

Restoring distinction: Analogical change in English strong verbs

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ABSTRACT

This paper discusses the causes of analogical change in English strong verbs. Two different types of analogical change are primarily considered: ‘non-regularising’ analogical changes where a strong verb acquires a different past root vowel (e.g. Middle English (ME) preterite of ‘speak’ *spake* → *spoke*); as well as ‘regularising’ analogical changes where a strong verb acquires a dental suffix (e.g. ME preterite of ‘help’ *halp* → *helped*).

Two different causes of analogical change are presented: first, what I call the frequency/regularisation theory is reviewed (e.g. Branchaw 2010). This theory argues that strong verbs are regularised when they are of low frequency, while they remain (irregular) strong verbs when they are of high frequency. I suggest three shortcomings to this theory: the concept of frequency is not well-defined; the theory does not consider the attestation of strong verbs; and the distinction between regularising and non-regularising analogical change is unhelpful.

Instead, I argue for a second approach that analogical change in English strong verbs is caused by (near-)mergers (Labov 1994) of present and past forms. Analogical change serves to restore the distinction between present and past forms by generating innovative past forms distinct from the present. Based on larger groups of strong verbs, I show where present and past forms (near-)merge and how analogical change restores that distinction.

1 INTRODUCTION

English STRONG VERBS – verbs that form their past through vowel alternation in the root (e.g. *sing*, *sang*, *sung*) – are frequently affected by analogical change. Two types of analogical changes are common: some strong verbs analogically acquired new past root vowels (e.g. Middle English (ME) preterite of ‘speak’ *spak* → *spoke*); while others acquired a dental suffix (e.g. ME preterite of ‘help’ *halp* → *helped*).

There is a dizzying amount of literature on analogical change in English strong verbs. Not only are there many works specifically dedicated to strong verbs (e.g. Long (1944); Bybee & Slobin (1982); Krygier (1994); Branchaw (2010) etc.), but general handbooks also refer to analogical change in strong verbs to exemplify principles of analogical change (e.g. Dressler 2003: 464).

The wealth of pre-existing literature may convey the impression that strong verbs have already been exhaustively studied and further research is unnecessary. It is this impression that this paper is primarily arguing against. For, as is usual in the study of any subject, some perspectives and methodologies tend to dominate over others at any given time. It is useful to critically engage with those dominant viewpoints and correct shortcomings, if shortcomings are identified.

In the literature on analogical change in English strong verbs, one particular theory has reached relatively widespread agreement. I will call this ‘The frequency/regularisation theory’. It argues that less frequent strong verbs are more likely to become weak verbs (i.e. to be regularised), while more frequent strong verbs are more likely to remain strong. It has been argued for in specific individual studies (e.g. English: Bybee & Slobin (1982); Bybee (2007: 27–9); Branchaw (2010); German: Bittner (1996); Nowak (2015); Swedish: Strik (2015) etc.) as well as in general handbooks (on analogical change: Dressler (2003: 464); Norwegian: Sandøy et al. (2016: 265f.); German: Nübling et al. (2017: 287–93) etc.). The widespread acceptance of the frequency/regularisation theory has, to my knowledge, rarely been challenged, with Fertig (2009; 2016 etc.) notable exceptions. In Chapter 2, I will critically review the frequency/regularisation theory and point out three shortcomings in this theory.

In addition to this critical review, I will argue that a different approach to analogical change in English strong verbs has more explanatory potential. This approach is based on the idea that analogy functions to re-distinguish present and past

forms of English strong verbs. In Chapter 3, I will sketch out this theory and attempt to show its explanatory power in understanding analogical change in English strong verbs.

Before beginning the analysis, I provide a non-comprehensive definition of the verbal classes STRONG, WEAK, IRREGULAR and REGULAR with regards to English. Strong verbs form past tense through vowel alternation in the root (i – a – u: *sing, sang, sung*). The majority of Present-Day English (PDE) strong verbs were already strong verbs in Old English (OE). However, some verbs acquired the morphological feature of strong verbs, vowel alternation to form past tense, after OE (e.g. *feed, fed* etc.) They are not subject of this paper. By contrast, weak verbs form their past forms with a dental suffix (*hope, hoped*). There are some additional PDE in-between categories that need not be defined here. Regular verbs usually refer to weak verbs that do not change their root in any way to form their past forms, while irregular verbs include all other (strong and weak) verbs (*dream, dreamt* /drɛmt/ is irregular, while *dream, dreamed* /drīmd/ is regular; however, both past forms are weak). As the *dream* example shows, not all weak verbs are regular, though usually strong verbs are all seen as irregular. The two sets of terms STRONG/WEAK and IRREGULAR/REGULAR are similar but not the same, which can cause confusion.

2 RESPONDING TO THE FREQUENCY/REGULARISATION THEORY

As mentioned above, the frequency/regularisation theory claims that less frequent strong verbs (or irregular verbs) become regular weak verbs (or acquire a dental suffix, or regularise), while more frequent strong verbs (or irregular verbs) remain strong verbs (or do not regularise).

The concept regularisation centrally focuses on the concept of rules to analyse inflection. In regular grammatical systems, verbs perfectly obey observable rules. In the process of regularisation, these rules are applied to words that did not previously follow them, or rather followed less common or predictable rules. The analogical change of a strong verb to a weak verb is conceived of as regularisation: a strong verb did not follow predictable rules until it analogically acquired a dental suffix.

I do not consider it correct to consider strong verbs inherently irregular. For strong verbs follow one clearly observable rule: To generate their past forms, the root

vowel of the stem must be altered (*sing, sang, sung*). However, beyond this rule, PDE strong verbs are often seen as irregular because it is difficult to organise them into regular sub-groups. Many PDE strong verbs exhibit a vowel alternation pattern that is unique (as in *come, came, come*) or share this pattern with only a couple of other verbs (for example the vowel alternation pattern of *take* is shared only with *shake* and possibly *forsake*).

