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The Form of DO Employed to Form the Weak Preterit

Abstract: In all of the various sub-cases that comprise the case of what PIE tense of DO was employed to form the weak preterit, perfect origin falls somewhere in the range of “almost certain” to “quite possible”. By contrast, non-perfect origin is in most cases dependent on propositions that are either *ad hoc* or otherwise problematic. In the only case that at first appears to strongly favor non-perfect origin, 2SG /-dæ:s/ can be seen as originating by “opportunistic re-interpretation” of /-dæd-t/ > /-dæ:s/ as /-dæ:s/, with 2SG /-s/. Obscure phonological changes of the traditional kind permit the 1SG, 3SG, and 3PL to be seen as having perfect origin. *All* forms can be seen as having perfect origin.

Keywords: weak preterit, Germanic, English, DO

1. Introduction

It has long been recognized that weak or dental preterit of Germanic developed out of a periphrasis employing some form of DO. But there is still no consensus on how this worked. The most important question is whether the form of DO employed was a perfect or a non-perfect. Unfortunately neither theory, if applied straightforwardly, makes complete sense. (Neither does mixed origin, as there is no reason that speakers would employ forms from two paradigms.) In theory, a non-perfect could be either an imperfect or a root aorist. But since the two would in most cases have the same form (Sihler 1995, 559), this is largely a distinction without a difference, though reduplication is much more probable in an imperfect. The term “non-perfect” will generally be employed below. It must be stressed at the outset that since, in all well-understood cases, preterit forms in Germanic go back to the PIE perfect, it is to be expected that the form of DO employed to form weak preterits would also go back to the PIE perfect.

As a whole, this case involves several sub-cases: 1) the origin of apparent /dɛ(ɛ)d-/, 2) whether non-perfect reduplication with /e/, which was at best unusual, even existed in PIE, 3) whether any non-perfect past survived the transition from PIE to Germanic, 4) the origin of the 1SG and 3SG suffixes (which are best treated together), 5) the origin of the 3PL suffix, 6) whether the original preterit stem was /-dɛɛ-/ or /-dɔɔ-/, and 7) the origin of the 2SG suffix. Sub-cases other than these, for example duals and subjunctives, do not appear to be either informative or problematic, and so will not be treated here. As the amount of published material on this subject is massive, the present article must be largely devoted to evidence and arguments. Even the relatively recent theory of Hill (2010),¹ which has received some favorable notice (Fulk 2018, 294, fn. 5), must be ignored.

If the various sub-cases are treated in isolation, with recourse only to what might be called “classical” methodology (regular phonological changes and analogy), two contradictory conclusions would seem to be justified. The first is that, in the 2SG, perfect origin seems impossible. The second is that, in all other sub-cases, perfect origin seems probable. Though the second conclusion may be surprising, it will be argued below that it is justified in the “classical” sense, through consideration of certain somewhat obscure possibilities that have apparently escaped notice to date. It is inevitable, given that the first conclusion has been universally accepted, that the second conclusion has been universally rejected, as it does not “fit the narrative” impelled by the first conclusion. But reasons will be seen soon below to think that, in assessing perfect origin in the 2SG, converting “seems impossible” to “is impossible” is not warranted. But since the sub-case of the 2SG is rather, for lack of a better word, “small”, most of the present article will in fact be devoted to sub-cases other than the 2SG, attempting to show for each one of these that perfect origin makes more sense.

But first an indirect and general argument against non-perfect origin seems worth making: the theory of non-perfect origin has not (after at least 150 years of effort) enabled any satisfactory consensus to be reached. In the discussion of suffixes only (ignoring the stem) provided by Fulk (2018, 303-304), every theory mentioned is, as Fulk’s various comments make clear, obviously problematic. Absence of consensus is thus hardly surprising. But the implication, as clear as it is unpleasant, has not been accepted: something has gone seriously wrong here. This could hardly be anything other than that some basic assumption is wrong, and the only basic assumption that could possibly be wrong is that perfect origin for the 2SG is impossible.

The contradictory conclusions noted at the outset, suggesting non-perfect origin for the 2SG but perfect origin for all other sub-cases, might in theory be resolved in the opposite direction: by finding a way to make perfect origin work in the 2SG. The only realistic possibility is to derive /-s/ from /-t/. If, over time, the original stem was *allegro*-reduced to /dɛd-/, which for reasons that will be seen (section 2) seems almost certain, then abstractly regular **/dɛd-t/, being

phonotactically impossible, would become /-dɛss/. But /-dɛss/ would be the only form with no clear reduplicating /dɛ-/ and would have two /s/s, whose origin was less than obvious. Furthermore, its final /-s/ would at least suggest 2SG /s/ in present indicatives. But the mere act of creating a 2SG with /dɛd-/, no longer out of line with other forms, would pull the rug out from under both the idea that non-final /s/ in /dɛss/ went back to /d/ and the idea that final /-s/ in /dɛss/ went back to /-t/, for a very simple reason: *there was no third /d/* that could be seen as either becoming /s/ before 2SG /-t/ or causing following 2SG /-t/ to become /-s/. Evidence for 2SG /-t/ would thus be non-existent, so that final /-s/ in /dɛss/ *could only* be regarded as 2SG /-s/. Though technically it might seem that a change of /dɛss/ to /dɛɛs/ occurred through loss of /s/ with “compensatory lengthening” (or “moraic continuity”)², it would be more accurate to describe the posited change as due to “opportunistic re-interpretation”. Such a change would be no more remarkable than many speakers of American English interpreting “ultimate” as “all-timate”, simply because finding an element “all” in “ultimate” makes more sense than finding no meaningful element at all. Given that /-dɛss/ and (putative) /-dɛɛs/, both unstressed, would have sounded much alike, /-dɛɛs/ was preferred, for a very simple reason: /-dɛɛs/ *made more sense*. In short, a change of /-dɛss/ to /-dɛɛs/ could happen by a kind of “folk etymology”.

At this point a few prefatory comments are necessary. It is assumed that Early Germanic had a square V-system: /i, ɛ, ɔ, u/ (short and long). Long Vs will be represented by doubling, as in referring to the stem of DO in Late PIE: /d^hee-/. It will be necessary at times to distinguish between dependent forms (employed in weak preterits) and independent forms, though the two types evidently influenced each other till rather late. The dependent form is assumed to have had secondary stress where the independent form has primary stress. IPA “j” will be represented by “y” both in PIE *and in later IE languages*. The traditional grouping of (decently-attested) Celtic into two groups, Irish and Gallo-Brittonic, though out of fashion these days, is regarded as valid. Though “the conventional wisdom” exists in numerous versions, so that in a sense there is no such thing, still some specific meaning is required, and “the conventional wisdom” will be taken as meaning (unless otherwise noted) the recent version presented by Ringe (2017).

2. The origin of /d-d/

A first question is how forms pointing back to /d-d/ developed. Gothic shows a form pointing back to PL /-dɛɛd-/ in the dependent form, and West Germanic shows forms pointing back to SG /dɛd-/ and PL /dɛɛd-/ in the independent form (Prokosch 1939, 194, 222). Absence of two /d/s, which is seen in the dependent forms of all post-Gothic Germanic, can reasonably be regarded as due to unstressed /-dɛd-/ having undergone haplology, which itself would be no more remarkable

than “probably” being reduced to “prob’ly” in PDE. The idea that DO would form a weak preterit to itself, which seems to be the implication of the views expressed by Fulk (2018, 292), makes little sense. Though we might think in terms of some minimality constraint that applied first to the independent form and was then extended to the dependent form, there is no reason to think that DO, not being a derivative verb, would have a weak preterit, and the fact that its past participle (where occurring) has /n/ rather than /d/ is some confirmation that DO was not regarded as a weak verb. The only remaining source for /d-d/ is reduplication, with /e/ > /ε/, and as reduplication with /e/ would be expected only in a perfect, SG /dɛd-/ favors perfect origin.

As for PL /dɛɛd-/, it seems clear that /εε/ originated as a normalizing replacement for original /ε/, suggested by the model of PL /εε/ in strong verbs of classes IV and V (Ellis 1966, 66) and abetted by the qualitative identity of short /ε/ and long /εε/. In the case of SG /dɛd-/, no such expedient was available, and so inherited short /ε/ was (for the moment) retained. Thus preterit DO at some point had a preterit stem /dɛd-/. Two implications of this are worth noting. First, the original stem, which must have had a long V, was considerably reduced. Second, a 2SG form */dɛd-t/ > /dɛs-s/ would indeed be analogically warranted.

