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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 /-dɛɛs/ can be seen as originating by "opportunistic re-interpretation" of /-dɛd-t/ > /-dɛss/ as /-dɛɛs/, 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: /dʰee-/. 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/ > /ɛ/, 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 /ɛɛ/ originated as a normalizing replacement for original /ɛ/, suggested by the model of PL /ɛɛ/ in strong verbs of classes IV and V (Ellis 1966, 66) and abetted by the qualitative identity of short /ɛ/ and long /ɛɛ/. In the case of SG /dɛd-/, no such expedient was available, and so inherited short /ɛ/ 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 /dʱe-dʱee-/, 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 "conjugational" (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. *pappar*š- '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^{h}aa-/ DO, which has a present stem /da-d^{h}aa-/. (A change of /d^{ɦ}/ 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^{ɦ}a-d^{ɦ}aa-/ in InIr can easily be seen as going back not to /d^{ɦ}e-d^{ɦ}ee-/ but rather to /d^{ɦ}i-d^{ɦ}ee-/, 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 /deH$_3$-/ > /doo-/ 'give', which acts almost as a twin of /d^{ɦ}eH$_1$-/ > /d^{ɦ}ee-/ '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^{ɦ}ed^{ɦ}-/) from /d^{ɦ}ee-/ 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^{ɦ}ed^{ɦ}-/, 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^{ɦ} series (plosives with murmured voice). Thus it is clear that at some point /doo-, d^{ɦ}ee-/ were reduplicated in BS as /dod-, d^{ɦ}ed^{ɦ}-/, and this in turn makes it quite probable that /e/ in /d^{ɦ}ed^{ɦ}-/ 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 /ɔg-/ > /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 /-ɛɛm/ in the 1SG, and either /-ɛɛt/ or /-ɛɛΘ/ 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 /-ɛɛm/ 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 /-ɛɛm/ 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 /-ɛɛt/ > /-ɛɛ/ > /-ɛ/. But if so, we have to make up a story about why /-ɛɛt,

-ɔɔt/ 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 /-ɛɛ/ 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 /-ɛɛΘ/. 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 /-dɛ/. 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, -ɛ/, which would quite straightforwardly explain all forms except perhaps the 3SG in West Germanic, from /-ɛɛm, -ɛɛt/. Obviously the reason for this is that later /-ɔ, -ɛ/ is what the attested forms (for the most part) point back to. But starting with /-ɛɛm, -ɛɛt/ is not a good way to get to /-ɔ, -ɛ/. It must arouse considerable suspicion that /-ɔ, -ɛ/ 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-ɛ/ could only have final (secondary) stress. Note that, by escaping apocope, /dɛd-ɔ, dɛd-ɛ/ would seem to point back to /dɛd-ɔɔ, dɛd-ɛɛ/,

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 /$d^{ĥ}$e-$d^{ĥ}$$H_1$-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 /H_1/ 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/ < /-hɔndə/ (Ringe 2017, 230).[8] It is worth noting that a change of weakly stressed /ə/ 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 /ɛɛ/ to /ɔɔ/ that (to judge by the evidence of Gothic) occurred in the preterits of other verbs with /ɛɛ/ (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 /ɔɔ/ favor perfect origin, whereas forms pointing back to /ɛɛ/ favor non-perfect origin.[11]

Since the change of /ɛɛ/ to /ɔɔ/ 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 /ɛɛ/ in the present (with or without a following C) show /ɔɔ/ in the preterits of Gothic. The basic cause was extension of /oo/ 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 /ɔɔ/ in Gothic show no preterit at all, so that only one, /slɛɛp-/ 'sleep' (perhaps simplified in speaking to young children), shows a preterit with original /ɛɛ/. Thus of the nine Germanic verbs that had /ɛɛ/ in the present, only one (perhaps re-formed) shows evidence of *not* having had /ɔɔ/ 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 /dɛɛ-/ belongs to the set of verbs with /ɛɛ/, it is to be expected that /dɛ-dɛɛ-/ would be altered to /dɛ-dɔɔ-/.

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 /ɛɛ/ and /ɔɔ/. The 2SG forms, naively interpreted, would seem to point back to /ɔɔ/ in continental West Germanic and /ɛɛ/ elsewhere. A morphological change of /ɛɛ/ to /ɔɔ/, implying perfect origin, is the only plausible source for /ɔɔ/ in the 2SG.[12] (The idea that 1SG forms pointing back to /-ɔɔm/ somehow go back to what would in effect be a phonological change of /ɛɛ/ to /ɔɔ/ has been treated and dismissed in section 5.) By contrast, original /ɛɛ/ *is not* the only plausible source for /ɛɛ/ in the 2SG: it was shown at the outset how long /ɛɛ/ could develop from short /ɛ/ in /-dɛdt/ >> /-dɛɛs/. The evidence of the 2SG thus favors /ɔɔ/, and perfect origin. In the PLs of Alemannic, /oo/ is much more easily derived from /ɔɔ/ than from /ɛɛ/ (much less from 1SG /-ɛɛm/). 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 /ɔɔ/ 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 Germanaic, 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	dɛ-d**ɔ**-ɔ	dɛ-dɔɔ-mɛ	-ɔ	-ɔmɛ
2	dɛ-dɔɔ-tɔ	dɛ-dɔɔ-dɛ	-tɔ	-ɔdɛ
3	dɛ-d**ɔ**-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	dɛ-d**ɔ**-umɛ	-ɔ	-umɛ
2	dɛ-dɔɔ-tɔ	dɛ-d**ɔ**-udɛ	-tɔ	-udɛ
3	dɛ-dɔ-ɛ	dɛ-d**ɔ**-unt	-ɛ	-unt

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	dɛ-d-**ɔ**	dɛ-d-**u**mɛ	-ɔ	-umɛ
2	dɛ-d-**ɔɔ**-tɔ	dɛ-d-**u**dɛ	-tɔ	-udɛ
3	dɛ-d-**ɛ**	dɛ-d-**u**nt	-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**	dɛd-**u**m	-	-um
2	dɛd-**ɔɔ**-t	dɛd-**u**d	-t	-ud
3	dɛd-**ɛ**	dɛd-**u**nt	-	-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-**u**m	-	-um
2	d**ɛ**-s-s	dɛ-d-**u**d	-t	-ud
3	dɛ-d-**ɛ**	dɛ-d-**u**nt	-	-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-**u**m	-	-um
2	dɛ-d-**ɛ**ɛs	dɛ-d-**u**d	-t	-ud
3	dɛ-d-**ɛ**	dɛ-d-**u**n	-	-un

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 /-ɔnt/ 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 /-dɛss/ could be identified with, justifying re-interpretation of /-dɛss/ as /-dɛɛs/.

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. /dɛd/ > /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 /ɛɛ/ from some strong verbs (of classes IV and V).

	SG	PL
1	-dɛd-**ɔ**	-dɛɛd-**u**m
2	-dɛd-**ɛɛ**s	-dɛɛd-**u**d
3	-dɛd-**ɛ**	-dɛɛd-**u**n

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	-dɔ	-dɛɛ-dum
2	-dɛɛs	-dɛɛ-dud
3	-dɛ	-dɛɛ-dun

Final /-ɔ, -ɛ/ become /-a/. Final /-d/, pronounced as [-đ], is de-voiced to /-Θ/.

	SG	PL
1	-da	-deed-um
2	-dees	-dee-duΘ
3	-da	-dee-dun

Runic/Norse:

Secondarily stressed final short Vs are lengthened.

	SG	PL
1	-dɔ̲ɔ	-d**u**m
2	-d**ɛ**ɛs	-d**u**d
3	-d**ɛ̲**ɛ	-d**u**n

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	-dɔɔ	-dum
2	-dɛɛz	-dud
3	-dɛɛ	-dun

Unstressed long Vs in final syllables are shortened.

	SG	PL
1	-dɔ	-dum
2	-dɛz	-dud
3	-dɛ	-dun

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

	SG	PL
1	-đa	-đum
2	-đir	-đuđ
3	-đi	-đu

Old English:

Lengthening and shortening, which undo each other, have been glossed over. Final /-ɔ, -ɛ/ become /-a/, and /ɛɛ/ 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	-da	-dum
2	-dees	-dud
3	-da	-dun

The 3PL becomes a general PL.