The difficulty of finding synchronic rules to derive strong verb sub-groups has not hindered linguists from attempting to develop a rules-based strong verb system (Halle & Mohanan 1985; Beedham 1994). In response, a different school of thought has argued that irregular past forms are individually stored in the lexicon (Pinker 1999); other linguistics have taken an in-between position (Durrell 2001). However, it is important to stress that this debate focuses on the synchronic state of PDE: how do speakers cognise the English strong verb system? The central question of this paper is a diachronic one: why did analogical changes occur in English strong verbs? Naturally, the answer to these two questions is likely related, but how synchronic language systems interact with diachronic language change is a question that I do not think has received a satisfactory general answer yet.

In fact, the frequency/regularisation theory utilises synchronic observations as an explanation for diachronic change. This is first and foremost based on the observation that there are fewer strong verbs (and irregular verbs) in English compared to regular weak verbs, but that strong/irregular verbs occur more frequently than regular weak verbs. In PDE, according to Yang (2016: 83), amongst the 100 most frequently used verbs, 54 are irregular verbs. This synchronic fact suggests an active mechanism within language that generates this outcome. Secondly, according to the frequency/regularisation theory, speakers rely on rules to inflect verbs and will more deeply internalise those rules with which they are confronted more often (this argumentation goes at least as far back as Paul (1886); also Bybee (2007: 10). From the synchronic state, where speakers are confronted with various rules that they are more or less familiar with, regularisation occurs, in that speakers/speech communities regularise those rules with which they are more familiar due to higher frequency. According to the frequency/regularisation theory, the synchronic cognitive interaction between speakers and their language determines diachronic change.

However, I would like to begin with a strict distinction between the synchronic and the diachronic. Whatever the synchronic state of PDE and whatever cognitive interaction between speakers and the PDE strong verb system can be deduced need not necessarily tell us anything about why diachronic change occurs. For this reason, I will here discuss only texts that deal with the diachronic history of analogical change in English strong verbs. For example, I will not discuss, amongst many other works, Bybee & Slobin (1982), despite its reference in texts of diachronic analogical change in English strong verbs, because this text is purely an analysis of the synchronic and not the diachronic. Bracketing out the synchronic study of English strong verbs already allows for a drastic reduction in the amount of literature.

When it comes to English, we are left with mainly three works that apply the frequency/regularisation theory onto the diachronic data of English: Bybee (2007: 27–9); Lieberman et al. (2007) and Branchaw (2010). Branchaw (2010) argues for multiple factors as causing strong verbs to become weak verbs, but that frequency “is the single factor with the most explanatory power” (Branchaw 2010: 60). It is in my estimation more thorough and comprehensive than Bybee (2007: 27–9) and Lieberman et al. (2007), therefore I will mainly focus on it. I will also mention Nowak (2015), which follows a similar approach in studying analogical change in German, Dutch and Luxembourgish. And I will discuss Fertig’s critique (2009; 2016) of the frequency/regularisation theory.

In the following, I will critically engage with the works cited above, based on what I regard as three major shortcomings in the frequency/regularisation theory. These three shortcomings are (1) that the theory cannot compute the precise value of frequency; (2) that the theory does not engage with the attested analogical variation or when analogical change occurs and (3) that it separates regularising and non-regularising analogical change.

2.1 *What does frequent mean (or is wring more frequent than bake)?*

Above, I discussed the debates between linguists as to how (ir)regular strong verbs are. This implies that applying the concept regularisation to understand analogical change is

not trivial. In this section, I would like to suggest that the term *frequency* is significantly less well understood for the frequency/regularisation theory to have explanatory power.

Frequency is a relative concept: One word is more frequent than another. For example, in PDE the strong verb *come* is more frequent than *drive*, which in turn is more frequent than *wring*. Already by listing these three verbs, a sense can be made that when comparing verbs according to frequency, we do not arrive at a neat distinction between high frequency verbs and low frequency verbs, but rather that frequency is gradient, so that we could potentially introduce categories such as medium frequency or low-medium frequency etc. (Bybee 2007: 16). However, the frequency/regularisation theory operates on a binary understanding of frequency, in that less frequent verbs are supposed to regularise, while more frequent verbs are supposed to remain strong. Thereby, this theory appears to allow us to find some approximate breaking off point between high and low frequency.

The concept of frequency is more complex than just counting the attestation of any given word. Frequency consists of two kinds: TYPE and TOKEN FREQUENCY (Bybee 2007: 9f.) Token frequency is the frequency of an individual lexeme (as above: *come* > *drive* > *wring*). Type frequency refers to how many words share the same grammatical pattern, such as the vowel alternation pattern (i – a – u in *sing*, *sang*, *sung* or *sink*, *sank*, *sunk*) or the dental suffix (-ed: *help*, *helped* or *hope*, *hoped*). Type frequency using the three example strong verbs above is exactly inverted: *wring* > *drive* > *come*; the vowel alternation pattern of *wring* is more commonly found than that of *drive*, which is more common than that of *come*. This means that there are two frequency values that must be simultaneously addressed to compute frequency.

Table 1
Branchaw's frequency table of class II strong verbs (2010: 37)

Table 2.2: Class II Token Frequencies

PDE outcome	Verb	LAEME frequency	PDE outcome	Verb	CELEX frequency
W	flee	249	S	choose	3211
S	choose	194	S	fly	1719
W	bow	144	W?	shoot	1360
W	lie	130	S	freeze	807
S/W	bid	124	W	flee	482
S	fly	120	W	creep	466
W	rue	105	W	lie	401
W?	shoot	64	S/W	bid	389
W	brook	38	W	chew	361
W	creep	31	W	bow	279
W	chew	24	S/W	dive	225
S/W	cleave	22	W	shove	215
W	shove	17	W	sprout	126
W	seethe	14	W	brew	107
W	brew	8	W	seethe	86
W	sprout	7	S/W	cleave	75
W	sup	5	W	sneeze	58
S	freeze	5	W	reek	46
S/W	dive	2	W	sup	22
W	reek	1	W	brook	18
W	sneeze	0	W	rue	9

In Branchaw (2010), and also Nowak (2015), the two concepts of frequency are combined analytically by only comparing token frequency values of the same types. For example, Branchaw (2010) divides strong verbs into their Proto-Germanic classes, which is (supposed to) reflect that they share the same grammatical pattern, i.e. they are the same type. See Table 1, as an example of one of Branchaw's tables, which lists all English class II strong verbs that continue in PDE. The table

contains the frequency values of these verbs in early ME ("LAEME frequency") and in PDE ("CELEX frequency"). As class II strong verbs are (supposed to be) the same type, the token frequency of the same types can be compared. The PDE outcome is also noted in the table: S is for strong, which means that the verb has not been regularised, while W is for weak, which means that the verb has been regularised. The notations S/W or W? denote in-between cases. Branchaw (2010) compiles nine of these tables in total.