3. Non-perfect reduplication with /e/ in PIE

Almost all of this section will be devoted to arguing against the idea that PIE had present reduplication with /e/. By “present reduplication” will be meant “present system reduplication”, which includes the imperfect. As 1) this article cannot be about reduplication in PIE, which would be a book-length topic, and 2) the argument is more that present reduplication with /e/ is *unproven* than *disproven*, the treatment provided here will be brief.

First it must be understood that there are two things that “present reduplication with /e/” could mean. The first is present reduplication with /e/ as a *stipulated* V, and the second is present reduplication with /e/ as a *copied* V. It seems that, because PIE clearly had reduplication with stipulated Vs in the perfect and present, Indo-Europeanists most often use “present reduplication with /e/” to mean “present reduplication with *stipulated* /e/”, though this is rarely made clear. But if we see evidence pointing back to present /d^he-d^hee-/, it is not immediately apparent whether the first /e/ is stipulated or copied. Since the usual usage is that any reduplicating V is a stipulated V, that usage will be followed here, unless otherwise noted.

Across languages of the world, verbal reduplication tends to be 1) derivational (often “intensive”) rather than what might be called “conjugalional” (characteristic of certain forms within paradigms), and 2) toward the “strong” end of the scale, which is to say having more copying than stipulation. PIE was an exception to this rule, as the only types of verbal reduplication that are broadly attested enough to be

securely established for PIE, reduplication with /e/ in the perfect, and reduplication with /i/ in the present, are conjugational and quite weak.

Though non-perfect reduplication could in theory occur with presents or aorists, aorist reduplication was rare enough that Sihler (1995, 487) regards it as “tolerably certain” in only one case, /we-wek^w/ ‘speak’, where it seems clear that what was originally intensive reduplication wound up being integrated into the verbal system. Aorist reduplication could never qualify as more than (very) unexpected, and to posit that it occurred in the case of DO would be *ad hoc*.

The conventional wisdom is that non-perfect reduplication with /e/, though rare, did exist in PIE. We are told that present reduplication employed /i/ for the most part, but sometimes /e/. Yet critical examination soon reveals reasons to doubt this. First of all, a rule that present reduplication employed “/i/ for the most part, but sometimes /e/” would surely be cleaned up by substituting /i/ for /e/, which was in any event strongly associated with perfect reduplication. As a synchronic state, what we are led to believe existed in PIE does not make sense.

At the very least, present reduplication for the most part employed /i/ (Sihler 1995, 487), and it will be argued below that present reduplication *always* employed /i/.³ Evidence suggesting that PIE also had present reduplication with /e/ is found in three branches: Anatolian, Indo-Iranian, and Balto-Slavic. Though Tocharian *tättā-*, a reduplicated present of DO (Adams 1988, 65) could in theory go back to a form reduplicated with either /e/ or /i/ (Adams 1988, 15), the form is quite reasonably taken by Adams (1988, 65) as going back to present reduplication with /i/. It will be argued below that in some forms of IE, all southeasterly, there was a tendency to move reduplication up the strength scale by replacing stipulated Vs with copied Vs.

3.1 Anatolian

Since reduplication in the Anatolian languages other than Hittite is, as might well be expected, fundamentally similar to reduplication in Hittite, only Hittite will be treated here. Reduplication in Anatolian is not very similar to reduplication in PIE. It has been “renewed” by moving away from stipulated Vs and toward copied Vs (Dempsey 2015, 334), and is much more derivational than conjugational, often creating “intensives” or “iteratives” (Hoffner and Melchert 2008, 174). We do not see any system like “perfect reduplication regularly with /e/, present reduplication (where occurring) with /i/”, which is what the rest of IE (at least for the most part) points back to. Reduplication in Hittite is sometimes “total reduplication”, involving reduplication of the entire root (Hoffner and Melchert 2008, 173-174), and sometimes partial reduplication. According to Hoffner and Melchert (2008, 173-174), partial reduplication in Hittite is of three types: 1) with stipulated /e/, 2) with stipulated /i/, and 3) with a copied V. Though they note that there are cases with /i/ where /i/ might be copied rather than stipulated, strangely they do not make the corresponding observation about cases with /e/. (It is beyond dispute that there

are cases, e.g. *papparš-* ‘sprinkle’, where the reduplicating V is not stipulated.) It is worth noting, while on the subject, that DO in Hittite reduplicates with /i/ (Melchert 2018, 8, fn.), which hardly supports the idea that DO in PIE reduplicated with /e/. Nothing in the evidence of Anatolian indicates that PIE had present reduplication with /e/.

3.2 Indo-Iranian

In Indo-Iranian (InIr), present stems sometimes have reduplication with /a/ instead of /i/ (Burrow 1972, 322; Misra 1978, 181). In Sanskrit, among such stems is /d^haa-/ DO, which has a present stem /da-d^haa-/. (A change of /d^h/ to /d/ was mandated by Grassman’s Law.) The (regularly) corresponding form in Avestan is /da-daa-/ (Misra 1978, 200). In theory, the first /a/ in such cases could go back to /e/ > /a/. Then again, it might not: /a/ might be an innovation replacing stipulated /i/ with copied /a/. In Sanskrit, roots containing /i/ and /u/ have present reduplication with copied Vs (Burrow 1972, 322). Analogy would then suggest reduplicating with /a/ in roots having /a(a)/, which was, due to a change /e(e), o(o)/ to /a(a)/, very common in InIr. In Sanskrit, present and perfect reduplication have become so thoroughly intermingled that Burrow (1972, 305) treats reduplication as a unified phenomenon, not distinguishing between present and perfect types, and Misra (1978, 179–181), though presenting the impression that in Iranian /e/ and /i/ remained predominant in their original homes, takes the same approach in treating reduplication in Avestan. All in all, it seems probable that reduplication with /a/ in roots with /a(a)/ is to be regarded as involving not inherited stipulated /e/ > /a/ but rather innovative copied /e/ or /a/. Whether the innovation in question happened during the stage with /e/ or the stage with /a/ is not immediately apparent, but is also of no real importance here, as palatalization of velars in present stems having reduplication with /a/ can be seen as due not to /e/ (before its change to /a/) but rather to persistence of palatal Cs that had been created when present reduplication still had /i/. There is thus no good reason to think that reduplication in InIr simply continues reduplication in PIE, altered for the most part only by phonological changes. In the case of DO, forms pointing back to /d^ha-d^haa-/ in InIr can easily be seen as going back not to /d^he-d^hee-/ but rather to /d^hi-d^hee-/, with either later replacement of /i/ by /a/ or perhaps by /e/ > /a/. Nothing in the evidence of InIr indicates that PIE had present reduplication with /e/.

3.3 Balto-Slavic

In Balto-Slavic (BS), forms pointing back to a string /ded/ in the present of DO occur in both Lithuanian and Old Church Slavonic (OCS), where /ded/ was later provided with present-marking /y/ (Schmalstieg 1983, 146). In isolation, this might seem to prove that Pre-BS forms of PIE had present reduplication with /e/, especially given that forms seeming to point back to present reduplication with

/e/ occur in DO in Indo-Iranian. But it has been seen that such forms admit of a different interpretation, and the same is true in the case of BS.

In BS, reduplicated presents of the root /deH₃-/ > /doo-/ ‘give’, which acts almost as a twin of /d^heH₁-/ > /d^hee-/ ‘do, put’, point back to present reduplication with /oo/, without that being taken as proof that PIE had present reduplication with /oo/. Obviously the reduplicating V in this case is copied, not stipulated. The difference in quantity between /dood-/ from /doo-/ and /ded-/ (earlier /d^hed^h-/) from /d^hee-/ is by no means random or inexplicable. As Dybo (2002, 403) notes, lengthening of original short /o/ in /dod-/ , but not of short /e/ in /d^hed^h-/, is in accordance with Winter’s Law, which lengthens short Vs before members of the D series (plosives with modal voice) but not before members of the D^h series (plosives with murmured voice). Thus it is clear that at some point /doo-, d^hee-/ were reduplicated in BS as /dod-, d^hed^h-/, and this in turn makes it quite probable that /e/ in /d^hed^h-/ was, like /o/ in /dod-/, not stipulated but *copied*. Once this is understood, the supposed BS evidence showing that PIE, or at least DO in PIE, had present reduplication with stipulated /e/ goes up in smoke. Though the reduplicated presents of DO in BS and Indo-Iranian are indeed “to be compared” with each other, what they have in common is not that they are from present reduplication with *stipulated* /e/ but rather that they are due to a trend, in southeasterly forms of Late PIE, toward reduplication with *copied* Vs.