	SG	PL
1	-da	(-dun)
2	-dees	(-dun)
3	-da	-dun

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

	SG	PL
1	-dæ	(-dun)
2	-des	(-dun)
3	-dæ	-dun

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

	SG	PL
1	-de	(-don)
2	-dest	(-don)
3	-de	-don

Old High German (except Alemannic):

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

	SG	PL
1	-dɔ	-dum
2	-dɔɔs	-dud
3	-dɛ	-dun

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

	SG	PL
1	-da	-dum
2	-doos	-dud
3	-da	-dun

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

	SG	PL
1	-ta	-tum
2	-toos	-tut
3	-ta	-tun

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/ > /ɛ/. Furthermore, only a verb regarded as strong (i.e. perfect) would develop PL /ɛɛ/. 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, -ɛ/, 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/ > /-ɔnt/, with a later change of /-ɔnt/ 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 /ɛɛ/. 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 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 /-dɛss/ could be re-interpreted as /-dɛɛs/. But two other new ideas, plucked from "the nooks and crannies" of Germanic historical phonology, are worth noting: 1) that final stress in /dɛd-ɔ, dɛd-ɛ/ permits an explanation of the 1SG and 3SG as going back to /-ɔ, -ɛ/ rather than /-ɛɛm, -ɛɛt/, and 2) that the change seen in /hɔndɔ/ permits an explanation of 3PL /-un/ as going back to re-formed perfect /-ɔnt/ 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 /dɛd-/, and 2) that **/dɛ-d-t/ > /dɛss/ could only be made to seem in line with other forms by creating /dɛ-dɛss/, which in turn would *have* to be re-interpreted as /dɛ-dɛɛs/. The fact that non-perfect /-dɛɛs/, if it had survived,

would also result in /-dɛɛs/ 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 Germanicsts 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 /ɛɛ/) 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 haplology. All of this is either as expected or at least not surprising. Of the various changes posited above, only re-interpretation of /-dɛss/ as /-dɛɛs/ 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 /r/ 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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The Semantics of Morphological Conversion in Old English

Abstract: The present article is an empirical, data-oriented study which focuses on the problem of morphological conversion and the way this mechanism was employed in Old English as a way of deriving new lexemes. The article briefly discusses the quantitative characteristics of the attested types, presents patterns of directionality and estimates the degree of availability of conversion in Old English grammar. The main part and purpose of the study, however, concerns the semantic characteristics of conversions sampled in the corpus. Drawing on the framework of semantic categories formulated by Clark and Clark (1979) and Plag (2003), the study aims to demonstrate semantic effects of the so-called zero-affix in Old English by looking into the relation that holds between the motivating base and the resultant derivative. Despite the fact that the availability of conversion was still quite limited in the Old English period, possibly due to numerous inflections that may have inhibited the transparency of this process, the study allows us to see how this process emerged and subsequently developed into one of the most productive word-formational techniques in the English language.

Keywords: morphological conversion, word-formation, zero derivation, Old English, morphology

1. Introduction

The present article focuses on the problem of morphological conversion and the way this mechanism was employed in Old English as a way of deriving new lexemes. It is a part of a broader diachronic project which aims at discovering the patterns, functions, and effects of conversion in the history of English word-formation. The research problems that are addressed in this study involve the patterns of directionality that can be identified in the data attested, the availability

of syntactic categories for shifting in the Old English period, and general tendencies concerning type frequencies of the patterns attested. The main objective of the present article, however, is to conduct a qualitative research, involving a data-oriented analysis of the semantic effects of morphological conversion as reflected in denominal verbs which have been extracted from the corpus.

2. The notion of *morphological conversion*

Morphological conversion is best defined as "the derivational process whereby an item changes its word-class without the addition of an affix" (Quirk, Randolph and Greenbaum 1987, 441). It can thus be seen as a type of a categorial shift whereby the semantic change which has taken place in the input is not formally reflected in the output, and this lack of any surface exponents poses a challenge to the one-to-one form-meaning mapping in morphological processes and, consequently, to their modelling. As a result, conversion holds a rather indeterminate position in a general theory of linguistics, and as a linguistic phenomenon it can be studied within the framework of morphology, word-formation[1], syntax, or even lexicon.

The number of methodological and theoretical approaches towards conversion is so large that even their brief discussion goes beyond the scope and purpose of this article. This multitude of approaches is accompanied by a variety of terminology applied in the literature on the subject. The most usual terms are *conversion*, because a word is converted (shifted) to a different part of speech, and *zero-derivation*, because the process is sometimes treated as deriving a new lexeme by means of a zero-affix, therefore creating a semantic dependence of one word upon another (Quirk et al. [1985]1997, 1558). This would imply that this affix exists – due to the fact that it is grammatically meaningful – although it cannot be seen. The scholars who treat the process in question as zero-derivation (Kastovsky 1968; 1974; Marchand 1969; Don 1993) see it as being analogous to affixal derivation, and the operation of the zero-suffix is paralleled with the occurrence of an overt suffixal analogue (cf. zero-affix in *hammer*, n. → *hammer*, v. versus overt affix in *atom*, n. → *atomize*, v., or, similarly, *call*, v. → *call*, n. versus *react*, v. → *reaction*, n.). The concept of suffixal analogy has been tightened up by Sanders (1988), who claims that a zero-affix is valid only in such cases where "there is a precise analogue in the language, where the same derivational function is marked in the derived word by an overt (non-zero) form" (Sanders 1988, 162). This restriction is frequently referred to as an *overt analogue criterion*, and is frequently taken as an effective testing ground for the operation of the zero-affix.

As the employment of Sanders's criterion to actual language data frequently speaks against the idea of zero-suffix, many scholars (e.g. Bauer 1983; Quirk et. al. [1985]1997; Plag 2003) prefer to treat the process under discussion as a kind of morphological operation, whereby a word moves, or is converted, from one

syntactic category to the other without any affixes employed. In this perspective, the process is referred to as *conversion*, or *functional shift*.

Other frameworks delegate morphological conversion to domains other than morphology, thus breaking up with the idea of form-meaning isomorphism. Lieber (1981; 1992; 2004; 2005), for example, argues that the process in question is not a morphological, but a purely lexical phenomenon which involves *relisting* of already existing items in the lexicon. She claims that the same linguistic form is listed in the lexicon again, but with different categorial information than it originally had. Slightly similar approaches, in the respect that they regard conversion not as a process which derives new lexemes, but as a matter of language use, have been adopted by such linguists as Koziol (1937), Nida (1949), and Pavesi (1998). Here, conversion is considered to be a matter of syntactic transposition, a view that is best illustrated by Cannon (1985, 67), who argues that "from a linguistic point of view, functional shift does not add a new form to the lexicon; but the inflectability or noninflectability of the new function shift requires it to be classed as a new form etymologically".

One cannot but mention a lot of interest that conversion enjoys in cognitive-oriented linguistics. Within such approaches, the idea of an affix is totally rejected, and instead conversion is considered to be a kind of semantic re-evaluation, or recategorization of existing conceptual categories. Such a view can be identified in Štekauer's onomasiological approach (2005), and, in a similar manner, in Twardzisz (1997), who argue that conversion is a purely semantic process involving semantic extension of already existing concepts. A still different explanation within cognitive frameworks with respect to describing the mechanics of conversions is offered by Dirven (1988) and Kövecses and Radden (1998), who treat this process as a metonymic or metaphoric transfer, along with the idea of conceptual metaphor first introduced by Lakoff and Johnson (1980). A more recent study within the cognitive framework has been offered by Martsa (2013), who sees conversion as a process which is caused by conceptual reanalysis of extralinguistic reality.

The afore-discussed approaches constitute what can be called the main trends in a very broad spectrum of various attitudes, explanations, and modellings of the mechanism of conversion. As can be seen, it is impossible to decide on a specific designation of this process without being automatically categorized as advocating an analogical viewpoint. As the present study is empirical rather than theoretical, and data-oriented rather than system-oriented, it will employ the term 'morphological conversion', as this is the most frequent and most readily recognizable term in the literature on the subject.

3. Previous studies on conversion in Old English

In contradistinction to the wealth of publications dealing with conversion from a theoretical point of view, the historical, empirically-oriented research is very scarce.

Apart from a few articles by Kastovsky (e.g. 1978; 2005), the only comprehensive study into the development of conversion in English is Biese (1941). Some diachronic aspects of the process have also been discussed in Balteiro (2007). Still, all of these publications deal only with the formal and quantitative aspects of conversion, such as the availability of individual syntactic categories, directionality, and frequency of the patterns attested. To the best of my knowledge, no previous studies on the semantics of conversion in the Old English period have been published.

4. Corpus data and methodology

The data for further analysis have been extracted from the quotation section of the *Oxford English Dictionary*, second edition on CD-ROM (Version 4.0).[2] Due care has been given to ensure that all relevant types that occur in the dictionary are identified. The study involves 287 types of conversions attested in the total corpus of 7,500 entries for which the first evidence of use is dated 1150 and earlier.[3] The precise criteria of type selection are described in the subsequent parts of the present section. Because of the lack of formal exponents of the process in question, all sampling has been performed manually, and the sampled types have been checked against the OED etymological data to confirm the directionality of derivation and the date of first attestation.

Due to the difficulties with sampling, and the inconspicuous nature of the process itself, the quantitative data are provided in terms of type (not token) frequency only. Moreover, the statistics concern only the actual conversions collected for analysis, and their aim is not to provide a detailed quantitative characteristics of conversion, but to outline general tendencies regarding the preferences of conversion for directionality and semantic effects. It is hoped that the collected material is extensive enough to allow for identifying dominant tendencies as far as the availability of individual patterns is concerned, and, more importantly, for discussing qualitative aspects of the sampled verbal types, as the qualitative analysis is the primary purpose of the presented study.

As far as the Present-Day English is concerned, conversion is without much controversy treated as one of the most productive word-formation techniques, because the basic form of nouns and verbs is identical in many cases (Aitchison 1989, 160). The productivity of this process in Old English, however, is frequently seen as very low. Many scholars claim that in inflecting languages, and such is Old English,[4] the availability of conversion is heavily restricted. Cannon (1985, 430), for example, claims that conversion is "usually impossible in languages with grammatical genders, declensions or conjugations". Other scholars argue that in the English language the rise of conversions was correlated with the loss of inflections (Biese 1941; Jespersen 1956), therefore the process became more productive only in the Middle English period. In the present article, this view will be challenged.