However, strong verb classes do not share the same type across English. As can be seen from Branchaw's list of class II strong verbs, verbs of very different types in PDE are compared (e.g. *choose, chose, chosen; fly, flew, flown; shoot, shot* etc.) Many of these verbs do not share the same type already in ME. As Branchaw (2010: 30f.) also acknowledges, the tables do not compare homogenous types.

This shortcoming I identify in Branchaw (2010) is one that I believe can easily be remedied by following the phonological (and analogical) processes that break up the larger strong verb classes into smaller sub-groups, as done in Nowak (2015). However, I believe there is a second, more severe shortcoming that is shared by Branchaw (2010) and Nowak (2015). They analyse the token frequency of the same types. But that should only be the first step of analysis. Next, I would expect a comparison of the results

gained in the different tables. What level of token frequency is required for a verb to remain strong in one type compared to a different type? This second part of the analysis is not undertaken in any of the diachronic analyses of strong verbs listed above. This is the first major shortcoming that I identify in the frequency/regularisation theory.

The frequency/regularisation theory purports to be applicable to the language system as a whole. However, the analysis in Branchaw (2010) and Nowak (2015) amounts to a comparison of frequency within smaller sub-groups. In Nowak (2015), that means often comparing only five verbs. In Branchaw (2010), the verb comparisons lists are larger, 17 on average, but that is largely, as seen above, because the types are not suitably distinguished. This small-scale comparison is far different from the overall claim of the theory.

Precisely the complexity of the concept frequency, the need to consider both type and the token frequency, hinders the systematic application of the theory. Combining the two concepts of frequency in Branchaw (2010) and Nowak (2015) leads to localising the theory within types. The problem is not principally that these accounts do not show that regularisation is allowed by low frequency and blocked by high frequency. The more fundamental problem is that these accounts are unable to compute a frequency value that considers both token and type. Without the conception of frequency accountable to both token and type, it is impossible to say whether frequency causes regularisation, because it cannot be said what high-frequency and low-frequency actually are.

I will provide one example of how the concept of frequency has not been adequately conceptualised: Is *wring* more frequent than *bake*? Taking Branchaw's frequency data, *wring* occurs 31 times in the LAEME and 120 times in CELEX, while *bake* occurs 4 times in the LAEME and 423 times in CELEX. According to this data, *bake* is more frequent than *wring* in PDE, while it was possibly less frequent in ME. Turning to PDE type frequency, *wring* shares its type with eleven other verbs. *Bake* was once a strong verb with the ME past *bok* /bōk/, the same type as PDE *take* and *shake*. Going back to ME, in addition to *take* and *shake*, *bake* shared the same type with at least *wake*, *shave*, *ache*, *wade*, *grave*, *(for)sake*, *lade* and possibly with *gale* 'sing', which was becoming obsolete. The total token frequency of this group is eleven. The ME type frequency of *wring* was larger than the PDE 12, as in ME it had the same type

as verbs such as *sing*, *sink* etc. Which word is more frequent? Regarding token frequency, *bake* is more frequent, at least in PDE, and *wring* has low frequency. The type frequency of *wring* is larger, but the type frequency of *bake* in ME is not low either. How should type frequency be measured, based on the number of members of a given type or the combined token frequency of all type members? How to conceptualise differences between type and token frequency? Which frequency value is more important or are both equally important? I do not see that these questions have been answered by the frequency/regularisation theory. As long as they are not answered, the question above (is *wring* more frequent than *bake*) cannot be answered precisely. And as long as frequency remains an imprecise value, it cannot be used as an empirical value to explain regularisation.

I have used Branchaw's account because I believe it is the most detailed account. Bybee (2007: 27–9) and Liebermann et al. (2007) have more fundamental problems. Neither has applied the concepts strong/weak, regular/irregular consistently. In Bybee (2007: 27–9) *lose* and *flee* are listed as strong verbs, despite both verbs forming their past with a dental suffix (*lost* and *fled*; by contrast *leap* and *weep* are listed as weak verbs). One of the main criticisms against Lieberman et al. (2007) is how the concepts of regular and irregular are applied to classify verbs (Fertig 2009; Branchaw 2010: 12f.) There are some strange inclusions: *uproot*, and *snip* are classified as irregular verbs that have been regularised. What irregular forms these verbs once had is not clear. Lieberman et al. (2007) also does not adequately take into account the concept of type frequency.¹ Bybee (2007: 27–9) handpicks 34 strong verbs from three strong verb classes for analysis, therefore only taking into account a fraction of all strong verbs. Both accounts only consider the PDE frequency value.

2.2 The complexity of the ME/Early Modern English (EModE) attestation

The frequency/regularisation theory is based on a binary proposition: high frequency verbs can remain irregular, while low frequency verbs are regularised. As I argued in §2.1, the concept frequency has not been applied in a way that is both adequate to the complexity of the concept and comparable across the entire grammatical system. In this

section, I would like to challenge the frequency/regularisation theory's binary proposition, which does not engage with the historical attestation of strong verbs.