3.4 Conclusion

To sum up this section, nothing in the evidence of Anatolian, Indo-Iranian, or Balto-Slavic indicates that PIE had present reduplication with /e/. In a world where 1) both Sanskrit and Lithuanian have well-deserved reputations for preserving archaisms, and 2) historical linguists delight in finding “precious archaisms”, it is predictable that Sanskrit and Lithuanian forms that *might* go back to present reduplication with /e/ in DO would be regarded as proving that PIE had present reduplication with /e/. But the idea that PIE had present reduplication with /i/ for the most part *but sometimes* /e/ makes little sense, and finds no compelling support in the evidence. It seems rather that southeasterly forms of Late PIE (those ancestral to Anatolian, Indo-Iranian, and Balto-Slavic) began to move reduplication up the strength scale by making less use of stipulated Vs and more use of copied Vs. In so doing, these languages wound up introducing cases of *copied* /e/ that have simply been misinterpreted as having *stipulated* /e/. The most straightforward interpretation is that the situation of Late PIE is best preserved in Greek: present reduplication had /i/ and perfect reduplication had (at least for the most part) /e/. Aorist reduplication with /e/ was never more than sporadic, and present reduplication with *stipulated* /e/ quite probably never existed.

The only PIE verbal form where reduplication with /e/ *would be expected*, either generally or in the case of DO, is the perfect. To posit that the preterit of

DO in Germanic has any other origin is *ad hoc*. There is no good reason to believe that DO in Late PIE had an imperfect /de-dee-/, employing present reduplication with /e/, and that this just randomly survived into Early Germanic. There is only a bad reason: desire to “fit the narrative” about non-perfect origin supposedly being proven by the case of the 2SG.

4. Survival of non-perfect past tenses in Early Germanic

As far as we can tell from cases that are well-understood, which is to say cases other than DO, the only past (or semi-past) tense that survived the transition from Late PIE to Early Germanic was the perfect. The PIE perfect was re-interpreted as either a preterit or (in statives) a present, and the inherited aorist and imperfect were simply lost. (By “aorist” here is meant forms signaling preterit tense, not forms signaling perfective aspect. Accordingly, “aorist presents” are not relevant here.) Thus the form of DO employed in forming weak preterits would be expected to be a perfect, and to posit survival of any non-perfect form is *ad hoc*.

Unfortunately some quibbles can be raised against this. But they are easily dismissed.

If it is true, as has often been asserted (e.g. Prokosch 1939, 217; Fulk 2018, 278), that the 2SG of strong verbs in West Germanic derives from an old aorist, this would of course provide independent evidence of a PIE aorist surviving into Germanic. But in this case Ringe and Taylor (2014, 68), repeating a view expressed earlier by Polomé (1964, 879), are surely correct to say that the 2SG preterit of strong verbs in West Germanic is exactly what it looks like: a subjunctive. Despite what might be thought, there are reasons to think that what may be called “subjunctive intrusion” was well-motivated in the case of the 2SG of strong verbs in West Germanic (and not in any other case). To simplify a bit, it seems that West Germanic, as it spread SW into Celtic territory, picked up three rules of Gallo-Brittonic Celtic during secondary acquisition: 1) that the 2SG of the preterit employed the stem of the PL, as in Cornish and Breton (Lewis and Pedersen [1961]1989, 295-296), 2) that the imperfect indicative and subjunctive, though having different stems, employed the same personal suffixes (Lewis and Pedersen [1961]1989, 277-278, 285-286), and 3) that all verbal suffixes were V-initial (Lewis and Pedersen [1961]1989, 278, 286). Other evidence of Celtic influences occurring in West Germanic only, though it has been missed by Germanicists forced into tunnel vision by the dictates of academic specialization, is in fact abundant (White 2019, 28–33; 2020, 35–48), and as it happens two additional cases will come up below. The combined result of the two rules just noted being applied to Germanic would be subjunctive intrusion. As a small “article within an article” would be required to make the case for this, nothing more will be said here. It is mentioned only

by way of suggesting that there is a counter-argument to what Ringe and Taylor call “incredulity” at the idea of subjunctive intrusion.

Another case that might be taken to show survival of a PIE aorist is Gothic /oogs/ ‘fear’, which serves as an anomalous imperative. Unfortunately the three possible explanations for this form all leave somewhat to be desired. The first two, that the form is an injunctive or subjunctive, have long been “out there”, and so will receive no real treatment here. Suffice it to say that survival of either injunctives or (true) subjunctives in Germanic is not independently evidenced. The third is that Gothic /oogs/ goes back to a M thematic noun ‘fear’ employed in a “dative of possession” construction: /ne oogs Θus/ ‘not (be) fear to you’ => ‘do not fear’. According to Wright ([1910]1954, 186), the object of ‘fear’ in Gothic could be put in the dative, and ‘fear’ in Gothic could be reflexive, so that ‘do not frighten (to) yourself’ would indeed be a plausible re-interpretation of /ne oogs Θus/. But though a noun /oog-/ ‘fear’ would be analogically warranted (especially when speaking to young children), no such word is attested: the only attested noun from the root in question comes from the short form /og-/ > /ag-/. In the absence of any good solution, nothing decisive can be made out of this case.

The bottom line for this section is that there is no good evidence that any past (or semi-past) tense other than the perfect survived the transition from Late PIE to Early Germanic. To posit that the preterit of DO was a non-perfect is *ad hoc*.

5. The origin of the 1SG and 3SG suffixes

The theory of non-perfect origin necessarily posits that DO in Early Germanic had /-εem/ in the 1SG, and either /-εet/ or /-εεθ/ in the 3SG, depending on whether Ringe (2017, 23) is right (as it seems he is) about PIE having had a strange rule converting /-t/ (after non-obstruents) to /-d/.

In the 1SG, it is possible that /-εem/ became nasal /-ɔɔ/ (as if from /-ɔɔm/), which later became (non-nasal) /-ɔ/.⁴ But such a change is, as Ringe himself admits (2017, 172-173), neither independently evidenced nor well-motivated, and not one of the scenarios he lays out for how /-εem/ could wind up seeming to be from /-ɔɔm/ seems plausible. Though Fulk (2018, 303) admits that the 1SG does indeed point back to /-ɔɔm/, he does not commit to any explanation as to why that should be so. And though he seems somewhat positive toward the idea that analogy with the PIE secondary suffixes /-om, -es, -et/ is the answer, it has been seen (section 4) that there is no independent evidence that any forms with secondary suffixes (i.e. imperfects or aorists) survived the transition from Late PIE to Early Germanic. In short, neither one of these theories works.

As for the 3SG, if Ringe is right about PIE /-t/ having become /-d/, which would become /-t/ in Early Germanic, then it is conceivable that the development was /-εet/ > /-εε/ > /-ε/. But if so, we have to make up a story about why /-εet,

-ɔt/ in ablative adverbials with PIE /-d/ > /-t/ appear in Gothic with long Vs rather than short Vs (Wright [1910]1954, 166-167). Yet this can be done only by appealing to some *ad hoc* expedient, whether the older “schliefton” theory, now discredited, or its *de facto* replacement, tri-moraic Vs without morphological warrant, which is to say without motivation.⁵ Even Ringe (2017, 92-93), though a believer in the theory of tri-moraic /ɔɔɔ/, clearly (and rightly) regards the theory as problematic in some aspects. What Ringe posits instead (Ringe and Taylor 2014, 76) is that, in West Germanic, 1) 1SG nasalized /-εɛ/ became nasalized /-ɔɔ/, 2) the 1SG, having lost nasalization, replaced the 3SG, 3) /ɔɔ/ spread (in continental West Germanic) to the 2SG, and 4) 2SG /ɔɔ/ spread (in Alemannic) to the PLs. If final /-ɔɔ/ somehow became /-aa/, the final result would be /-a/. But the first three changes are implausible. In particular the 2nd change, replacement of the 3SG by the 1SG, would violate “Watkins’ Law”, which Ringe and Taylor (2014, 75) accept. The last change is at best dubious, as 2SG /ɔɔ/ both was not a stem V and did not occur in strong verbs, so that no parallel with the stem Vs of strong verbs in West Germanic is probable. Nor is a change of final /-ɔɔ/ to /-aa/ beyond dispute. A simpler origin for forms pointing back to /ɔɔ/ in continental West Germanic will be given below (section 7).