The data gathered are hopefully going to provide convincing arguments which demonstrate that morphological conversion was available as a word-formational mechanism already in the Old English period, although a slightly different methodological approach towards its operation is needed.

What the above-mentioned perspectives on conversion failed to take into consideration is the distinction into derivational and inflectional morphology, without which it is difficult, if not impossible, to account for conversion in inflecting languages. The definitions offered by Cannon (1985) or Biese (1941) seem to be working well for describing conversion from the point of view of the Present-Day English morphology, but are inadequate for dealing with this process in the Old English morphology. Cannon (1985), namely, defines conversion merely as a functional shift in which an existing word takes on a new syntactic function. Biese (1941, 6), on the other hand, does treat conversion as a derivational process, writing that conversion is "a process of word-formation which consists in making new verbs and nouns by way of using nouns and verbs, already existing in the language, in the function of other parts of speech, as verbs and nouns respectively", but despite this in his further study a clear-cut distinction into word-formational (i.e. derivational) and inflectional morphemes has not been made.

In contradistinction to the above-quoted approaches towards the process in question, in the present study conversion is treated as a derivational phenomenon, belonging strictly to the domain of word-formation, and defined as a **derivational** process linking **lexemes** of the same form but belonging to different word-classes. Therefore, markers of word-classes, such as stem formatives, including *-i-* element, consonantal gemination, voicing, and stem vowel change, are, after Kastovski (2005), treated as inflectional elements and thus as irrelevant for the results of the analysis of the data gathered. Kastovsky (2005, 45) convincingly argues that already in the Old English period stem-formatives lost their functions as derivational morphemes, which "resulted in a clear-cut split between derivation and inflection, and the replacement of the derivational element by zero". This brought about a radical restructuring of the morphological system of the language:

> In pre-OE morphology, inflection and derivation are not clearly separated – a reflex of the originally root-based type of morphology characterizing Indo-European. Phonological developments first brought about a shift from root-based to stem-based morphology. Eventually, progressive phonetic attrition of unstressed syllables carrying morphological information resulted in the loss of morphological exponents relevant for both derivation and inflection. The result was the split of the morphological processes into derivation and inflection on the one hand, and the replacement of overt derivational/inflectional markers by zero. (Kastovsky 2005, 45)

Ignoring the distinction into derivational and inflectional morphemes blurs the mechanics of conversion and in consequence may lead to misguided statements,

such as those by Cannon (1985) or Biese (1941), discussed in previous sections, that in languages with rich inflection, conversion is less frequent or even utterly impossible. To quote Kastovsky (2005, 46) again, "if one keeps inflection and derivation apart, no such conclusion can be drawn. Affixless derivation (whether we call it conversion or zero-derivation) has always been frequent in English, and for denominal verb-formation has been the normal process, the suffixal patterns being basically restricted to the non-native vocabulary".

A consequence of adopting such a perspective on Old English morphological system is that conversion in this study is defined as a process that yields lexemes, not word-forms, which is another aspect not taken into account by Cannon (1985), Biese (1941), or Jespersen (1956).

In addition to delegating conversion strictly to the domain of derivational morphology, the following four criteria have been adopted for identifying occurrences of conversion: 1) sameness of stem-form (with the exclusion of inflectional markers); 2) semantic relation between the bare derivative and its motivating stem; 3) etymological information which confirms the directionality of conversion; and 4) change of word-class.

The etymological criterion has made it possible to exclude from further analysis homographic, semantically related pairs which, in the light of etymological information are not proper instances of conversion. A more plausible analysis is that both lexemes were inherited from the common Germanic, or, in some cases, Western Germanic lexicon, and in later periods they became formally identical due to the reduction of inflectional morphemes and/or sound-changes. The examples of such word-pairs are *shoe*, n. and *shoe* v., *sleep*, n. and *sleep*, v., or *smell*, n. and *smell*, v. Such word-pairs are very numerous in the corpus, however, they have been rejected as they do not constitute the proper products of conversion understood as an English word-formational process, but instead should be classified as instances of simultaneous borrowing.

In accordance with the fourth criterion (i.e. change of syntactic category), word-pairs that illustrate the so-called *secondary word-class change* (Quirk et al. [1985]1997, 1563) have also been ruled out. This concerns shifts within the same syntactic category, as a shift from a countable noun to an uncountable noun or vice versa, a proper noun to a common noun, an intransitive verb to a transitive verb, a stative adjective to a dynamic adjective, etc. Due to the fact that such syntactic operations enjoy a rather dubious status in the literature on conversion, they have been excluded from further study. For the same reason, thematic vowel *-i-* that occurs in some converted lexemes is ignored, as it does not interfere with the analysis of the derivational process of conversion. In literature on OE morphology (e.g. in Mitchell and Robinson 1992; Reszkiewicz 1998; Hogg 2002; Smith 2009), the thematic vowel *-i-* is characterized as being present in declension of nouns, where it marks distinction between singular and plural, in conjugation of some verbs (mainly Class 1 weak verbs), marking alternation between present and preterite

forms, and also occurs as a marker of comparative and superlative forms of some adjectives. It can be concluded, then, that in the Old English morphological system, the thematic vowel *-i-* is an inflectional, not a derivational, marker, creating word-forms, not lexemes, therefore its presence does not have any influence on the analysis of conversion, which, as has to be emphasized, belongs to the domain of derivational morphology (see also Kastovsky 2005).

Additionally, considering the necessity to keep derivational and inflectional morphemes apart, the attested types with the prefix *ge-* have been excluded from further analysis due to their notoriously indeterminate status. On the one hand, some scholars categorize *ge-* as a derivational morpheme. For instance, Arista (2002) demonstrates in his study on the path of grammaticalization of the prefix *-ge* that in the Old English period the prefix lost its derivational productivity and became exclusively inflectional. On the other hand, McFadden (2015, 1) observes that "it is a matter of debate and controversy whether it served as a true derivational prefix, creating new lexical verbs, or more as an inflectional prefix, creating new (aspectual?) forms of existing lexemes".

After ruling out inflectional markers, homographic pairs, simultaneous borrowings, and secondary word-class shifts, we have sampled 287 types that satisfy the criteria of conversion in Old English. Out of these, bare verbalization (conversion verbs) is the most frequent pattern, yielding altogether 229 types, which makes 79,7% of the data. Bare nominalization (conversion nouns) is substantially less frequent – there are merely 42 types attested (14.63%). The next pattern is adverbialization – there are 12 types (4.18%). There is also a very small number of bare adjectivization (conversion adjectives) – only 4 types (1.39%). The overall distribution of conversion in terms of frequency of motivational patterns is illustrated in Figure 1:

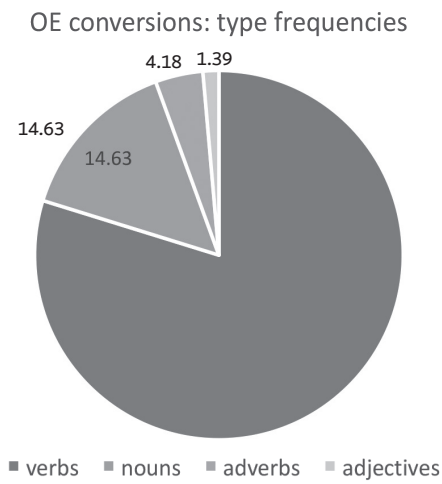

Fig. 1. Type frequencies of Old English conversions

5. Qualitative analysis: the semantics of Old English N→V conversions

This section focuses on the main goal of the study, which is the analysis of semantic effects brought about by conversion in the Old English language. The data subjected to analysis are denominal conversion verbs sampled in the corpus. The N→V motivational pattern is the most frequent directionality in the data gathered: there are 171 types representing this pattern, which constitutes 74.67% of the total number of conversion verbs, and 59.58% of the total number of conversion types.

The methodology which seems to have the most explanatory power with reference to the complexity and diversity of meanings triggered by conversion are semantic frameworks which employ the idea of the predicate-argument relations in natural language utterances. One such conception is the Lexical-Conceptual Structure formulated by Jackendoff in 1976 and subsequently developed in his later publications. However, the inventory of semantic primes has proved insufficient for dealing with the verbal data compiled in the present study, and, what is more, the complex notation of LCS semantics does not help to see the argument-structure, either. For these reasons, we have referred to other approaches, which, nevertheless, have a similar, argument-structure orientation. These are the frameworks offered by Clark and Clark (1979) and Plag (2003). In their pragmatically-oriented research on conversions in the English language, Clark and Clark (1979) distinguish five classes of conversion verbs, based on semantic roles that parent-nouns may play in the lexical-semantic representation. Thereby, they distinguish locatum verbs (e.g. *blanket*, *tunnel*), location and duration verbs (e.g. *kennel*, *summer*), agent and experience verbs (e.g. *jockey*, *witness*), goal and source verbs (e.g. *orphan*, *letter*), instrument verbs (e.g. *nail*, *towel*), and miscellaneous verbs (e.g. *lunch*, *blackberry*). Although the Clark and Clark's formula itself has proved very useful in the semantic analysis of the conversion verbs found in the corpus, the actual classes have turned out to be insufficient for the discussion of the data, as too many verbs fall into the 'miscellaneous' category. Therefore, a more detailed semantic classification of conversion verbs has been referred to, which is the semantic framework offered by Plag (2003). Here, 11 semantic verb classes are distinguished: locative, ornative, causative, resultative, inchoative, performative, similative, instrumental, privative, stative and motive. Such a categorization has proved more suitable for the analysis of the data collected, therefore this framework has been adopted and elaborated on in this study.