I begin with an example: the preterite of *creep*. In OE, the preterite singular (pret. sg.) of *creep* (OE present *creop-*) was *creap* and the plural (pl.) was *crupon* (strong verbs often had different root vowels in the pret. sg. and pret. pl. until EModE). The PDE pret. *crept* was generated by analogy, through the analogical acquisition of a dental suffix. In ME, other analogical innovations of the pret. are also attested, forms such as *crap* and *crope*. If we intend to understand analogical change in *creep*, it is not enough to say that this verb was regularised as other non-regularising analogical variants are attested (according to Smith (1883), the pret. *crope* is still attested in the 19th century, meaning that it has a 600 year span of attestation). Indeed, the analogical change that is generalised in PDE is not a regularised form, as the pret. form *crept* is an irregular weak verb. We are dealing here with three analogical variants (possibly four, given that attestations such as *creped* could represent regular weak pret. forms). The frequency/regularisation can only conceptualise the PDE outcome on a binary scale, irregular or regular, it cannot conceptualise outcomes with more than two options. But *creep* is by no means alone in having two or more analogical variants attested.

In other verbs, the attestation is further complicated by dialectal variation. One such example is *see*. Taking the *Oxford English Dictionary* (OED) ME attestation of the pret. of this verb, we find the following diverse possibilities: *sa, saugh, sogh, sowgh, seh, saih, seih, si, siegh, sew, sene, saht, sedd*. Some of this diversity is due to dialectal difference in sound changes, but some forms are also analogical innovations, for example the two weak forms *saht* and *sedd*. How do we conceptualise this variety and how can we explain the PDE outcomes (it is for example difficult to explain how PDE past ptc. *seen* arose and was generalised)?

If we look at the attestation of strong verbs in ME, exemplified in two complex cases, it is clear that the frequency/regularisation theory is of little help to explain this attestation. This is largely because it is not interested in non-regularising analogical change. But if the goal is to understand diachronic analogical change, the frequency/regularisation cannot offer a complete understanding. Other theories must be developed to make sense of what is going on in *creep*, *see* and many other ME strong verbs.

A second complexity that the frequency/regularisation theory often disregards is when analogical change happens.² The theory regards regularisation as continuously chipping away at a low-frequency word's irregularity. If regularisation does not occur immediately, it will occur eventually. The conceptualisation of regularisation as continuous is criticised by Fertig (2016), who argues that regularisation instead occurred at a specific point in time, which Fertig calls 'The Great Regularization'. "For 62 of the 74 Old English strong verbs that have regularized, weak verbs are first attested between 1300 and 1450" (Fertig 2016). The fact that there is one particular period in which regularisation appears to be more widespread than in other periods calls into question the general theory that regularisation is a continuously ongoing process.

Fertig's concept of 'The Great Regularization' calls for a specific explanation. What happened between 1300 and 1450 that so many strong verbs are attested as weak verbs? The frequency/regularisation theory could possibly be employed to explain this, either by arguing that many strong verbs became significantly less frequent in this period, which would require evidence, or that strong verbs became an irregular class in this period, which would be a more abstract argument and difficult to substantiate.

However, the three studies on diachronic regularisation in English strong verbs mentioned above do not adequately take the period of analogical change into account (though Nowak (2015) is more thorough in this regard). While Branchaw (2010) includes frequency data for early ME and PDE, it is not considered when the regularisation of a strong verb occurred. Bybee (2007: 27–9) and Lieberman et al. (2007) only include frequency data for PDE and again do not consider when regularisation occurred. This important diachronic fact is neglected.

In this section, I have argued that two complexities in the attestation of strong verbs are neglected by the frequency/regularisation theory: non-regularising analogical change and dating when regularisation happens. The theory is inherently uninterested in the former, which neglects a significant amount of analogical change. It could incorporate the latter but has not done so for English. Taken together, this means that the theory has not grappled with the complexity of the English strong verbs' attestation.

But I would like to take this argumentation one step further. So far, I have argued that separating regularising and non-regularising analogical change means that a large amount of analogical change is ignored. I would like to take this point further.

2.3 I argue that the causes underlying regularising and non-regularising analogical change are the same

Explaining this claim requires presenting the approach that I believe is more useful in understanding diachronic analogical change in English strong verbs. Therefore, I will first explain this theory and present its results, before returning to this claim.

3 PRESENTING AN ALTERNATIVE THEORY

The approach I will argue for here centres on the following claim: Analogical change can occur to restore distinction. In other words, when two forms with distinct meanings phonologically coalesce or merge, analogical change can interfere to restore the distinction.

To exemplify: if a late ME speaker wants to say the present 1. sg. form of the verb *bear*, they will probably produce /bēr/. If they want to say the preterite 1. sg. form of the same verb, they will probably produce /bār/. But, after EModE sound changes, these two forms merge in /bɛə/ (*bear* and *bare*). Now, if EModE /bɛə/ is produced in the context of 1. sg., a listener will not be able to discern from the verb form whether the speaker is referring to the present or the past. However, following analogical change in the pret. form (→ *bore*), the phonological distinction between the present /bɛə/ and the pret. /bɔə/ is restored.

The claim that analogical change can restore distinction is not new. For example, Brugmann (1885: 83f.) argued that analogy generates new forms to separate functionally distinct words that have merged after sound change. This claim is echoed by Mańczak's fourth tendency of analogy (1957), that zero-suffixes are more often replaced by full suffixes than vice-versa, which implies that it is more suitable to mark grammatical categories with full suffixes than with zero-suffixes. Additionally, Kaluza 1907 and Michelau 1910 have incompletely applied this theory to English strong verbs. I will not go into detail about how Kaluza 1907 and Michelau 1910 are incomplete here.