If, on the other hand, Ringe is wrong about PIE /-t/ having become /-d/, then 3SG /-eet/ would become /-εεθ/. This is the scenario given with little explanation by Hogg and Fulk (2011, 262-263), and with even less explanation (not even a table) by Fulk (2018, 292–294). It is conceivable that final /θ/ was lost both 1) before /-i/ was lost in present /-θi/, and 2) before shortening of final unstressed long Vs, so that the result would be /-de/. But there appears to be no independent evidence that /-θ/ was lost, and it is not clear why it would be, except as part of a more general loss. Given that the sound of /-t/ might be described as “glorified silence”, loss of /-t/ seems much more probable than loss of /-θ/.

The bottom line for the moment is that none of these scenarios works very well. Only Fulk’s theory for the 3SG is, in isolation from other concerns, plausible. But it does not exist in isolation: Ringe is quite probably right about PIE having had a /-t/ > /-d/ rule.

The recent conventional wisdom in effect attempts to get to /-ɔ, -ε/, which would quite straightforwardly explain all forms except perhaps the 3SG in West Germanic, from /-εεm, -εεt/. Obviously the reason for this is that later /-ɔ, -ε/ is what the attested forms (for the most part) point back to. But starting with /-εεm, -εεt/ is not a good way to get to /-ɔ, -ε/. It must arouse considerable suspicion that /-ɔ, -ε/ would be the initially expected results of *perfect* /-a, -e/.⁶ These would be lost by apocope only if apocope happened before the stem of DO was (at least in the 1SG and 3SG) worn down to /dɛd-/. Otherwise, since Early Germanic apparently had a rule that reduplicating syllables were unable to bear stress (Ringe 2017, 216), /dɛd-ɔ, dɛd-ε/ could only have final (secondary) stress. Note that, by escaping apocope, /dɛd-ɔ, dɛd-ε/ would seem to point back to /dɛd-ɔɔ, dɛd-εε/,

which Germanicists would then tie themselves in knots trying to explain, and it seems clear that this has indeed happened. Be that as it may, a specific solution positing /dɛd-ɔ, dɛd-ɛ/ (with final stress) will be presented in section 8.1.

Only minor alterations to the traditional historical phonology are required to make perfect origin work. In East Germanic, /-ɔ, -ɛ/ first became unstressed and then became /-a/ (Wright [1910]1954, 37). In non-East Germanic, secondarily stressed /-ɔ, -ɛ/ were lengthened to /-ɔɔ, -ɛɛ/, but then became unstressed and were re-shortened. (The only reason to posit lengthening is the evidence of Runic.) In West Germanic, /-ɛ/ apparently became /-a/ (Fulk 2018, 82-83). Though this change is not independently evidenced, this is due to the unique status of stressed final /-ɛ/ in /dɛdɛ/, which means that independent evidence is not possible. In Runic, 1SG /-ɔɔ/ appears as “-o” (Fulk 2018, 303), which was inherently long. The reason for this oddity is that Runic had a 4-V system that was written (after the symbol for a 6th V was dropped) as a 5-V system (Antonsen 2002, 44-46). 3SG /-ɛɛ/ appears as “-e”, which could be long or short, but in this case was clearly long (Fulk 2018, 303). In later North Germanic, /-ɔ, -ɛ/ regularly became /-a, -i/ (Haugen 1976, 151-152). The short story is that, though /-ɛ/ became /-i/ in North Germanic, otherwise both /-ɔ/ and /-ɛ/ became /-a/ in all Germanic.

The bottom line is that the attested 1SG and 3SG forms can easily be seen as going back to secondarily stressed /-ɔ, -ɛ/ in /dɛd-ɔ, dɛd-ɛ/, where /-ɔ, -ɛ/ go back quite straightforwardly to perfect /-a, -e/ in Late PIE. Nothing is gained, and much is lost, by instead positing /-ɛɛm, -ɛɛt/. The evidence of the 1SG and 3SG favors perfect origin.

6. The origin of 3PL /-un/

The 3PL perfect suffix of PIE is traditionally reconstructed as having /r/. It might be thought then that the 3PL suffix of Germanic, if it was from the perfect, would have /r/, so that finding /-un/ instead proves that the 3PL suffix had some non-perfect origin. One problem with this argument is that it would apply not only to weak verbs but also to strong verbs, which otherwise clearly *do* go back to PIE perfects. We would then have to posit that non-perfect /-un/, displacing /-ur/, spread from weak verbs to strong verbs, without there being any reason that this would be expected. Another problem is that 3PL /r/ in Late PIE was so anomalous that it was an obvious target for analogical replacement by a suffix with /n/. This happened in Greek, Celtic, and Balto-Slavic (Sihler 1995, 572, 466),⁷ and also in Osco-Umbrian (Buck 1904, 152). Latin shows a mixed verdict, as inherited /r/ has been normalized somewhat by appending a suffix with /n/. Though older Celtic (to judge by Old Irish) appears to employ the opposite expedient, appending a suffix with /r/ to a suffix with /n/, the ordering of elements shows that /r/ is an innovation, from the 3PL of deponent verbs. Though the overall haul of cases with 3PL /n/ may

not seem impressive, it is not as if older IE languages with 3PL /r/ (and without /n/) have got their rivals outnumbered: only Hittite, Tocharian, and Indo-Iranian (all otherwise known to be archaic) do show such forms. Overall, it is difficult to dispute the view of Sihler (1995, 466) that in Late PIE, as it was breaking up, 3PL suffixes with /n/ had begun to oust suffixes with /r/. Finding that the 3PL suffix of Germanic does not have /r/ is thus hardly surprising, and does not prove anything that would otherwise be surprising, such as that the 3PL suffix of Germanic had some non-perfect origin.

Nonetheless, it is possible, in theory, that the specific form of the 3PL suffix in Germanic might prove non-perfect origin: there might be no other source for /-un/. Because /-un/ in Germanic *almost* always goes back to vocalic /n/ in PIE, there has been an understandable tendency to derive 3PL /-un/ from vocalic /n/ in non-perfect /d^he-d^hH₁-nd/. (It is assumed here that Ringe is right about PIE having had a rule converting /-t/ to /-d/.) But it has been seen that both non-perfect reduplication with /e/ and survival of any imperfect are at best unexpected. Furthermore, it seems clear that in strong verbs zero-grade forms with /H/, having come to seem anomalous (Ringe 2017, 102-103, 214), did not long survive in Early Germanic. To posit that stranded /H₁/ survived only in DO, merely to supposedly solve a difficult problem, would be to add yet another *ad hoc* element to a scenario that already has too many. But once cases of zero-grade /H/ were replaced by long Vs from /-H/, which in the case of DO would result in /ee/, vocalic /n/ would automatically be converted to *non-vocalic* /n/, leaving no basis for /-un/ from vocalic /n/.

Fortunately the qualifier “almost” above is quite relevant, as one of the more obscure phonological changes of Germanic (till now known from only one word) permits a solution: PIE /-konta/ ‘ten times’ becoming Germanic /-hund/ < /-hondɔ/ (Ringe 2017, 230).⁸ It is worth noting that a change of weakly stressed /ɔ/ to /u/ is also found before moraic /m/ (Ringe and Taylor 2014, 17), which would create a somewhat similar phonetic environment. If Pre-Germanic PIE got rid of 3PL /-ur/ by replacing this with /-ond/, i.e. present /-ont-i/ shorn of present-marking /-i/ (and with /-t/ automatically converted to /-d/), then this /-ont/ would automatically become /-ond/, which would then become /-ɔnt/ in Early Germanic.⁹ If /-ɔnt/ qualified as “weakly stressed”, then /-ont/ would become /-unt/, and later loss of /-t/ in /-unt/ would produce /-un/. The main remaining question is how to define the environment where the change of /ɔ/ to /u/ occurred, and that can be done by defining “weakly stressed” syllables as those that were either final or later than second (and after primary stress). The fact that /-ɔnt/ in the NSG of present participles does not appear as /-un/ can be seen as due to NSG forms having been re-formed (in various ways) on the basis of /-ɔnd-/ from other forms.¹⁰

The bottom line is that 3PL /-un/ can indeed be regarded as having a perfect origin. By contrast, positing non-perfect origin creates various implausibilities.