The following subsections discuss the semantic classes of zero-verbalizations in the order of decreasing frequency of occurrence. For the sake of clarity of discussion, the exemplary types are cited in their Modern English spelling, with the Old English spelling given in square brackets. Each example-type is followed by at least one citation illustrating its context of occurrence.

5.1 Performative verbs: 'perform/do X'; 72 types (42.10%)

Performative verbs, whose basic meaning can be rendered as 'perform/do X', constitute 42% of the types under analysis. As the actions that the zero-derived verbs denote relate to just one of the potential actions which the motivating noun can 'perform', the semantic relation between the base noun and the derived verb can be quite intricate and to a large extent context-dependent. Some examples of Old English verbs whose general meaning may be rendered as 'perform/do X' attested in the corpora are provided below:

camp, v.1 [OE *campian*] 'To fight; to contend in battle'
(1) c1000 Guthlac 316 (Gr.) Sceal oretta a..gode **compian**.
gospel, v. [OE *godspellian*] 'To preach the gospel to'
(2) c1000 Ags. Ps. (Th.) lxvii. 12 God ȝifeð gleaw word **god~spellendum**.
mele, v. [OE *mǽlan*] 'To speak, tell'
(3) c1000 Ags. Ps. (Th.) lxxxiv. 7 Hwæt me haliȝ God, on minum mod-sefan, **mælan** wille.
rerd, v. [OE *reordian*] 'To speak, discourse'
(4) Beowulf 3025 Sceal..se wonna hrefn..fela **reordian**.
(5) a 900 Cynewulf Christ 196 Þa seo femne..þus **reordode**.
sweven, v. [OE *swefnian*] 'To dream'
(6) c1000 Sax. Leechd. III. 212 ᴀif ðu **swefnast** ðe tweȝe monan ȝeseon.

5.2 Ornative verbs: 'provide with X'; 26 types (15.20%)

The second most frequent semantic category of denominal verbalizations is that of ornative verbs, which in broad terms bear the meaning 'provide with X'. The ornative verb data constitute 15% of all the N→V data extracted from the corpus. The illustrative examples involving ornative verbs occurring in the corpus are listed below with glosses conveying their specific meanings in the corpus materials:

cleam, v. [OE *clǽman*] 'To smear, anoint, bedaub, plaster; to rub, or daub (sticky matter) on, or (a place) with sticky matter'
(7) c1000 Ælfric Gram. xxviii. (Z.) 165 Lino, ic **clæme**.
feather, v. [OE *ȝefiðria*] 'To cover or furnish with feathers'
(8) c 888 K. Ælfred Boeth. xxxvi. §1 Ic sceal ærest þin mod **ȝefiðerian**.
helm, v. [OE *helmian*] 'To furnish or cover with a helm'
(9) a 1000 Andreas 1307 (Gr.) Niht **helmade**..beorȝas steape.

5.3 Instrumental verbs: ‘use X’; 20 types (11.69%)

At a general level, instrumental verbs express the meaning ‘use X’, however, as in the case of performative verbs discussed above, also here the exact semantic relation between the base noun and the verbal derivative is to a large extent dependent on the context, as in many cases the actual use of the object denoted by the noun does not refer to its canonical (or most typical) function. Despite the fact that instrumental verbs are in general frequent in English, it is not reflected in the data, as here only 11.69% of all N→V types comply with this semantic pattern.

claw, v. [OE *clawian*] ‘To scratch or tear with the claws’
(10) c1000 Ælfric Gram. xxviii. (Z.) 170 Scalpo, ic **clawe**.
harp, v. [OE *hearpian*] ‘To play on a harp’
(11) c 888 K. Ælfred Boeth. xxxv. §6 He mihte **hearpian** þæt þe wudu waȝode.
hasp, v. [OE *hæpsian*] ‘To fasten with a hasp’
(12) c1000 Ælfric Gram. xxxvii. (Z.) 220 Ic scytte sum loc oððe **hæpsiȝe**.
fire, v. [OE *fýrian*] ‘To supply with firing’
(13) c 970 Canons of Edgar, Penitents §14 Fede þearfan and scryde and husiȝe and **fyriȝe**, baðiȝe and beddiȝe.
path, v. [OE *pæþþan*] ‘To go upon or along, to ‘tread’ (a way, etc.)’
(14) a1000 Riddles lxxi. 10 Ic..mearcpaðas Walas træd, moras **pæðde**.
pepper, v. [OE *piporian*, *piprian*, *ȝepiperian*] ‘To sprinkle with pepper; to flavour or season with pepper; to treat with pepper’
(15) c1000 Sax. Leechd. II. 182 Sele þonne **ȝepiporodne** wyrtdrenc.
(16) Ibid. III. 76 **Pipra** hit syþþan swa swa man wille.
ship, v. [OE *scipian*] ‘To go on board ship’
(17) a 1122 O.E.Chron. (Laud MS.) an.1091 Se eorl..on Wiht **scipode** & into Normandiȝ for.
temse, v. [OE *tęm(e)sian*] ‘To sift or bolt with a temse’
(18) c 950 Lindisf. Gosp. Mark ii. 26 Huu inn-eode hus godes..& hlafo fore-ȝeȝearwad vel **temised** ȝebréc.
thirl, v. [OE *Þyrlian*] ‘To pierce, to run through or into (a body) as a sharp-pointed instrument does’
(19) c1000 Ælfric Exod. xxi. 6 **Þirlie** his eare mid anum æle.

5.4 Causative verbs: ‘make X’; 19 types (11.11%)

The class of causative verbs, whose general meaning can be paraphrased as ‘make X’, constitutes 11% of the data. It has to be noted, though, that in the texts many types are indeterminate between causative and performative senses. Another characteristic feature of this class is a frequent polysemy between causative and

other meanings. The instances of Old English causative conversion verbs are provided below:

fleme, v. [OE *flíeman*] 'To cause to flee, put to flight; to drive away'
(20) a1000 Cædmon's Gen. 2115 (Gr.) Ac hie god **flymde**.
pine, v. [OE *pínian*] 'To afflict with pain or suffering; to cause to suffer'
(21) c893 K. Ælfred Oros ii. iii. §4 Ða **pineden** hie hiene mid ðæm ðæt hie his hand forbærndon.
(22) 1154 O.E. Chron. an. 1137 [Hi] **pineden** him alle þe ilce pining ðat ure Drihten was **pined**.
thirl, v. [OE *þyrlian*] 'To pierce, to run through or into (a body) as a sharp-pointed instrument does'
(23) c1000 Ælfric Exod. xxi. 6 **Þirlie** his eare mid anum æle.
thunder, v. [OE *þunrian*] 'To cause or give forth thunder'
(24) a1000 Ags. Ps. (Th.) xxvii[i]. 3 He is mæȝen-þrymmes God, and he **þunrað** ofer maneȝum wæterum.
grith, v. [OE *griðian*] 'To make peace'
(25) 1154 O.E. Chron. an. 1016 (Laud MS.) Lundene waru **griðede** wið þone here.

5.5 Stative verbs: 'be X'; 9 types (5.26%)

The next semantic category is that of stative verbs, whose general meaning may be glossed as 'be X'. This class is represented by nine lexemes in the corpus, which comprise 5.26% of the data under analysis.

token, v. [OE *tácnian*] 'To be a token or sign of'
(26) c 888 Ælfred Boeth. xxxix. §13 Þon **tacnnað** [se steorra] æfen.
theine, *theign*, v. [OE *þeȝnian*] 'To be a servant or minister'
(27) Beowulf 561 Ic him **þenode** deoran sweorde swa hit ȝedefe wæs.
(28) c1000 Ags. Gosp. ibid., Ða aras heo & **þenode** him.
theow, *thew*, v. [OE *þéowian*] 'To be a serf or servant to'
(29) c888 K. Ælfred Boeth. xxi. §1 Þa **ðeowiað** ealle þa þe ðeowiað, ȝe ða þe cunnon ȝe þa þe ne cunnon.
bysen, v. [OE *býsenian*] 'To set an example to'
(30) a1000 K. Ælfred Boeth. xxxiii. §4 Ne **bisnode** þe nan man, forþam ðe nan ær þe næs.

The other stative verbal types attested in the corpus are *shame* [OE *sc*(*e*)*amian*, *sc*(*e*)*ǫmian*] 'to feel or conceive shame; to be ashamed', *sorrow* [OE *sorȝian*] 'to feel sorrow', *thirst* [OE *þyrstan*] 'to feel or suffer thirst; to be thirsty', *tweon* [OE *twéonian*] 'to be doubtful', and *ward* [OE *weardian*] 'to guard, stand guard over'.

5.6 Locative verbs: ‘put in(to) X’; 7 types (4.09%)

The next semantic category to be discussed are locative verbs. Their general meaning can be glossed as ‘put in(to) X’, and, as will be demonstrated with the examples below, the locative verbal data are rather compositional in terms of the actual relation that holds between their arguments.

house, v. [OE *húsian*] ‘To put into a house’
(31) c1000 Leges Penit. c. 14 in Thorpe Laws II. 282 Fede þearfan and scryde and **husiȝe**.
settle, v. [OE *setlan*] ‘To put in a place of rest’
(32) c1000 Whale 15 (Gr.) Wæȝliþende..**setlaþ** sæmearas sundes æt ende.
sty, v. [OE *stiȝian*] ‘To place or confine in a sty’
(33) a1100 Gerefa in Anglia IX. 262 Swyn **stiȝian**.