To understand analogical change in English strong verbs, the claim as explained so far needs to be expanded. I argue that analogical change can occur not only when two

forms merge, but also when they near-merge. The term NEAR-MERGER was developed by Labov (1994: 293–419; Labov et al. 1991) to describe two sounds that are pronounced differently but are perceived to be the same. For an overview of different phonological approaches to sounds that are similar or not fully distinct, see Hall (2013). It must be noted that I will stretch the concept near-merger beyond Labov's definition of the term, but I employ the term because the meaning is close and I have not developed better terminology. Specifically, phonological differences between vowels are argued here to be instances of near-mergers when there is:

Peripherality/height differences in mid-vowels, /e/ vs. /ɛ/; /o/ vs. /ɔ/; /œ/ vs. /ø/ etc. This type of phonological difference has been argued to be an instance of a near-merger in certain languages by Janson & Schulman (1983); Labov et al. (1991); and Ladd (2006).

Length differences in vowels, /ī/ vs /i/ etc. This type of phonological difference has not been argued to be an instance of a near-merger, according to my knowledge, therefore I am here stretching the concept near-merger.

What I intend to show is that in cases where present and past forms are merely distinct in either of these two features, or they have completely merged as in *bear* and *bare* above, analogical change occurs in English strong verbs.

The systematic application of this theory cannot be performed within this paper. Instead, I will limit the analysis to larger strong verb sub-groups, which have more members that share the same vowel alternation pattern, to cover a larger number of strong verbs with less divergent groups. Originally, seven strong verb classes, i.e. seven different vowel alternation patterns, are reconstructed for Proto-Germanic.³ In English, due to the sound changes it underwent, OE strong verbs with root-final <g, h, w> are affected by specific sound changes, which means they acquire vowel alternation patterns different from the rest of their class (in class II OE *fleogan* > PDE *fly*, due to root-final <g>, acquires a vowel alternation pattern different from OE *freosan* > PDE *freeze*). Therefore, strong verbs with root-final <g, h, w> are generally excluded from this study. Other smaller groups, formed for other reasons, are also excluded.

This paper will include the following groups: SVs I (class I strong verbs), except those with root-final <g, h, w>; SVs II, also without root-final <g, h, w>, though it must be noted that within the group, two different present root vowels occur, OE /eo/ (*freeze*, OE *freosan*) and OE /ū/ (*suck*, OE *sucan*); otherwise SVs II share the same vowel alternation pattern. SVs III are separated into three to four groups: those with long vowels ‘affected by homorganic cluster lengthening’ (HCL; *bind*, *bound*; OE *bindan*); ‘nasal-velars’ (Branchaw 2010: 63), those with short vowels followed by nasals or velars (*sing*; OE *singan*); and those whose root vowel is followed by /l/ or /r/ (*bark* OE *beorcan*; *help* OE *helpan*); other SVs III are excluded. SVs IV are included except *come*, which has an exceptional vowel alternation pattern. In SVs V and VI, those formed with an umlauting -ja- suffix are excluded, in addition to those with root-final <g, h, w>. SVs VII is a heterogeneous group, but in English, those with root-final OE /w/ homogenise, therefore I will only include SVs VII with root-final OE /w/ (*know*; OE *cnawan*) and exclude all others. Table 15 below lists all verbs considered in this study, excluding additionally all those verbs that have become obsolete or marginal by PDE.

To find instances of analogical change that restore distinctions between present and past, (near-)mergers of present and past forms in these strong verb groups must first be found. To this end, I will analyse where such mergers occur between present and past root vowels and secondly analyse the development of verbal endings. Combining these two analyses, I will show that analogical change is always attested where (near-)mergers occur and analogical change serves to restore the distinction between present and past.

3.1 (Near-)mergers between present and past root vowels

Table 2

(Near-)mergers in SVs I's root vowels

OE	Present	Pret. sg.	Pret. pl.	Past ptc.
SVs I e.g. ‘ride’	/ī/ <i>ridan</i>	/ā/ <i>rad</i>	/i/ <i>ridon</i>	/i/ <i>riden</i>

In OE, the present and pret. pl./past ptc. root vowels of SVs I are distinct merely in terms of length: /ī/ vs. /i/. It should be noted that in late ME, /ī/ diphthongises, leading to a ‘greater’ distinction between present and pret. pl./past ptc. root vowels.

Table 3

(Near-)mergers in OE SVs II's root vowels

OE	Present	Pret. sg.	Pret. pl.	Past ptc.
SVs II –eo– e.g. ‘freeze’	/eo/ <i>freosan</i>	/æɑ/ ⁴ <i>freas</i>	/u/ <i>fruzon</i>	/o/ <i>frozen</i>
SVs II –ū– e.g. ‘suck’	/ū/ <i>sucan</i>	/æɑ/ <i>seac</i>	/u/ <i>sucon</i>	/o/ <i>socen</i>

In SVs II with present root vowel OE /ū/, OE present and pret. pl. root vowels are distinct merely in terms of length: /ū/ vs. /u/. In SVs II with present root vowel OE /eo/, the pret. sg. root vowel near-merges with the present root vowel in ME.

Table 4

(Near-)mergers in ME SVs II's root vowels

ME	Present	Pret. sg.	Pret. pl.	Past ptc.
SVs II –eo– e.g. ‘freeze’	/ē/ <i>fresen</i>	/ē/ <i>freas</i>	/u/ <i>fruzen</i>	/o/ <i>frozen</i>

The ME distinction between present and pret. sg. root vowel is merely between two peripheral mid vowels: /ē/ and /ē/.

SVs III ‘affected by HCL’ and ‘nasal-velars’ have the same root vowels in OE.

Table 5

SVs III's root vowels

OE	Present	Pret. sg.	Pret. pl.	Past ptc.
SVs III ‘affected by HCL’ e.g. ‘bind’	/i/ <i>bindan</i>	/a/ <i>band</i>	/u/ <i>bundon</i>	/u/ <i>bunden</i>
‘nasal-velars’ e.g. ‘sing’	<i>singan</i>	<i>sang</i>	<i>sungon</i>	<i>sungen</i>

In both SV III sub-groups, past root vowels never (near-)merge with present root vowels in the history of English.