7. The vowel of the stem in Early Germanic

7.1 The vowel of the preterit

If the preterit of DO in Early Germanic goes back to a perfect, then the V of its stem would be expected to undergo the same change of / $\epsilon\epsilon$ / to / ω / that (to judge by the evidence of Gothic) occurred in the preterits of other verbs with / $\epsilon\epsilon$ / (Ringe 2017, 215, 278). By contrast, nothing of the sort would be expected if the preterit DO went back to a non-perfect. Thus, forms pointing back to / ω / favor perfect origin, whereas forms pointing back to / $\epsilon\epsilon$ / favor non-perfect origin.¹¹

Since the change of / $\epsilon\epsilon$ / to / ω / looms so large here, it seems best to provide some background. As Ringe observes (2017, 278), six out of the nine Germanic verbs that had / $\epsilon\epsilon$ / in the present (with or without a following C) show / ω / in the preterits of Gothic. The basic cause was extension of / ω / from the SG to the PL, where the regular results of zero-grade, having come to seem quite irregular, were eliminated. Two of the three verbs that do not show preterit / ω / in Gothic show no preterit at all, so that only one, / $sl\epsilon\epsilon p$ -/ ‘sleep’ (perhaps simplified in speaking to young children), shows a preterit with original / $\epsilon\epsilon$ /. Thus of the nine Germanic verbs that had / $\epsilon\epsilon$ / in the present, only one (perhaps re-formed) shows evidence of *not* having had / ω / in the preterit. Though Ringe simply assumes that none of this is relevant to the form DO employed in weak preterits, which he regards as certainly going back to a non-perfect, we have seen reasons to doubt very much that this assumption is warranted. Since / $d\epsilon\epsilon$ -/ belongs to the set of verbs with / $\epsilon\epsilon$ /, it is to be expected that / $d\epsilon$ - $d\epsilon\epsilon$ -/ would be altered to / $d\epsilon$ - $d\omega$ -/.

Since the original preterit stem has for the most part been worn down to / d /, there is little direct evidence to indicate what the V of the stem was in Early Germanic. The only real possibilities are / $\epsilon\epsilon$ / and / ω /. The 2SG forms, naively interpreted, would seem to point back to / ω / in continental West Germanic and / $\epsilon\epsilon$ / elsewhere. A morphological change of / $\epsilon\epsilon$ / to / ω /, implying perfect origin, is the only plausible source for / ω / in the 2SG.¹² (The idea that 1SG forms pointing back to / $-\omega m$ / somehow go back to what would in effect be a phonological change of / $\epsilon\epsilon$ / to / ω / has been treated and dismissed in section 5.) By contrast, original / $\epsilon\epsilon$ / is *not* the only plausible source for / $\epsilon\epsilon$ / in the 2SG: it was shown at the outset how long / $\epsilon\epsilon$ / could develop from short / ϵ / in / $-d\epsilon dt/ >> /-d\epsilon\epsilon s/$. The evidence of the 2SG thus favors / ω /, and perfect origin. In the PLs of Alemannic, / ω / is much more easily derived from / ω / than from / $\epsilon\epsilon$ / (much less from 1SG / $-\epsilon\epsilon m$ /). If it is true that the suffixes of the 1SG and 3SG had perfect origin, as argued above (section 5), then what the 2SG and the PLs had in common was that they were in the beginning longer, so that their original V was shielded from reduction. Such a scenario, which will be given in full in section 8.1, would explain why evidence pointing back to / ω / appears where it does, but only if the preterit of DO had perfect origin.

7.2 Excursus: The vowel of the present

Unfortunately it is necessary, in order to provide answers to various objections that might otherwise seem to have no answers, to provide an extended digression on the present of DO, which is found only in West Germanic.

Though /oo/ in the preterit of DO is traditionally regarded as having no connection with /oo/ in the present of DO, /ɔɔ/ in preterit /dɛ-dɔɔ-/ is arguably the most plausible source of /ɔɔ/ in present /dɔɔ-/ (Bammesberger 1986, 112). This would explain why past participles of DO (found only in West Germanic) point back to /ɛɛ/ in some cases but to /ɔɔ/ in others (Ellis 1966, 66): /ɛɛ/ is from the old present stem (later lost) and /ɔɔ/ is re-formed on the basis of the new present stem. In a strong verb of Class VII, such re-formation would eliminate what appeared to be irregularity. And in a strong verb of any class the past participle would of course be formed with /n/. Except for what appears to be loss of present DO followed by re-gain of present DO in West Germanic, which will be treated soon below, there is nothing surprising in any of this. But all of it implies that DO was once a strong verb, going back to the PIE perfect.

Yet the conventional wisdom is that /ɔɔ/ in present /dɔɔ-/ goes back to some obscure source that has “not yet” (after at least 150 years of effort) been found. Absence of consensus on this matter may be taken as an indirect indicator that no known obscure source qualifies as expected, and this in turn raises the possibility that the “obscure” source so confidently posited would better be described as “non-existent”. But if 1) the inherited present, presumably /dɛɛ-/ (as is indicated by past participles pointing back to /dɛɛ-/), was at some point lost in West Germanic as in other Germanic, and 2) there later arose (only in West Germanic) a desire to create a new present, then subtracting /dɛ-/ from /dɛ-dɔɔ-/ would be the most obvious way to do so. Under these conditions, creation of a new present /dɔɔ-/ would not be surprising.

As for the inherited present being lost, the idea is hardly outrageous. Prokosch (1939, 99) long ago observed that what we would now call grammaticalized words are often lost as ordinary lexical words. If we take out the problematic case, West Germanic, and just look at non-West Germanic, in both East and North Germanic the inherited present *was* lost, and it is not difficult to see why: DO had developed such a strong association with preterit meaning that it became a defective verb, lacking a present. (The evidence of West Germanic indicates that DO still had its past participle at the point when a full paradigm began to be re-created.) Once DO lost its present, present meaning could only be expressed by some suppletive verb, which is what is done in non-West Germanic. But then there would be no clear reason that whatever verb was employed to express present meaning should not also be employed to express preterit meaning, and so independent DO would be put on a glide path toward extinction. There is no reason to doubt that this is what happened in non-West Germanic, and we would expect (if we knew nothing else) that the same development would also occur in West Germanic. But in West Germanic the decline of DO was evidently reversed, and the obvious question is why.

There is in fact a motivating factor, present in West Germanic but not in other Germanic, that would make it non-random that West Germanic found a way to revive DO: Celtic influence. In West Germanic (but not in other Germanic) resemblances to Celtic are, as was noted in section 4, fairly common, so that Celtic influence in the case of DO would not in fact qualify as “an isolated case”. Furthermore, there are both archeological and linguistic reasons (Barnes 2009, 26; White 2020, 35–48) to think that an early form of Gallo-Brittonic Celtic once existed in almost all of the territory that had, by the start of the early medieval period, come to belong to continental West Germanic, so that the idea that Celtic influences affected all of West Germanic is historically plausible.¹³ But though a form /dede/ ‘made, put’ is attested in Gaulish (Lambert 1994, 64), that alone would not cause West Germanic to diverge from other Germanic. Indeed it seems probable, as has been seen, that a recognizable cognate of DO existed in BS, without that reversing the decline of DO in East Germanic.

What is needed is some specific oddity of DO *in Gallo-Brittonic* that would explain the “reversal of fortunes” that affected DO in West Germanic. Fortunately there is one: DO in Gallo-Brittonic was evidently employed as a periphrastic, more or less in the manner of DO in Late Middle English. The Brittonic half of this (though employing a new verb) is matter of plain fact (Lewis and Pedersen [1961]1989, 316). Though there is no *direct* evidence that the same was once true of Gaulish, there is *indirect* evidence: the most straightforward explanation of the fact that DO periphrasis occurs not only in Middle English *but also in Old French* (Mustanoja 1960, 604) is that DO periphrasis existed not only in Brittonic *but also in Gaulish*. There are thus reasons to think that DO periphrasis existed in early Gallo-Brittonic.