Apart from the types exemplified above, the other sampled locative verbs include *pind* [OE (*ȝe*)*pyndan*] ‘to shut up, enclose in a pound; to dam up (water)’, *ship* [OE *scipian*] ‘to put or take (persons or things) on board ship’, *swathe* [OE *swaþian*] ‘to envelop in a swathe’, and *erde* [OE *eardian*] ‘to inhabit’.

5.7 Resultative verbs: ‘make into X’; 7 types (4.09%)

Resultative verbs are also poorly represented in the corpus, as they comprise only 4% of all the denominal verbs collected. In general terms, this category is glossed as ‘make into X’, although many instances of our data do not fall neatly into this annotation. Instead, they can be characterized semantically as ‘referring to the action that results in X’:

outlaw, v. [OE (*ȝe*)*útlaȝian*] ‘To put outside the law; to proscribe’
(34) O.E.Chron. an.1014 (MS. E) And æfre ælcne Denisce cyning **utlaȝede** [MS. C. utlah] of Englalande ȝecwædon.
wary, v. [OE *wierȝan*] ‘To invoke a curse upon; to declare accursed; to pour maledictions upon’
(35) c725 Corpus Gloss. D 25 Deuotaturus, **werȝendi**.
(36) c897 Ælfred Gregory’s Past. C. xlix. 376 Se þe his hwæte hyt, hiene **wierȝð** ðæt folc.
law, v. [OE *laȝian*] ‘To ordain (laws); to establish as a law; to render lawful’
(37) a1023 Wulfstan Hom. li. (Napier) 274/7 **Laȝjaþ** gode woroldlaȝan and lecȝað þærtoeacan, þæt ure cristendom fæste stande.
trap, v. [OE **træppan* in *betræppan*, (*be*)*treppan* (*betrap*)] ‘To catch in or as in a trap, entrap, ensnare’
(38) a 900 Kentish Gloss. 211 (Bosw.-T.) Hio **trepte**, inretivit.

The other resultative verbs in the corpus are *christen* [OE *cristn-ian*] 'to convert to Christianity, make Christian', *heap* [OE *héapian*] 'to make into a heap', and *wive* [OE *wífian*] 'to take a wife, to make one's wife'.

5.8 Similative verbs: 'act like/as X'; 5 types (2.92%)

Even more infrequent in the corpus are similative verbs, whose meaning in general terms can be rendered as 'act like/as X'. There are only five types representing this meaning attested in the corpus. Also, half of the types are polysemous, and in such cases the similative meaning is the secondary one.

shield, v. [OE *scildan*] 'To offer a defence, to act as a shield'
(39) c888 Ælfred Boeth. xviii. §4 Ac siððan he his hispinge ȝehered hæfde, þa **scylde** he onȝean swiðe unȝeþyldelice.
shadow, v. [OE *sceadwian*] 'To shelter or protect as with covering wings'
(40) c1000 Lambeth Ps. xc. 4 His sculdrum he **scaduaþ** þe [obumbrabit tibi].

The remaining types are *thieve* [OE *þéofian*] 'to act as a thief, commit theft, steal', *tide* [OE *tídan*] 'to fall as a lot or portion', and *wroot* [OE *wrótan*] 'to turn up soil with the snout, as swine in search of food'.

5.9 Inchoative verbs: 'become X'; 4 types (2.63%)

Inchoative verbs, glossed generally as 'become X', are represented by only four types (2.63% of the data), and consequently are of little significance in comparison with most of the other verb types. Moreover, the inchoative sense seems to be a secondary semantic development, as the verbs are polysemous with other senses. Two examples of inchoative verbs are provided below:

end, v. [OE *endian*] 'To come to an end'
(41) a1000 Guthlac 21 (Gr.) Ær þou **endien** ealle ȝesceafte.
mist, v. [OE *mistian*] 'To be or become misty'
(42) c1000 Ælfric Gram. xxxvi. 216 Caligo me **mistiað** mine eaȝan.

The remaining two types with inchoative sense are *drop* [OE *dropian*] 'of a liquid: to become drops; to fall in drops', and *wheal* [OE *hwelian*] 'to become pimpled; become affected with wheals'.

5.10 Privative verbs: 'remove X'; 2 types (1.16%)

Privative class of verbs, whose meaning is rendered generally as 'remove X', seems to be of very marginal significance in the Old English conversion, which is

confirmed by their low frequency. We have attested only two instances of privative verbs:

evese, v. [OE *efesian*] 'To cut, clip'
(43) c1000 Ælfric Gram. xxvi. (Z.) 157 Ic **efesiȝe** oð ðe ic scere scep oððe hors.
weed, v. [OE *wéodian*] 'To clear the ground of weeds; to pull up weeds'
(44) a1100 Gerefa in Anglia IX. 261 Me mæiȝ..on sumera fealȝian..tymbrian, wudian, **weodian**, faldian.

5.11 Motive verbs: 'move using X'; 0 types

Motive verbs is the only semantic category for which no representative types have been found.

5.12 Other verbs

Not all the attested verbs have fitted neatly in the above-discussed semantic classes. One such group are verbs that are attested in impersonal constructions. The data include six such types: *need*, *hunger*, *thirst*, *thunder*, *tide*, *wark*. Their textual context is illustrated in the following corpus extracts:

need, v. [OE *néodian*] 'It needs, it is needful or necessary'
(45) c 960 Æthelwold Rule St. Benet (Schröer) 89 On cealdum eardum **neodað**, þæt þæs reafes mare sy.
hunger, v. [OE *hyngran*] 'It hungers me'
(46) 950 Lindisf. Gosp. John vi. 35 Seðe cymes to me ne **hyncgreð** hine.
(47) c1000 Ags. Gosp. ibid., Ne **hingrað** þone þe to me cymð.
thirst, v. [OE *þyrstan*] 'Me thirsteth'
(48) c897 K. Ælfred Gregory's Past. C. ii. 30 Ðeah ðæt folc **ðyrste** ðære lare.
(49) c1000 Ags. Gosp. John xix. 28 Þa cwæð he, me **þyrst**.
thunder, v. [OE *þunrian*] 'It thunders, thunder sounds, there is thunder'
(50) c888 K. Ælfred Boeth. xxxix. §3 Hit hwilum **þunrað**, hwilum na ne onginð.
tide, v. [OE *tídan*] 'To happen, befall'
(51) a1131 O.E. Chron. an. 1123 Þa **tidde** hit on an Wodnes dei..þet se king rad in his der fald.
wark, v. [OE *wærcan*] 'To ache, suffer pain; to throb painfully'
(52) a1000 Sax. Leechd. II. 272 ᴀif hine innan **wærce** ȝenim niȝes ealað amber fulne.

Also, some attested types have turned out to be difficult to classify semantically due to either their indeterminate meaning or meaning that does not seem to fit into

any of the above-distinguished semantic classes. Such is the case of the verb *strut* [OE *strútian*], whose sense in *Ælfric Saints' Lives* is obscure:

(53) Ælfric Saints' Lives xxxii. 208 Swa þæt se halȝa wer hi wundorlice ȝeband, ælcne swa he stod **strutiȝende** mid tole, þæt heora nan ne mihte þæt morð ȝefremman, ne hi þanon astyrian.

5.13 Polysemy of individual types

A frequently observed phenomenon in the data is the polysemy of individual types. Some N→V types are polysemous with transitive and intransitive senses. Altogether, in the corpus we have identified 21 such verbs, which makes up 12.28% of the total number of denominal verbalizations.

There are also verbs that are polysemous between two or more semantic classes. We have identified 17 such types, which makes 10% of all N→V types. For example, the verb *end* occurs in the corpus with three different senses: as a performative verb, as a causative verb, and as an inchoative verb:

end, v. [OE *endian*]
Performative sense: 'To carry through to the end; to finish, complete'
(54) c975 Rushw. Gosp. John iv. 34 Þætte ic **endigo** werc his.
Causative sense: 'To put an end to, cause to cease'
(55) c1000 Ags. Ps. ix. 6 Ða hi hit **endian** sceoldan.
Inchoative sense: 'To come to an end'
(56) a1000 Guthlac 21 (Gr.) Ær þou **endien** ealle ȝesceafte.

Similarly, the verb *shield* demonstrates polysemy with instrumental and similative senses:

shield, v. [OE *scildan*]
Instrumental sense: 'To protect (a person or object) by the interposition of some means of defence'
(57) Beowulf 1658 Ætrihte wæs guð ȝetwæfed, nymðe mec god **scylde**.
Similative sense: 'To offer a defence, to act as a shield'
(58) c888 Ælfred Boeth. xviii. §4 Ac siððan he his hispinge ȝehered hæfde, þa **scylde** he onȝean swiðe unȝeþyldelice.

The verb which has been attested with the highest number of different senses is the type *name*, which is used in the corpus as an ornative, instrumental, causative, and performative verb:

name, v. [OE (ȝe)*namian*]

Ornative sense: 'To give a name to'

(59) c1000 Ælfric Gen. ii. 20 Adam þa ȝenamode ealle nytenu heora **namum**.

Instrumental sense: 'To call by a name'

(60) c900 in Bouterwek Screadunga 18 Hwi **namode** Crist on his godspelle Abel rihtwisne toforan oþrum?