Table 6

(Near-)mergers in OE SVs III -r/-l's root vowels

OE	Present	Pret. sg.	Pret. pl.	Past ptc.
SVs III -r/-l	/eo/ or /e/	/ǣa/	/u/	/o/
e.g. 'bark'	<i>beorcan</i>	<i>bearc</i>	<i>burcon</i>	<i>borcen</i>
e.g. 'help'	<i>helpan</i>	<i>healp</i>	<i>hulpon</i>	<i>holpen</i>

There is also no (near-)merger between OE present and past root vowels in SVs III -r, -l. In late ME, a merger occurs.

Table 7

(Near-)mergers in late ME SVs III -r/-l's root vowels

Late ME	Present	Pret. sg.	Pret. pl.	Past ptc.
SVs III -r/-l	/e/ or /a/	/a/	/o/	/o/
e.g. 'bark'	<i>bark</i>	<i>bark</i>	<i>borc</i>	<i>borcen</i>
e.g. 'help'	<i>help</i>	<i>halp</i>	<i>holp</i>	<i>holpen</i>

The late ME merger of present and pret. sg. root vowels in /a/ only occurs in SVs III whose root vowel is followed by -r (as in *bark*).

Table 8

(Near-)mergers in OE SVs IV's root vowels

OE	Present	Pret. sg.	Pret. pl.	Past ptc.
SVs IV	/e/	/ǣ/	/ǣ/	/o/
e.g. 'bear'	<i>beran</i>	<i>bær</i>	<i>bæron</i>	<i>boren</i>

In OE, the pret. sg. and pret. pl. root vowels of SVs IV have near-merged with the present root vowel. In ME, the pret. pl. root vowel merges, while the pret. sg. root vowel becomes more distinct.

Table 9

(Near-)mergers in ME SVs IV's root vowels

ME	Present	Pret. sg.	Pret. pl.	Past ptc.
SVs IV	/ē/	/ā/	/ē/	/o/
e.g. 'bear'	<i>beren</i>	<i>bar</i>	<i>beren</i>	<i>boren</i>

In EModE, as mentioned earlier, present and pret. sg. root vowels merge.

Table 10

(Near-)mergers in EModE SVs IV's root vowels

EModE	Present	Pret. sg.	Pret. pl.	Past ptc.
SVs IV e.g. 'bear'	/ē/ <i>bear</i>	/ē/ <i>bare</i>	/ō/ <i>bore</i>	/ō/ <i>born</i>

Table 11

(Near-)mergers in OE SVs V's root vowels

OE	Present	Pret. sg.	Pret. pl.	Past ptc.
SVs V e.g. 'speak'	/e/ <i>specan</i>	/æ/ <i>spæc</i>	/æ/ <i>spæcon</i>	/e/ <i>specen</i>

In OE SVs V, pret. sg. and pret. pl. root vowels have near-merged with the present root vowel (as in SVs IV), while the past ptc. root vowel has merged with the present root vowel. Further mergers resemble SVs IV: in ME, the pret. pl. root vowel fully merges with the present root vowel. In EModE, the pret. sg. does not merge, but near-merges with the present root vowel: /ē/ vs. /ē/ (this is the meat-mate merger, which Labov et al. (1991) hypothesise as a near-merger).

Table 12

(Near-)mergers in EModE SVs V's root vowels

EModE	Present	Pret. sg.	Pret. pl.	Past ptc.
SVs V e.g. 'speak'	/ē/ <i>speak</i>	/ē/ <i>spake</i>	/ō/ <i>spoke</i>	/ō/ <i>spoken</i>

Table 13

(Near-)mergers in SVs VI's root vowels

OE	Present	Pret. sg.	Pret. pl.	Past ptc.
SVs VI e.g. 'shake'	/a/ <i>scacan</i>	/ō/ <i>scoc</i>	/ō/ <i>scocon</i>	/a/ <i>scacen</i>

In OE SVs VI, the present and past ptc. root vowels have merged in /a/.

Table 14

(Near-)mergers in SVs VII's root vowels

OE	Present	Pret. sg.	Pret. pl.	Past ptc.
SVs VII	/ā/ <i></i>	/eo/ <i></i>	/eo/ <i></i>	/ā/ <i></i>

e.g. ‘know’	<i>cnawan</i>	<i>cneow</i>	<i>cneowon</i>	<i>cnawen</i>
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In OE SVs VII, the present and past ptc. root vowels are merged in /ā/.

Table 15 summarises the results of Tables 2–14 above. Highlighted in yellow are those stems, where, at any point in the development of English, past root vowels (near-)merge with the present root vowel.

Table 15

(Near-)mergers between present and past root vowels summarised

	Pret. sg.	Pret. pl.	Past ptc.	Verbs included
SVs I				<i>drive, ride, stride, rise, writhe, write, smite, shine, whine</i>
SVs II -eo-				<i>freeze, choose, creep, cleave, seethe, sneeze</i>
SVs II -ū-				<i>brook, shove, sprout, sup, suck</i>
SVs III ‘affected by HCL’				<i>find, bind, wind, grind, (climb)</i>
SVs III ‘nasal-velars’				<i>begin, sing, run, win, drink, stink, spring, sting, wring, sink, swim, cling, sling, swing, shrink, spin, slink</i>
SVs III -r				<i>warp, carve, starve, smart, bark, swerve</i>
SVs III -l				<i>help, yelp, delve, swell</i>
SVs IV				<i>bear, steal, tear, shear</i>
SVs V				<i>speak, get, break, wreak, tread, knead, weave</i>
SVs VI				<i>stand, take, (for)sake, wash, shake, wade, ache, grave, bake, shave, lade</i>
SVs VII				<i>know, blow, sow, flow, grow, mow, throw, row, glow, crow</i>

In this section, instances have been found where, following phonological change, the root vowels of present and past forms merge or near-merge, according to the definition given above. However, the analysis remains incomplete when merely focusing on root vowels. For English strong verb forms are not only formed by vowel alternation, but also with endings. In the next section 3.2, I will analyse the development of verbal endings.