To Celts secondarily acquiring Germanic, *defective* DO periphrasis in the weak preterits of Germanic would seem parallel to *general* DO periphrasis in Celtic. But absence of DO periphrasis in the present would seem to be an inexplicable gap, which could only be filled by creating a new present. Though native speakers of West Germanic might or might not realize that a new present corresponding to preterit /dɛ-ɔɔ-/ should be /dɛɛ-/, non-native learners, much less familiar with the ins and outs of Germanic grammar, would probably take the easy way out: creating a new present by simply subtracting /dɛ-/ from preterit /dɛ-dɔɔ-/. The fact that what appears to be a new present in West Germanic was, by native standards, not quite right, is itself an indirect indication that the innovation was externally motivated. DO periphrasis did not, in the end, catch on in continental West Germanic, though it is worth noting that DO periphrasis is widespread (though always substandard) in continental West Germanic. In insular West Germanic, which is to say English, DO periphrasis got a boost from another round of Celtic influences in Britain. But to return to West Germanic as a whole, here the innovative present of DO *did* catch on, and so suppletive presents, having become pointless, were lost. Thus it seems that the present of DO in West Germanic was not an archaism but rather an innovation.

The traditionalist objection to all this would be that 1SG forms pointing back

to /-mi/ prove that the present of DO in West Germanic is an archaism, on the grounds that /-mi/ has no possible source other than /-mi/ in PIE. A necessary concomitant of this theory is that /-mi/ spread from an irregular verb, DO, to certain regular verbs (weak 2), though this would be unexpected. But what traditional Germanicists mean when they say “possible source” is “possible *internal* source”. If we cast about for a possible *external* source, unsurprisingly there *is* one: Celtic had a class of verbs with 1SG /-aa-mi/ (Lewis and Pedersen [1961]1989, 278–282).¹⁴ Roughly speaking, this class was cognate with weak 2 verbs in Germanic, and it would be a dim-witted Celt indeed who somehow did not perceive this. But to the Celtic mind, weak 2 verbs would appear to be missing 1SG /-mi/. Though it would not be *expected* for Celts to add 1SG /-mi/ to weak 2 verbs, it would also not be surprising, and such a scenario would appear to be the only one that can explain the evidence seen. If weak 2 verbs developed 1SG /-mi/, that would create an analogical basis for /dɔɔ-/ to also develop 1SG /-mi/, and spread of /-mi/ would be *in the expected direction*: regular to irregular. Though the end result might appear to prove that a present of DO, with unexpected or even inexplicable /ɔɔ/, just randomly survived in West Germanic, that impression would be an illusion.

Celtic influence can thus be seen as explaining at a stroke the main oddities of DO in West Germanic: 1) that its present has a V that would be expected only in its preterit, 2) that it appears at all as an independent verb, and 3) that it shares its 1SG /-mi/ with weak 2 verbs. If Celtic influence lies behind these oddities, we have an explanation for why they occur in West Germanic. Otherwise, we do not. Contrary to what the conventional wisdom has long asserted, present /dɔɔ-/ is not an archaism randomly preserved only in West Germanic, but rather an innovation non-randomly created (due to Celtic influence) only in West Germanic.

7.3 Conclusion

For this sub-case, the primary conclusion is that the preterit stem of DO in Early Germanic was /dɛ-dɔɔ/, replacing earlier /dɛ-dɛɛ-/. But this implies that the preterit of DO in Early Germanic had perfect origin. A secondary conclusion is that present /dɔɔ-/ provides no good evidence against this, but does provide good evidence of Celtic substratal influence in West Germanic.

8. A specific solution positing perfect origin for the 2SG

It must be stressed at the outset that even the earliest attested forms of the weak preterit, pointing back to relatively recent 1SG and 3SG /-dɔ, -dɛ/, are very far removed from any plausible ancestor in Early Germanic. The original stem, whether this was /dɛ-dɔɔ-/ or /dɛ-dɛɛ-/, has lost 1) one /d/, 2) one /ɛ/, and 3) two moras

of an original long V. Thus of the five elements originally present (counting long Vs as having two elements), only one remains. Such extreme attrition implies at least some *allegro* reduction. Attempts to posit an original stem much shorter than /dɛ-dɔɔ-/, for example /dɛɛ-/, do not permit sensible solutions.

8.1 Developments from Early Germanic to Late or Common Germanic

At this point, a series of tables with specific developments can (at last) be presented. On the 2SG, there is nothing to say beyond what was said at the outset. Stress has been indicated by **bold**. The suffixes of strong verbs, which are quite relevant, have been put out to the side. It has not been considered worthwhile to include a separate table for dependent and independent forms, as during the period in question any difference between the two would have been analogically eliminated. As for what V preceded 1PL /-mɛ/ and 2PL /-dɛ/, /ɔ/ has been preferred. If forms like /dɛ-dɔɔ-ɔmɛ/, absolutely regular but awkwardly long, ever existed, the first change was that they were reduced. Changes are explained *above* the tables showing their effects. It is assumed that Verner (analogically eliminated in the dependent form) has already applied. Changes will be indicated by underlining. The start-state was as follows.

	SG	PL	SG	PL
1	dɛ-dɔɔ-ɔ	dɛ-dɔɔ-mɛ	-ɔ	-ɔmɛ
2	dɛ-dɔɔ-tɔ	dɛ-dɔɔ-dɛ	-tɔ	-ɔdɛ
3	dɛ-dɔɔ-ɛ	dɛ-dɔɔ-nt	-ɛ	-ɔnt

Long /ɔɔ/ is shortened before a following V. It is conceivable that this change was regular. If not, it was an *allegro*-reduction.

	SG	PL	SG	PL
1	<u>dɛ-dɔ</u> -ɔ	dɛ-dɔɔ-mɛ	-ɔ	-ɔmɛ
2	dɛ-dɔɔ-tɔ	dɛ-dɔɔ-dɛ	-tɔ	-ɔdɛ
3	<u>dɛ-dɔ</u> -ɛ	dɛ-dɔɔ-nt	-ɛ	-ɔnt

In regular strong verbs, weakly stressed /ɔ/ before /-nt/ becomes /u/. This /u/ soon spreads to other PLs and to DO, except in Alemannic, where the inherited PL forms with /ɔɔ/ are retained. (Alemannic is, for the moment, “out of this story”.) Note that at this point long /ɔɔ/ in the 2SG, though both regular and original, has come to seem somewhat anomalous.

	SG	PL	SG	PL
1	dɛ-dɔ-ɔ	<u>dɛ-dɔ-umɛ</u>	-ɔ	<u>-umɛ</u>
2	dɛ-dɔɔ-tɔ	<u>dɛ-dɔ-udɛ</u>	-tɔ	<u>-udɛ</u>
3	dɛ-dɔ-ɛ	<u>dɛ-dɔ-unt</u>	-ɛ	<u>-unt</u>

In sequences of stressed /ɔ/ plus unstressed V, stress is transferred from /ɔ/, which is not distinctive, to the second V, which *is* distinctive, and then /ɔ/ is lost. For example, /-ɔ-ɛ/ becomes /-ɛ/. This is clearly an *allegro* reduction limited to DO. Except in the 2SG, the stem can now be seen as /d-/. Note that the 1SG and 3SG now have final stress, since the rules of the language permit nothing else. Most forms can now be seen as anomalous strong verbs with a stem /dɛd-/ and final stress. At this point the 2SG, which appears to have /ɔɔ/ intruded for no identifiable reason, has become very anomalous.

	SG	PL	SG	PL
1	<u>dɛ-d-ɔ</u>	<u>dɛ-d-umɛ</u>	-ɔ	-umɛ
2	dɛ-d-ɔɔ-tɔ	<u>dɛ-d-udɛ</u>	-tɔ	-udɛ
3	<u>dɛ-d-ɛ</u>	<u>dɛ-d-unt</u>	-ɛ	-unt

Apocope occurs. In the 1SG and 3SG, preservation of final Vs in weak verbs, contrasted with loss of final Vs in strong verbs, creates a lasting difference between the two types. Unfortunately it also creates the illusion that the two types belong to different conjugations.