Causative sense: 'To nominate to some office, duty, or position'

(61) a1000 Laws Edw. in Thorpe I. 158 ȝif he..ne mehte, þonne **namede** him man six men.

Performative sense: 'To mention, speak of, or specify by name'

(62) c1000 Ælfric Saints' Lives viii. 165 Quintianus cwæð..'ȝit þu **namast** Crist?'

6. Conclusion

The results of the quantitative analysis of conversions sampled in the quotation section of the OED speak in favour of the opinion that conversion as a productive process (i.e. yielding new lexemes) was available already in the Old English period despite the fact that the language of that period was still quite rich in inflections. Although under close, etymological scrutiny many currently homographic pair-words dating back to Old English are not in fact the outputs of conversion, but should instead be treated as instances of simultaneous borrowings, usually taken from other Germanic languages, the data gathered in the study still feature many proper zero-derivatives, i.e. formed already on English stems. This fact, then, speaks against the commonly expressed view that conversion as a word-formational process arose only in the Middle English period after the decline of most inflections.

It has to be noted, however, that the process in Old English seems to have been more restricted than in later periods. First of all, one can notice constraints in terms of the availability of syntactic categories for conversion: as many as 94.5% of all shifts involve nominal and verbal bases, other lexical classes are poorly represented in the data, accounting merely for the 4.5% of converted neologisms. The most preferred input for conversion are morphologically simple monosyllabic nouns. There have been found no conversions from non-lexical words, from proper nouns, or from morphologically complex bases. However, it has be taken into account that these restrictions might stem from the specificity of text-types and their general scarcity.

The grammatical restrictions of the Old English conversions are also paralleled by the constraints in the semantic structure of denominal zero-derivatives. Despite the fact that the scope of actual semantic classes is very broad, since as many as ten semantic categories are represented by the data, the majority (57.30%) of conversion verbs belong to just two classes: performative and ornative verbs. Also, many semantic classes are characterized by low type frequency. The summary of the qualitative discussion of the verbal types and their semantic categorization is presented in Table 1 below.

Table 1. The semantics of N→V conversions: summary

N→V types: semantics											
	Performative	Ornative	Instrumental	Causative	Stative	Locative	Resultative	Similative	Inchoative	Privative	Motive
%	42.10	15.20	11.69	11.11	5.26	4.09	4.09	2.92	2.63	1.16	---
Total	80%				20%						

Another characteristics of the Old English N→V types is their semantic instability. As has been shown, a large number of conversion verbs occur in the corpora with many different senses and their interpretation is heavily context-dependent. This polysemy might point to the fact that in Old English the process of conversion answered the demand for coining new words *ad hoc*, as a response to contextual needs.

Taking all the afore-mentioned characteristics of the data subjected to analysis, it can be generally concluded that contrary to oft-cited statements whereby conversion became available only in the Middle English period, it has been demonstrated that this process came into operation as early as in the Old English period, although its range of application seems to have been quite restricted.

Notes

1. Although traditionally word-formation has been treated as part of morphology, some scholars prefer to see it as a separate field of linguistics, independent of both morphology and syntax. Dokulil (1997, 185), for example, conceives of word-formation as an "autonomous domain within the system of linguistics". Such a perspective on word-formation has also been adopted by other scholars following the cognitive onomasiological theory, who claim that word-formation is an "independent component of linguistics" (Štekauer 2005, 212).
2 Originally, available corpora of Old English texts have been used for the research (e.g. *Toronto Dictionary of Old English*), but since they are not lemmatized for conversion, and since the attested types had to be checked in the OED anyway for etymological information in order to confirm that they are proper instances of conversion, the idea of searching in such sources has been eventually abandoned.
3 The end date of the OE period is taken after Reszkiewicz 1998.
4 The fact that OE is an inflectional language does not seem to arouse controversies. However, the degree of the inflectional character of the language is differently perceived by various scholars. The differences seem to be caused by differences in the point of reference. Therefore, when compared to Hebrew

or Latin, Old English can be characterized as moderately inflected (which may account for Mitchell and Robinson's view (1992, 62) whereby OE is a "'half-inflected' language". When PDE is taken as a point of reference, however, inflectional complexity of OE comes to the fore, hence Hogg (2008, 122), for example, writes that "Old English was highly inflected".

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Lexical Bundles Ending in *that* in Academic Writing by Czech Learners and Native Speakers of English

Abstract: The aim of this paper is to explore how Czech learners of English use lexical bundles ending in *that* in their academic texts in comparison with novice and professional L1 authors. The analysis is based on three corpora (*VESPA-CZ*, *BAWE* and our own corpus of papers published in academic journals). The results suggest that Czech learners of English do not use a more limited repertoire of lexical bundles ending in *that* than professional writers. However, there are differences between the groups studied, especially in the range of various shell nouns used in nominal bundles. Novice writers, both L1 and L2, use bundles ending in *that* to express stance more frequently than professional writers.

Keywords: learner corpus, *VESPA*, lexical bundles, *that*, stance, academic writing

1. Introduction

In the last several decades, increasing attention has been paid to the study of various kinds of recurrent multi-word sequences. It is well-known that language "is composed of multi-word prefabricated expressions" (Biber et al. 2004, 372) and their use has been considered "a marker of proficient language use of a particular register, including academic writing" (Cortes 2004, 398). Multi-word sequences have been studied under various labels, e.g. lexical bundles (Biber et al. 1999; Cortes 2004; Chen and Baker 2010), clusters (Scott 1996), recurrent word combinations (Altenberg 1998), or n-grams (Granger and Bestgen 2014; Rayson 2015). In the present paper, the recurrent multi-word sequences are referred to as lexical bundles.

Lexical bundles can be defined as "bundles of words that show a statistical tendency to co-occur" or "sequences of words that most commonly co-occur in a register" (Biber et al. 1999, 989). Most bundles represent incomplete grammatical structures and are not idiomatic in meaning, e.g. *I don't know what*, *in the case of the*, *it should be noted that*, and they function as "basic building blocks of discourse" (Biber et al. 2004, 371). As pointed out by Biber et al. (1999, 992), "[t]o qualify as a lexical bundle, a word combination must frequently recur in a register", the minimum frequency being ten times per million words in a register and their occurrences must be spread across at least five different texts.

The aim of this paper is to explore how Czech learners of English use lexical bundles ending in *that* in their academic texts compared to native speakers. The analysis was carried out on three corpora in order to find similarities and differences in the use of lexical bundles at different levels of writing proficiency, identifying patterns of learner overuse and/or underuse[1] of lexical bundles. The first corpus contains writing from Czech advanced learners of academic English using the Czech component of the *Varieties of English for Specific Purposes* database (*VESPA*). The two other corpora contain L1 writing: one from English L1 novice authors of academic texts using the *British Academic Written English* corpus (*BAWE*) and the other from English L1 professional writers of academic texts (using our own corpus of papers published in academic journals). The use of the three corpora enables us to study lexical bundles in two dimensions. Firstly, we compare L2 with L1 writers (both novice and professional) and secondly, we aim to investigate the differences between novice (both L1 and L2) and professional writers of academic texts. We assume that learners will make less use of multi-word expressions in their academic texts than native writers and that they will rely more heavily on the open-choice principle, i.e. they tend to combine individual words. L1 users, on the other hand, are expected to make more use of semi-preconstructed phrases, employing the idiom principle (for further discussion of open-choice and idiom principle, cf. Sinclair 1991).

2. Some previous studies in the field of L2 phraseology

Previous research has shown that the use of lexical bundles "unmistakably distinguishes native speakers of a language from L2 learners" (Granger and Bestgen 2014; cf. also Pawley and Syder 1983; Ebeling and Hasselgård 2015), and that the frequent and appropriate use of lexical bundles can be considered a sign of phraseological competence within a register, including academic writing. The fact that the use of appropriate multi-word expressions should be regarded as a marker of proficient language use of academic writing has been pointed out by Haswell (1991, 236), who claims that "as writers mature they rely more and more on collocations and that the lesser use of them accounts for some characteristic behaviour of apprentice writers".

Some authors have focused on comparisons between native expert and native

student writing (Cortes 2004; Hyland 2008a). It has been demonstrated by Cortes (2004, 398) that "expert disciplinary writing differs from that of novices with respect to the use of discipline-specific frequent word combinations". Furthermore, Cortes (2004, 398) has suggested that acquiring lexical bundles which are unique to a particular register is crucial not only for non-native, but also for native students. According to Granger (2017, 9), academic lexical items "represent a particularly significant hurdle for L2 users, who have to understand and produce academic language in a language that is not their own".

As has been noted by several researchers, L2 writers tend to use a more restricted repertoire of lexical bundles than L1 writers, making use of the same bundles more frequently and in situations where L1 writers would opt for a different expression (cf. Chen and Baker 2010; Ädel and Erman 2012, 90; Garner 2016, 33; Vašků, Brůhová and Šebestová 2019).

