew, crew, flew, flew, saw, lays, Participia Pasiva per en, drew'n, known, snow'n, grown, thrown, blown, crown, flyer (flown) slay'n, seen, lynn, (lay'n). Sed utroque drew'd, snow'd, throw'd, blow'd, crow'd. At a flee fugio fit fled.
Part III: Late-modern trends
A widespread misconception primarily among scholars who are not specialists in the history of English:

Regularization of originally irregular verbs is assumed to be a constant tendency throughout the history of English.
An extreme example: Lieberman et. al. 2007

"the half-life of irregular verbs is proportional to the square root of their frequency. [...] Irregular verbs that occur with a frequency between $10^{-6}$ and $10^{-5}$ have a half-life of about 300 years, whereas those with a frequency between $10^{-4}$ and $10^{-3}$ have a half-life of 2,000 years." (p. 714)
"From the Elizabethan period to this day not a single instance can be pointed out of a strong verb becoming weak, or of having manifested the slightest disposition to become so." (p.704)

"the struggle between the conjugations exhibits the remarkable though little remarked spectacle of a return of language upon itself, of a complete change in the current of tendency. A movement in one direction which threatened to sweep everything before it was much more than arrested. It was actually reversed." (703)
Illustrating Lounsbury's point – with data from COHA

The English Bible, Shakespeare, Milton [...], will be searched in vain for such a tense-form as woke. In all these works the preterite is invariably waked. [...] it was not till the latter part of the eighteenth century that the now common preterite woke makes frequent appearance in books. (Lounsbury 1908:705)
...and look what has happened since Lounsbury wrote those words in 1908 (data from COHA):

woke

waked
"Only one strong preterite has been added to the language since the Elizabethan period, [...]. *Digged* is the only form of the past tense of *dig* found in our version of the Bible, in Shakespeare, in Milton, or in any writer of the period. It was not until the latter part of the seventeenth century that the now authorized preterite [*dug*] made its appearance in literature. [...]

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**See all years at once**

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We can see the present attitude illustrated in the case of *dive*. [...] All that would be needed to establish it in good usage would be its adoption by a number of great writers, [...]. But of that event coming to pass there are no signs; and until it does come to pass, *dove* must stand in the list of condemned expressions." (Lounsbury 1908:706).
### dove

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### dive (lexeme)

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...and *dive* is no longer alone
spat (as past tense/participle of spit)

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SEE ALL YEARS AT ONCE

spit (verb lexeme)

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*See all years at once*
The "no-change" class:
signs of real productivity

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See all years at once.
Part IV: "Wildfire" – the dynamics of large-scale regularization
"Some nouns fluctuated: [feld] 'field,' plural ['felda] or ['feldas]. We do not know the origin of this fluctuation, but, once granted its existence, we can see in it a favoring condition for the spread of the [-as]-plural. A neologism like ['sunas] instead of older ['suna] 'sons' would perhaps have had no better chance of success than a modern foots, had it not been for the familiar fluctuation in cases like the word 'field."

(p. 410)
"It seems that at any one stage of a language, certain features are relatively stable and others relatively unstable. We must suppose that in the sixteenth century, owing to antecedent developments, there were enough alternative plural-forms (say, eyen : eyes, shoon : shoes, brethren : brothers) to make an innovation like cows relatively inconspicuous and acceptable. " (p. 409)
The standard view

• Many scholars regard the widespread variation in verbal inflection found in late Middle and early Early Modern English as the "natural" state of a language...

• ...and the relative uniformity of later Modern English as an artificial product of standardization

• but what about...
Morphological blocking and the "Unique Entry Principle"

"irregularly inflected forms do not coexist with their regular counterparts; if an irregular form exists in a word-specific paradigm, its regular alternative formed by the general affix paradigm is blocked" (Pinker 1996:177)

This principle is in no way limited to standardized languages.
The wildfire (or epidemic) metaphor

Widespread variation between regular and irregular inflected forms can arise in a language – under certain circumstances.

Once such variation starts spreading, it tends to spread "like wildfire" through the lexicon.

But this type of variation constitutes an inherently unstable state for a language.

Within a few generations the wildfire/epidemic is bound to run its course, restoring the stable state captured in the Unique Entry Principle.
Selected references