	SG	PL	SG	PL
1	dɛd-ɔ	<u>dɛd-um</u>	-	<u>-um</u>
2	dɛd-ɔɔ-t	<u>dɛd-ud</u>	-t	<u>-ud</u>
3	dɛd-ɛ	<u>dɛd-unt</u>	-	-unt

In the 2SG, what appears to be intrusive /ɔɔ/ is eliminated by creation of analogical **/dɛ-d-t/ > /dɛ-s-s/. In non-northerly WG, inherited /dɛ-d-ɔɔ-t/ survives long enough for its /ɔɔ/ to influence the eventual form of the 2-SG. As /dɛ-s-s/ has only one syllable, that syllable must bear (secondary) stress.

	SG	PL	SG	PL
1	dɛ-d-ɔ	dɛ-d-um	-	-um
2	<u>dɛ-s-s</u>	dɛ-d-ud	-t	-ud
3	dɛ-d-ɛ	dɛ-d-unt	-	-unt

Though technically speaking /dɛss/, with 1) internal /-s-/ for /-d-/ , 2) final /-s/ for /-t/, 3) no clear reduplicating syllable /dɛd-/, and 4) only one syllable, is perfectly regular, this is quite a lot less apparent to learners than to later linguists. The last two problems are especially troubling, and wrong-looking /dɛss/ is “corrected” to more normal-looking /dɛ-dɛss/. But, as has been seen above (section 1), this means that there is now no a third /d/, so that *there is now no basis for /ss/*. Accordingly, /-dɛss/ is opportunistically re-interpreted as /-dɛɛs/, with 2SG /-s/. Perhaps at about this time, final /-t/ is lost in 3PL /nt/.

	SG	PL	SG	PL
1	dɛ-d-ɔ	dɛ-d-um	-	-um
2	<u>dɛ-d-ɛɛs</u>	dɛ-d-ud	-t	-ud
3	dɛ-d-ɛ	<u>dɛ-d-un</u>	-	<u>-un</u>

In continental West Germanic, /dɛ-dɔɔt/ survived, in competition with innovative /dɛ-dɛɛs/, long enough to influence the eventual form of the 2SG. The competition was resolved by creating a blend form /dɛ-dɔɔ-s/, with the V of /dɛ-dɔɔt/ and the suffix of /dɛ-dɛɛs/. (The other theoretical possibility, /dɛ-dɛɛt/, would be disfavored: 2SG /-t/ was already fading in West Germanic.) New /dɛ-dɔɔ-s/ became regular in the dependent form in OHG, and in OS can occur in both the dependent form and the independent form.¹⁵

It is worth noting that the regular results of the /TT/ > /ss/ rule survive nowhere unaltered, which itself is an indication that learners found the original rule too opaque. Gothic changes /ss/ to /st/ (so that the alternation appears to be a change of dentals to /s/), North Germanic eliminates the rule entirely, and West Germanic got rid of 2SG /-t/ entirely, except in some preterite-presents, which were not fully regular in any event. Though the fact that 2SG /-dɛss/ and 2SG presents both had /-s/ was, historically speaking, just a coincidence, learners had no way of knowing that, and from their point of view hearing /-dɛss/ as /-dɛɛs/ made sense. This change was the first stage in the /TT/ > /ss/ rule being eliminated from Germanic.

One remaining question is whether Early Germanic actually had any 2SG /-s/ that /-s/ in /-dɛss/ could be identified with. The only plausible source would be /-s-i/ or /-s/ in the present indicative. Independent reasons to believe that present-marking /-i/ was indeed perceived as such have been seen in the case of the 3PL, where it appears that preterit /-ont/ in Germanic goes back to present /-ont-i/ in PIE shorn of present-marking /-i/. East Germanic and North Germanic do not show contrasting reflexes of /-Vs/ and /-Vz/, East Germanic always having /-s/, clearly by final devoicing, and North Germanic always having /-z/ > /-r/, quite possibly by “laxing”. Accordingly, only the evidence of West Germanic can be very informative as to the original distribution of /-s/ and /-z/ in Early Germanic, and what this evidence shows is /-s/ in the indicative and /-z/ in the subjunctive, cleaning up an

earlier distribution that was intractably messy (Ringe 2017, 207–209). Though continental West Germanic shows /-s/ in subjunctives, the conventional wisdom (in this case well-warranted) is that development of /-s/ here was secondary. It is clear then Early Germanic did indeed have 2SG /-s/ that /-s/ in /-dæss/ could be identified with, justifying re-interpretation of /-dæss/ as /-dæes/.

8.2 Later developments producing the attested forms

The last table above is in essence the paradigm of Common Germanic. The intent of this sub-section is to provide a rough guide to later developments, not a definitive or detailed account. In presenting later developments, haplology, i.e. /ded/ > /d/, has been glossed over, except in the case of Gothic.

Gothic:

The dependent verb, still seen as connected (in the PL) with strong verbs, follows the independent verb in importing /εε/ from some strong verbs (of classes IV and V).

	SG	PL
1	-dēd- <u>ɔ</u>	- <u>dēεd-um</u>
2	-dēd- <u>εεs</u>	- <u>dēεd-ud</u>
3	-dēd- <u>ε</u>	- <u>dēεd-un</u>

Secondarily stressed Vs are de-stressed. Haplology occurs. Since all forms are affected by de-stressing, underlining has been used only for haplology.

	SG	PL
1	- <u>dɔ</u>	-dēε-dum
2	- <u>dεεs</u>	-dēε-dud
3	- <u>dε</u>	-dēε-dun

Final /-ɔ, -ε/ become /-a/. Final /-d/, pronounced as [-ḏ], is de-voiced to /-θ/.

	SG	PL
1	- <u>da</u>	-deed-um
2	-dees	- <u>dee-duθ</u>
3	- <u>da</u>	-dee-dun

Runic/Norse:

Secondarily stressed final short Vs are lengthened.

	SG	PL
1	- <u>dɔ</u>	-dum
2	- <u>dεεs</u>	-dud
3	- <u>dεε</u>	-dun

Secondarily stressed Vs in final syllables are de-stressed. As with Gothic, forms affected are not underlined. Final /-s/ is replaced by /-z/. This is the stage seen (strangely spelled) in Runic.

	SG	PL
1	-dɔ	-dum
2	- <u>dεεz</u>	-dud
3	-dεε	-dun

Unstressed long Vs in final syllables are shortened.

	SG	PL
1	- <u>dɔ</u>	-dum
2	- <u>dεz</u>	-dud
3	- <u>dε</u>	-dun

Various phonological changes of Old Norse occur. Short /ɔ/ > /a/, unstressed /ε/ > /i/, /-z/ > /-r/, /d/ > /-ð/, and /-n/ > /-/. (Variation between /o/ and /u/ in the PL has been glossed over.)

	SG	PL
1	- <u>ða</u>	- <u>ðum</u>
2	- <u>ðir</u>	- <u>ðuð</u>
3	- <u>ði</u>	- <u>ðu</u>

Old English:

Lengthening and shortening, which undo each other, have been glossed over. Final /-ɔ, -ε/ become /-a/, and /εε/ becomes /ee/. Developments in Old Saxon are much the same as in OE, just without 1) /-a/ becoming /-æ/ and 2) the changes of later OE.

	SG	PL
1	- <u>da</u>	-dum
2	- <u>dees</u>	-dud
3	- <u>da</u>	-dun

The 3PL becomes a general PL.

	SG	PL
1	-da	(- <u>dun</u>)
2	-dees	(- <u>dun</u>)
3	-da	-dun

Various phonological changes of early OE occur: /a/ becomes /æ/, and unstressed /ee/ becomes /e/.

	SG	PL
1	- <u>dæ</u>	(-dun)
2	- <u>des</u>	(-dun)
3	- <u>dæ</u>	-dun

Various phonological changes of later OE occur: final /-æ/ > /-e/, unstressed /-un/ > /-on/, and /-des/ develops /-t/.

	SG	PL
1	- <u>de</u>	(- <u>don</u>)
2	- <u>dest</u>	(- <u>don</u>)
3	- <u>de</u>	- <u>don</u>

Old High German (except Alemannic):

As with OE, lengthening and shortening have been skipped over. In the 2SG, a blend form /-dōs/ has already developed, on the basis of older /-dōt/ and newer /-dēs/.

	SG	PL
1	-dɔ	-dum
2	- <u>dɔɔs</u>	-dud
3	-dɛ	-dun

Final /-ɔ, -ɛ/ become /-a/, and /ɔɔ/ becomes /oo/.