In addition, L2 users seem to be less confident when writing in a foreign language, and as a result they "regularly clutch for the words [they] feel safe with" (Hasselgren 1994, 237). Hasselgren (1994) uses the teddy bear metaphor to describe the situation in which L2 learners tend to overuse familiar words. She proposes (1994, 250) that it is especially direct L1 transfer that gives rise to lexical teddy bears. Secondly, some teddy bears arise from perceived equivalence between L1 and L2. A third type of teddy bears is represented by expressions used in a context where native speakers would opt for another, synonymous expression. The metaphor of teddy bear was later transferred to multi-word expressions by Ellis (2012, 37), who explains that "phrasal teddy bears" are formulaic expression with routine functional purposes. Hasselgård (2019, 340) labels these multi-word units as "phraseological teddy bears" and defines them as expressions which "learners use more frequently and in more contexts than native speakers do". She also explores their use in the context and points out for example that "the learners may have a tendency to over-express contrastive relations when the discourse moves from one topic to another" (2019, 351).

3. Material and method

As mentioned above, the study is based on material from three corpora. The first corpus is the Czech component of the international *VESPA* corpus of advanced learners' English (henceforth *VESPA-CZ*). The Czech *VESPA* currently contains English texts written by Czech BA students during their English literature classes. The second corpus is the English Literature section of the *BAWE* corpus (henceforth *BAWE-EL*), which comprises L1 university students' assignments. The third corpus is compiled from papers published in English literary academic journals, written by professional authors whose native language is English (henceforth *AP*). The latter two corpora are approximately twice the size of the *VESPA-CZ* corpus (see Table 1).

Table 1. Corpora used for the study

Corpus		Acad. Level	Source	Time	Register	Topic	size: tokens	no. of texts
VESPA-CZ	L2	novice	Charles University, Prague, Faculty of Arts, English Studies Programme, BA 2nd year students' essays	2016-2019	students' essays	English literature: Renaissance to Restoration	106 600	48
BAWE-EL	L1	novice	Universities of Warwick, Reading and Oxford Brookes, Arts and Humanities – English, good-standard students' essays	2004-2007	students' essays	English literature	236 000	89
AP	L1	professional	academic journals English Literary Renaissance, Renaissance Studies, Shakespeare Quarterly	1978-2014	academic papers	English literature: Renaissance	235 000	34

From these corpora, we retrieved all 3-word to 5-word bundles having *that* as their final element using AntConc (version 3.5.8, Anthony 2019). Since we searched for word forms of *that*, the query returned two functions of *that,* i.e. the subordinative conjunction and the relative pronoun.[2] In order to reflect the different sizes of the corpora, the raw cut-off frequency was set to two occurrences in *VESPA-CZ* and four occurrences in the L1 corpora distributed in at least two different texts. In the next step, all topic-specific bundles were excluded, namely those used to describe the storyline of the literary texts discussed, such as *to the reader that*, *the people that*, *the bond that*, as we focus on the general academic vocabulary and these are not likely to occur in other corpora.

In the analysis, we first identified the most frequent lexical bundles in each of the three corpora, focusing on the similarities and differences in their frequency and use (chi-square test was used to analyse the differences; the comparison has been made relative to the total number of words in the corpora). Next, lexical bundles in the sample were classified according to their structure and function. From the structural point of view, the bundles were categorized according to the word-class of the element preceding *that*, e.g. N *that*, ADJ *that*. The functional classification of the bundles is based on the classification proposed by Biber et al. (2004, 384), who distinguish the following three functional types:

i) **Stance expressions** "express attitudes or assessments of certainty that frame some other proposition", e.g. *are more likely to*, *it is necessary to*;
ii) **Referential expressions** "make direct reference to physical or abstract entities, or to the textual context itself", e.g. *is one of the*, *the beginning of the*, *of the things that*;
iii) **Discourse organizers** "reflect relationships between prior and coming discourse", e.g. *in this chapter we, on the other hand*, *if we look at*.

4. Analysis and results

In the first step of the analysis we focused on the most frequent lexical bundles in the three corpora. The ten most frequent lexical bundles are presented in Table 2,[3] which also specifies their raw and relative frequency and their dispersion across texts. Two bundles proved to be prominent in all three corpora, namely *the fact that* and *the idea that* (marked in bold). What is, however, noteworthy is that the relative frequency of *the fact that* in the L2 corpus is considerably higher (37.5 per 100k tokens) than in the L1 corpora and there is a steeper decline in frequencies of the following bundles. This is in accordance with Hasselgård's results, who notes that "learners tend to re-use a small number of bundles to a greater extent than native speakers" (Hasselgård 2019, 347). This tendency is evident especially in comparison with *BAWE-EL*. We can therefore assume that *the fact that* can be described as a "phraseological teddy bear" of Czech L2 users of academic

Table 2. The most frequent lexical bundles

VESPA-CZ	Freq	per 100k	no. texts	BAWE-EL	freq	per 100k	no. texts	AP	freq	per 100k	no. texts
the fact that	40	37.5	24	**the fact that**	68	28.8	33	**the fact that**	48	20.4	19
the idea that	7	6.6	7	be argued that	30	12.7	13	**the idea that**	11	4.7	6
be said that	6	5.6	4	**the idea that**	24	10.2	17	by the fact that	10	4.3	8
by saying that	5	4.7	4	to suggest that	22	9.3	15	a way that	9	3.8	9
it is clear that	5	4.7	4	it could be argued that	17	7.2	9	in a way that	7	3.0	7
it is obvious that	5	4.7	4	to the fact that	14	5.9	11	to suggest that	7	3.0	7
it seems that	5	4.7	3	to say that	12	5.1	11	by suggesting that	6	2.6	5
to say that	5	4.7	4	he argues that	11	4.7	7	it is that	6	2.6	5
to the fact that	5	4.7	5	to argue that	11	4.7	6	points out that	6	2.6	4
by the fact that	4	3.8	4	it is clear that	10	4.2	9	the way that	6	2.6	4
one thing that	4	3.8	3	it seems that	10	4.2	8				
he claims that	4	3.8	3	becomes clear that	10	4.2	7				
would suggest that	4	3.8	3								

English, at least in terms of the frequency of use. Interestingly, one of the lexical bundles found in *BAWE-EL*, *be argued that*, could be regarded as a phraseological teddy bear of L1 novice writers as it is overused in *BAWE-EL*. Four bundles: *the fact that*, *be said that*, *by saying that* and *it is obvious that* are significantly (chi-square, $p<0.05$) overused by Czech learners of English when compared to both L1 corpora. *It seems that* is overused in both novice corpora (compared to the professional writers). On the other hand, several bundles are underused in novice texts (although below the level of statistical significance). They include e.g. *a way that*, *by suggesting that*, *it is that*.

Apart from the frequency of occurrence, the table also includes text dispersion, i.e. the range of texts in which the bundles occur. Although Hasselgård (2019, 359) suggests that "text dispersion may be a better indicator than frequencies per 100,000 words of over- and underuse of lexical bundles" in that "[the] most common bundles turned out to occur in a greater proportion of the texts in L1 English; learners are thus less uniform in their use of most of the frequent bundles", our analysis of text dispersion does not show any considerable differences between the three corpora.

The bundles in the three samples were then classified based on their structure. Depending on the word-class of the element preceding *that*, we identified four main structures: the nominal type (N *that*), the verbal type (V *that*), the adjectival type (ADJ *that*) and the prepositional type (prep N *that*). Table 3 summarizes the structural categories identified in the three corpora.

Table 3. Overview of structural types

formal pattern	VESPA-CZ			BAWE-EL			AP		
	types freq.	tokens freq.	Tokens %	types freq.	tokens freq.	tokens %	types freq.	tokens freq.	tokens %
N *that*	9	67	32.8	14	157	34.6	7	87	43.7
V *that*	25	73	35.8	26	213	46.9	12	60	30.2
be* ADJ *that	10	28	13.7	6	48	10.6	2	8	4.0
prep N *that*	6	20	9.8	5	36	7.9	8	44	22.1
Other	7	16	7.8	0	0	0	0	0	0
Total	**57**	**204**	**100.0**	**52**	**454**	**100.0**	**30**	**199**	**100.0**

Contrary to our expectations, the analysis revealed that professional writers produce fewer lexical bundles ending in *that* and use them less frequently (chi-square test, $p<0.05$) than novice academic writers (both L1 and L2). While novice L2 and L1 writers produce 57 and 52 different lexical bundles (i.e. types), respectively, professional L1 writers employ only 30 lexical bundles. Similarly, the

overall frequency of bundles in the professional corpus (i.e. tokens) represents only a half of the tokens in the novice corpora.[4]

As regards the structural classification, the nominal and verbal types are the most frequent in all three corpora. When the overall frequencies of bundles are taken into account, the verbal type is slightly more frequent than the nominal type in novice academic texts (73 vs. 67 occurrences in *VESPA-CZ* and 213 vs. 157 occurrences in *BAWE-EL*), while in the *AP* corpus, the nominal type prevails (87 nominal bundles vs. 60 verbal ones). The adjectival type seems to be used more by novice writers, especially L2 writers (10 types/28 tokens in *VESPA-CZ* vs. 2 types/8 tokens in AP). On the other hand, professional writers use the widest range of prepositional sequences (8 different sequences). In addition to the four basic structural types, the *VESPA-CZ* also contains a small number of other bundles, including *more than that*, *but since that*, *not only that*.

The following subsections describe the four structural types individually, comparing the results in detail.

4.1 N *that* bundles

As mentioned above, N *that* bundles were frequent in all three corpora. All instances of these bundles are presented in Table 4. The greatest diversity of nominal bundles is to be found in L1 novice academic texts and the lowest diversity in texts written by professional authors. Note that N *that* bundles include two syntactic constructions, namely nouns followed by a nominal content clause introduced by the conjunction *that* (1a) and nouns followed by a relative clause introduced by the relative pronoun *that* (1b):

(1a) Again, the speaker represents the idea **that one's spirit does not have to die** when the body does but can exist longer.
(1b) Time brings change and if there is one thing **that is unlikely to change** it is precisely that.