3.2 *(Near-)mergers between present and past endings*

I will now identify in which indicative person categories (near-)mergers between present and past endings occur. To this aim, I will compare the development of indicative endings in the three singular person endings, as well as in the plural and the

past ptc. in the history of English, based on Hogg (1992: 148) and Lass (1992: 137). This comparative development is shown in Table 16.

Table 16

Mergers between present and past indicative endings

	OE		ME		Late ME		EModE	
	Present	Past	Present	Past	Present	Past	Present	Past
1. sg.	-u/-o	-∅	-e	-∅	-∅	-∅	-∅	-∅
2. sg.	-es	-e	-es(t)	(-e)	-es(t)	(-e)	-∅	-∅
3. sg.	-eð	-∅	-eð/-es	-∅	-ð/-s	-∅	-ð/-s	-∅
pl.	-að	-on	-eð/-es/-en	-en	-eð/-es/	(-en)	-∅	-∅
Past ptc.		-en		-en	(-en)	(-en)		(-en)

Summarising the results of Table 16, in the singular categories, the 1. sg. present and past endings begin to merge in late ME. In the 2. sg. this merger occurs in EModE, while in the 3. sg. present and past endings never merge.

In the plural and past ptc. endings, the development is more complex. At the beginning of ME, the pret. pl. and the past ptc. endings merge in *-en*. In the pres. pl. ending, three dialectal variants appear in ME: in the North *-es*, in the Midlands *-en* and in the South *-eð* (Lass 1992: 137), of which the Midlands ending merges with pret. pl. and past ptc. endings. Towards the end of ME, the Midlands ending *-en* begins to be generalised across dialects. Simultaneously, due to phonological change, this ending starts to drop. Therefore, the generalisation of the pres. pl. Midlands ending *-en* manifests itself in late ME/EModE as a zero-ending. In EModE, the three endings have all become zero, except the past ptc. ending *-(e)n*, which can be retained.

Analysing mergers in the indicative endings, it can be seen that within the singular endings, mergers begin in late ME, while in the plural and past ptc., a merger occurs in the Midlands dialect earlier in ME and this merger is generalised across dialects in late ME.

What follows from this is that in late ME, in both singular and plural categories, if the root vowel has (near-)merged, meaning that tense is not clearly phonologically marked by the root vowel, in some categories, verbal endings will not distinguish tense either. In these categories, it will be difficult for listeners to discern between present and past forms. It is in these forms that analogical change is expected to restore distinction.

3.3 Analogical change to restore distinctions

Having identified past stem root vowels that (near-)merge with present stem root vowels and present endings that have merged with past endings, these two analyses can be combined to identify where (near-)mergers between present and past forms occur, focusing on late ME, when present and past endings merge both in sg. and pl. Following from this, the analogical changes to restore distinctions can also be identified.

SVs I ('ride'): Pres. pl. /rīdən/ vs. pret. pl. /ridən/; past ptc. /ridən/.

Analogical change: The pret. sg. root vowel spreads into the pret. pl. (*we rode*). In the past ptc., retaining the ending -en maintains the distinction between present *ride* and past *ridden*. In *shine* and *whine*, where the past ptc. ending -en is blocked for phonological reasons, other analogical variants are generalised in the past ptc. (*shone*, *whined*). In *writhe*, weak forms are generalised (*writhed*).

SVs II: Present stem with OE -eo- > ME /ē/ ('freeze'): Pres. 1. sg. /frēz/ vs. pret. 1. sg. /frēz/; Present stem with OE -ū- > ME /ū/ ('suck'): Pres. pl. /sūkən/ vs. pret. pl. /sukən/.

Analogical change: Most SVs II are weak verbs in PDE. Those that remain strong verbs have generalised the past ptc. root vowel -o-: *chose*, *froze*.

SVs III: As established above, in SVs III 'affected by HCL' and 'nasal-velars', no (near-)mergers between present and past categories occur. In general, these verbs remain strong verbs (with one exception: *climb*). Analogical change of root vowels is limited to the generalisation of the sg. or pl. pret. stem across the entire pret. (pret. *bound* continues the OE pret. pl. root vowel; pret. *sang* continues the OE pret. sg. root vowel; pret. *wrung* continues the OE pret. pl. root vowel).

SVs III -r/-l- ('bark'): Pres. 1. sg. /bark/ vs. pret. 1. sg. /bark/

Analogical change: All SVs III -r have become weak verbs (e.g. *barked*). In addition, all SVs III -l have also become weak verbs (e.g. *helped*), despite no (near-)mergers occurring in this category. One possible way of explaining this is the proximity between SVs III -r and SVs III -l, which, prior to the lowering of pres. stem root vowel /e/ had the same vowel alternation pattern (ME *berken*, *bark*, *bork*, *borken* vs. *helpen*, *halp*, *holp*, *holpen*).

SVs IV ('bear'): Pres. pl. /bērən/ vs. pret. pl. /bērən/. Later, in EModE: pres. sg. /bēə/ vs. pret. sg. /bēə/

Analogical change: SVs IV have generalised the past ptc. root vowel -o- across the past paradigm (*bore*, *tore*, *stole*). In *shear*, both *shore* and *sheared* are possible.

SVs V ('speak'): Pres. pl. /spēkən/ vs. pret. pl. /spēkən/; past ptc. /spēkən/. Later, in EModE: pres. sg. /spēk/ vs. pret. sg. /spēk/

Analogical change: All past stem root vowels of SVs V (near-)merge with the present stem root vowel. SVs V that remain strong have generalised SVs IV's past ptc. root vowel (*spoke*, *wove*, *broke*, *got*, *trod*). Others have become weak (*kneaded*, *wreaked*).

SVs VI ('shake'): Pres. pl. /ʃākən/ vs past ptc. /ʃākən/

Analogical change: The merger occurs in the past ptc. Strong verbs' past ptc.s remain distinct by retaining the past ptc. ending (*taken*, *shaken*) or by acquiring the root vowel of the pret. (*stood*). Most have acquired a dental suffix (*waxed*, *baked* etc.)