	SG	PL
1	- <u>da</u>	-dum
2	-doos	-dud
3	- <u>da</u>	-dun

The Second Sound Shift: /d/ becomes /t/.

	SG	PL
1	- <u>ta</u>	- <u>tum</u>
2	- <u>toos</u>	- <u>tut</u>
3	- <u>ta</u>	- <u>tun</u>

Alemannic:

As noted above, PL forms in Alemannic, rather than early on developing /ɔ-u/, retained original /ɔɔ/. This /ɔɔ/ underwent no change other than the expected change of /ɔɔ/ to /oo/.

	SG	PL
1	-dɔ	-dɔɔ-mɛ
2	-dɔɔ-tɔ	-dɔɔ-dɛ
3	-dɛ	-dɔɔ-nt

Further developments, including development of 2SG /-ɔɔs/ as a blend form, are as in OHG, and so will be glossed over. The final result is as follows:

	SG	PL
1	-ta	-toom
2	-toos	-toot
3	-ta	-toon

9. Conclusion

Once it has been seen that perfect origin for the 2SG is by no means impossible, the various strained arguments made for non-perfect origin in other sub-cases can at last be seen as what they are. The other sub-cases are as follows. 1) The origin of /d-d/: Reduplication is the only real possibility, and only a perfect would be expected to have reduplication with /e/ > /ε/. Furthermore, only a verb regarded as strong (i.e. perfect) would develop PL /εε/. 2) Non-perfect reduplication with /e/: This was either rare or (more probably) non-existent in PIE. Either way, it is not to be expected. 3) Survival of non-perfect past tenses: Survival of any past tense other than the perfect is not independently evidenced. 4) The 1SG and 3SG: These are much more easily derived from perfect /-a, -e/ > /-ɔ, -ε/, which at some later point escaped apocope by being stressed, than from non-perfect /-eem, -eet/. 5) 3PL /-un/: This is more plausibly derived from a re-formed perfect 3PL /-ond/ > /-ont/, with a later change of /-ont/ to /-unt/, than from vocalic /n/. 6) The V of the preterit (and present) stem: forms showing /oo/ are much more easily derived from /ɔɔ/, which would be expected only in a perfect, than from /εε/. In literally all of these sub-cases, the conventional wisdom posits developments or states that are *ad hoc*, seriously problematic, or both.

A somewhat tangential conclusion is that Celtic influence played a significant role in the development of DO in West Germanic. This merely adds another case to a conclusion already reached, on the basis of other cases, by the present author (White 2020, 35–48). Both the apparent “reversal of fortunes” that affected DO in West Germanic and the development of 1SG /-mi/ in DO and weak 2 verbs can most plausibly be seen as due to Celtic influence. Once the areal evidence is appreciated, there remains no good reason to posit that unexpected /dɔɔ-mi/ existed in Early Germanic and just randomly survived (with some similar forms) in West Germanic. The oddities seen in the development of DO in West Germanic are, like many other oddities seen in West Germanic only, due to Celtic influences having operated in West Germanic only.

The main “new idea” here is of course that /-dæss/ could be re-interpreted as /-dæes/. But two other new ideas, plucked from “the nooks and crannies” of Germanic historical phonology, are worth noting: 1) that final stress in /ded-ɔ, ded-ε/ permits an explanation of the 1SG and 3SG as going back to /-ɔ, -ε/ rather than /-εem, -eet/, and 2) that the change seen in /hɔndɔ/ permits an explanation of 3PL /-un/ as going back to re-formed perfect /-ont/ rather than non-perfect /-un/.

Practically speaking, the conventional wisdom is entirely dependent on the proposition that perfect origin in the 2SG is impossible. But the idea that perfect origin in the 2SG is impossible fails to consider 1) that dependent DO was clearly reduced over time to /ded-/, and 2) that **/dɛ-d-t/ > /dæss/ could only be made to seem in line with other forms by creating /dɛ-dæss/, which in turn would *have* to be re-interpreted as /dɛ-dæes/. The fact that non-perfect /-dæes/, if it had survived,

would also result in /-dæes/ has misled many generations of Germanicists into believing that the 2SG had some non-perfect origin. But perfect origin for the 2SG is not in fact impossible or even improbable, and literally all other sub-cases point to perfect origin.

Overall, it is striking how Germanicists have preferred to assert obviously problematic propositions than to question the decision that was made, evidently on the basis of the 2SG alone, at the first “fork in the road”: that the original form of DO employed in weak preterits was a non-perfect. Upon critical examination, it becomes apparent that the form of DO employed in weak preterits 1) was originally a reduplicating (and non-ablauting) perfect, 2) developed (like other reduplicating verbs with /εε/) a preterit with /ɔɔ/, 3) underwent extensive *allegro* reductions, which in time resulted in the 1SG and 3SG suffixes being (secondarily) stressed, and 4) underwent haplogy. All of this is either as expected or at least not surprising. Of the various changes posited above, only re-interpretation of /-dæss/ as /-dæes/ can be considered surprising. But this is not because it was senseless, which it was not, but rather because it is “out of the box”. Once the possibility of perfect origin is given due consideration, it is clear that the form of DO employed to form the weak preterit in Germanic was, as would be expected, a perfect.

Notes

- 1 The theory of Hill (2010), which assumes non-perfect origin, necessarily suffers from the serious problems inherent to any theory of non-perfect origin.
- 2 It has been suggested (Fulk 2018, 258) that /est/ could become /eet/ in Early Germanic. Be that as it may, non-phonological change seems more probable in the present case.
- 3 It is worth noting that verbs with (inherited) present reduplication in Germanic always employ /i/ (Fulk 2018, 245).
- 4 Though it has long been part of the conventional wisdom to posit that Early Germanic had a distinction between nasal and oral vowels in unstressed syllables but not in stressed syllables, on general principles this is improbable, as the set of Vs in unstressed syllables is typically a subset of the set of Vs in stressed syllables, not the other way around. A scenario not involving nasal Vs in unstressed syllables is given by White (2020, 31–35).
- 5 Reasons to reject tri-moraic Vs without morphological warrant are given by White (2020 31–35).
- 6 In fairness, the 1SG and 3SG have often been seen, at least in older works, as having perfect origin (Fulk 2018, 333).
- 7 Too late to make deadline, the present author attempted to determine whether the reason that Sihler (1995, 466) says nothing about perfect 3PLs in Armenian and Albanian having /n/ instead of /t/ is that these branches 1) show forms

- going back to perfect /r/, or 2) that these branches show no forms going back to the PIE perfect.
- 8 WG forms for ‘10’ seeming to point a PIE form with /o/, which is not otherwise evidenced (Fulk 2018, 227) are better explained as due to late WG lowering of /u/ to /o/ across /h/, in accordance with height harmony. Though it is in theory possible that /-hund/ developed by analogy with a form of ‘20’ that had /u/, the attested forms of ‘20’ in Germanic (Fulk 2018, 229) provide no clear evidence that any such form existed in Early Germanic. Thus a phonological origin for /-hund/ ‘tens’ is at least plausible.
 - 9 Polomé (1964, 874–878) also posits that 3PL /-n/ in preterits goes back to a form with early replacement of /r/ by /n/.
 - 10 Though present suffixes cannot be a great concern here, it seems probable that present suffixes with /-i/ at some fairly early point developed penultimate stress, causing fricatives to remain voiceless.
 - 11 It has been assumed here that the state seen in Class VII verbs in Gothic goes back to Early Germanic, where it developed by analogy with identity of SG and PL Vs in Class VI. How developments in post-Gothic Germanic are to be explained cannot be pursued here.
 - 12 As Fulk (2018, 331) notes, “... outside of Germanic it is only in nominal forms that /ō/-vocalism occurs.” Thus any suggestion that /oo/ occurred in non-nominal forms in Germanic is (at best) ad hoc.
 - 13 It is worth noting that there is a clear tendency for linguistic indications of Celtic influences to be more common in northerly West Germanic than in southerly West Germanic (White 2020, 28–31). This is probably because the more southerly area was to a significant extent under-populated at the time when West Germanic began to spread into it.
 - 14 Additional reasons to think that the /-aa-mi/ verbs of Gallo-Brittonic influenced their obvious analogues in West Germanic are given by White (2019, 28–32).
 - 15 As Boutkan (1995, 362) notes, finding 2SG forms with /oo/ is an indirect indicator of perfect origin.

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