SVs VII ('know'): Pres. pl. /knəuən/ vs past ptc. /knəuən/

Analogical change: As in SVs VI, strong verbs' past ptc.s remain distinct by the retaining the past ptc. ending (*known*, *grown* etc.) Many verbs have become weak, though mixed paradigms are also possible (*mowed/mown*; *sowed/sown*).

In all the examples above, when present and past forms merged or near-merged, analogical change has occurred. This analogical change can take place both within the strong verb category (i.e. non-regularising), through the spread of a root vowel into more parts of the paradigm or by acquiring a root vowel from a different class, or by shifting into the weak category (i.e. regularising).

The following table shows the correlation of where (near-)mergers between present and past forms occur between late ME and EModE and which non-regularising analogical change occurs. The PDE areas highlighted blue are analogical changes argued to be necessary to restore distinctions, while highlighted green are those analogical changes which are not necessary to restore distinctions.⁵

Table 17

(Near-)mergers and Analogical Change

	Late ME/EModE			PDE		
	Pret. sg.	Pret. pl.	Past ptc.	Pret.	Past ptc.	Weak forms
SVs I				Pret. sg.	-en	2/9
SVs II				Past ptc.	-en	9/11
SVs III 'affected by HCL'				Pret. pl.	-∅	1/5
SVs III 'nasal-velars'				Pret. sg./pl.	-∅	0/17
SVs III -l, -r				→ dental suffix		10/10
SVs IV				Past ptc.	-en	1/4
SVs V				SVs IV Past ptc.	SVs IV Past ptc.	2/7
SVs VI					-en	7/11
SVs VII					-en	6/10

Past ptc.s that have (near-)merged with present forms require the past ptc. ending -en to remain distinct (as in SVs I, VI, VII). In those verbs where the past ptc. ending is blocked for phonological reasons other analogical outcomes are required (past ptc.s: SVs I **shin* → *shone*; **whin* → *whined*; SVs VI **stand* → *stood*). In the pret., when one pret. stem has (near-)merged with the present stem, the other pret. stem can be generalised to restore distinction (as in SVs I). If both stems (near-)merge, the past ptc. root vowel can be generalised to restore distinction (as in SVs II and IV). If all three past stems near-merge, a root vowel from a different class can be generalised to restore distinction (as in SVs V). The generalisation of one pret. stem over another occurs across the English strong verb system. It also occurs when neither pret. stem (near-)merges, in which case either stem can be generalised (SVs III 'affected by HCL')

and ‘nasal-velars’). In addition, weak forms can also be generalised to restore distinction after (near-)mergers occur.

The theory of analogical change restoring phonological distinctions between present and past forms as presented here is compatible with Fertig’s (2016) event of ‘The Great Regularization’. The period identified as when regularising analogical change was common is precisely the period when many present and past forms (near-)merge due to the merging of endings: late ME, which corresponds to Fertig’s time period of 1300-1450. It could be added that non-regularising analogical change is also common in this period. Therefore, it would be more accurate to call this period something like an era of great analogical change (in strong verbs).

Let me now return to the point made in §2.3, that the causes underlying regularising and non-regularising analogical change are the same.

In this chapter, I have argued that restoring the distinction between present and past forms underlies the analogical change in English strong verbs. Restoring distinction can occur through analogical change within the strong verb category (i.e. non-regularising) or by becoming a regular weak verb. As was seen in the verbs *creep* and *see*, often both types of analogical change are attested in a single strong verb. The focus on regularising analogical change at the expense of non-regularising change obscures the similarity between these two types of changes.

The theoretical idea that regularising analogical changes are different from non-regularising analogical changes is intuitively understandable. But the value of theories must be measured by their explanatory potential rather than their intuitive comprehensibility. If it is true that a shared underlying reason behind regularising and non-regularising changes can be postulated, then the primary cause of analogical change is the same. This shared underlying cause of analogical change cannot be found if the approach begins by separating regularising and non-regularising analogical change.

4 CONCLUSION

In this paper, I have made two principal arguments. Firstly, I argued that the frequency/regularisation theory, which is common to explaining analogical change in English strong verbs, falls short in three ways: the concept of frequency is inadequately

applied; the complexity of the ME attestation of analogical change is neglected; and the theoretical separation between regularising and non-regularising analogical change is an obstacle to understanding the causes of analogical change.

Secondly, I argued that analogical change in English strong verbs instead occurs to restore distinctions between present and past forms. I analysed occurrences of (near-)mergers between present and past forms in the major strong verb groups. Where such (near-)mergers were found, I also found that analogical change introduced more distinctive past forms.

It should be emphasised that the explanation of analogical change in English strong verbs presented here is incomplete in many ways: it does not take into account all English strong verbs, but merely the larger groups, it does not consider the ME attestation of analogical variation. This means that this paper simplifies complex historical changes and does not incorporate the study of all strong verbs. I hope that this contribution can lay the groundwork for a more complete analysis of analogical change restoring present and past distinctions in English strong verbs.

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FOOTNOTES

¹ The overall analysis is based purely on token frequency numbers. Lieberman et al. (2007) then performs the same tests on the individual strong verb classes and finds the same results as in the overall analysis. Like in Branchaw (2010), strong verb classes substitute for type frequency, which as above, does not take into account the splintering of strong verb classes across the history of English.

² Naturally, it should not be imagined that analogical change in strong verbs occurs overnight. Analogical change occurs over a certain amount of time, in which the analogically changed form(s) co-exist with the previous form. It is this period of time that I argue provides relevant information.

³ To be precise, six vowel alternation patterns are reconstructed for Proto-Germanic (including some exceptions) and the seventh group forms its preterite through reduplication (Ringe, 2017: 263ff.).

⁴ The transcription of this OE diphthong follows Hogg (1992: 87).

⁵ I have taken the liberty of combining the two SVs II groups as well as the SVs III -l and -r into one group each. This is based on the idea that the two groups are strongly affected by each other due to their similar vowel alternation patterns, an idea that I have insufficiently explained in this paper due to limited scope.