The investigation of the meaning of the nouns within this pattern reveals that there is a significant group of nouns belonging to the same category, which can be described as shell nouns.[5] A shell noun is defined as "potentially any abstract noun, the meaning of which can only be made specific by reference to its context" (Flowerdew 2003, 329). The category includes nouns such as *fact*, *idea*, *belief*, *notion*, which function as "empty shells" in certain contexts "because they can enclose or anticipate the surrounding discourse" (Aktas and Cortes 2008, 4). Ivanič (1991, 96) suggests that "since [shell nouns] take on the bulk of their meaning from context, they are not subject-specific. This makes them particularly useful for learners entering the academic discourse community".

As can be seen in examples (1a), (2a) and (2b), the shell nouns used in N *that*

Table 4. N *that* bundles

VESPA-CZ	raw freq	per 100k	BAWE-EL	raw freq	per 100k	AP	raw freq	per 100k
the fact that	407	37.5	**the fact that**	68	28.8	**the fact that**	48	20.4
the idea that	4	6.6	**the idea that**	24	10.2	**the idea that**	11	4.7
is the fact that	4	3.8	**the notion that**	8	3.4	a way that	9	3.8
one thing that	3	3.8	the belief that	7	3.0	the way that	6	2.6
but the fact that	3	2.8	the sense that	7	3.0	**the notion that**	5	2.1
the notion that	2	2.8	the effect that	6	2.5	is the fact that	4	1.7
the conclusion that	2	1.9	the impression that	6	2.5	the assumption that	4	1.7
the only thing that	2	1.9	a concept that	5	2.1			
the thought that		1.9	a way that	5	2.1			
			the suggestion that	5	2.1			
			the conclusion that	4	1.7			
			the feeling that	4	1.7			
			the view that	4	1.7			
			the way that	4	1.7			
Total	**67**	**63**		**157**	**66.5**		**87**	**37**

bundles anticipate the following *that*-clause, which carries the meaning and provides more information about the entity. Since the most common shell nouns (*fact*, *idea*) are semantically empty and can be regarded as somewhat redundant, their overuse contributes to "the impression of verbosity" (Granger 1998, 156) in L2 writing.

(2a) The ultimate irony lies in the **fact** that he knows what the lady had done. (*VESPA-CZ*)
(2b) the 'essence' of structuralism is the **belief** that things cannot be understood in isolation (*BAWE-EL*)

As regards the function of N *that* bundles, they typically "make direct reference to (…) abstract entities" (Biber et al. 2004, 384), and therefore their function can be described as referential. However, some of the nouns border on the category of stance bundles, expressing certainty (*fact*) or a lower degree of certainty (*belief*, *impression*, *assumption*) or on the category discourse organizers (*conclusion*). In addition, *the fact that* can be a part of a longer bundle *due to the fact that* (equivalent to *because*), which is a discourse organiser.

4.2 V *that* bundles

The category of V *that* bundles exhibits the highest diversity, especially in novice writing. This confirms Chen and Baker's results that novice writers use more verb-based bundles than native professional writers (cf. Chen and Baker 2010, 36). There are only two bundles common to all three corpora: *to say that* and *to note that*.

Table 5. V *that* bundles

VESPA-CZ	raw freq	per 100k	BAWE-EL	raw freq	per 100k	AP	raw freq	per 100k
be said that	6	5.6	be argued that	30	12.7	to suggest that	7	3.0
it seems that	5	4.7	to suggest that	22	9.3	it is that	6	2.6
to say that	5	4.7	it could be argued that	17	7.2	points out that	6	2.6
he claims that	4	3.8	to say that	12	5.1	to say that	6	2.6
would suggest that	4	3.8	he argues that	11	4.7	he admits that	5	2.1
be argued that	3	2.8	to argue that	11	4.7	I suggest that	5	2.1
can be said that	3	2.8	it seems that	10	4.2	point is that	5	2.1
he argues that	3	2.8	points out that	9	3.8	he suggests that	4	1.7
he states that	3	2.8	to believe that	9	3.8	is not that	4	1.7
interesting to note that	3	2.8	it might be argued that	7	3.0	reminds us that	4	1.7
might be that	3	2.8	might suggest that	7	3.0	to argue that	4	1.7
to believe that	3	2.8	he believes that	6	2.5	to note that	4	1.7
to note that	3	2.8	to show that	6	2.5			
to point out that	3	2.8	is not to say that	5	2.1			
be shown that	2	1.9	this suggests that	5	2.1			
he knows that	2	1.9	to explain that	5	2.1			
he realizes that	2	1.9	to note that	5	2.1			
is interesting to note that	2	1.9	be suggested that	4	1.7			
it can be said that	2	1.9	can see that	4	1.7			
it may seem that	2	1.9	he felt that	4	1.7			
not remember that	2	1.9	is interesting to note that	4	1.7			
point here is that	2	1.9	is possible to suggest that	4	1.7			
pointing out that	2	1.9	it appears that	4	1.7			
this means that	2	1.9	possible to argue that	4	1.7			
to realize that	2	1.9	reminds us that	4	1.7			
			to understand that	4	1.7			
Total	**73**	**68.7**		**213**	**90.2**		**60**	**25.6**

The heterogeneity of the lists is given by the fact that the English verb phrase may be very complex, expressing grammatical categories such as tense or voice and it may be part of various syntactic structures.

The analysis revealed that V *that* bundles can be subclassified into the following four syntactic structures:

i) **personal subject + active verb + *that:*** *he argues that*, *he believes that*, *he suggests that*;
ii) ***to*-infinitive + that:** *to note that*, *to realize that*, *to show that*, *to argue that*;
iii) **(anticipatory *it*) + (modal verb) + passive verb + *that:*** *it can be said that*, *it might be argued that*, *it could be argued that*;
iv) **(anticipatory *it*) + (copular verb) + adjective + *to*-infinitive + *that:*** *is interesting to note that*, *is possible to suggest that*, *possible to argue that*.

Many of the verbs used in V *that* bundles can be characterized as reporting verbs (e.g. *argue*, *say*, *suggest*, *note*). These verbs are typical of the academic discourse, since their function is to refer to another author's work or to introduce someone's opinions, ideas or assumptions (cf. Hyland 1998). The typical structure used for the reporting function is the first subtype in which the verb is in the active voice and follows a personal subject (*he argues that*). In these cases, the function of lexical bundles proved to be difficult to determine due to the fact that they represent borderline cases between referential expressions and discourse organizers. On the one hand, they make direct reference to entities and, on the other hand, they help to organize text because they are used to introduce a specific feature of academic texts, i.e. reference to other authors.

Apart from the above-mentioned functions, a large number of V *that* bundles function as stance expressions. "Stance bundles provide a frame for the interpretation of the following proposition, conveying two major kinds of meaning: epistemic and attitude/modality" (Biber et al. 2004, 389-390). Epistemic stance bundles express certainty or uncertainty, while attitudinal stance bundles express the speaker's attitude towards the actions described in the following proposition. Most bundles in our corpora express epistemic modality (e.g. *it seems/appears that*, *would suggest that*, *might be that*, *it may seem* that, *it could be argued that*, *is possible to suggest that*); attitudinal modality is rarer (*is interesting to note that*). Again, the writers use these bundles as hedges "introducing a degree of tentativeness to what is being reported" (Biber et al. 2004, 410). Very often, typically with the anticipatory *it* (type iii. and iv.), stance or evaluation are expressed impersonally (cf. impersonal stance bundles in Biber et al. 2004, 389; Hyland 2008b, 18). Focusing on the use of the passive in the three corpora, we found that the list retrieved from the professional texts does not contain any recurrent passive structures (type iii.); novice authors, on the other hand, tend to use these bundles more frequently. It seems that although the passive is generally regarded as being typical of the academic discourse, the results from the L1 professional corpus imply that the passive does not occur frequently in any particular bundle. The passive

used with some specific verbs is clearly overused by both L1 and L2 novice writers (*it can/could/might be argued that*, *it can be said that*) and these bundles can be considered as phraseological teddy bears of novice academic writers. The use of modal verbs expressing lack of certainty (*can*, *could*, *may*, *might*) also contributes to the function of hedging, communicating uncertainty or caution.

4.3 ADJ *that* bundles

The most common structure of ADJ *that* bundles is **anticipatory *it* + copula + ADJ + *that***, where *that* is a part of an extraposed subject clause. As can be seen from Table 6, the only bundle shared by all three corpora is *it is clear that* (marked in bold).

Table 6. ADJ *that* bundles

VESPA-CZ	raw freq	per 100k	BAWE-EL	raw freq	per 100k	AP	raw freq	per 100k
it is clear that	5	4.7	**it is clear that**	10	4.2	**it is clear that**	4	1.7
it is obvious that	5	4.7	becomes clear that	10	4.2	it is significant that	4	1.7
becomes apparent that	3	2.8	it is possible that	9	3.8			
it is true that	3	2.8	it becomes clear that	8	3.4			
is aware that	2	1.9	it is interesting that	7	3.0			
it becomes apparent that	2	1.9	it is likely that	4	1.7			
it is evident that	2	1.9						
it is only natural that	2	1.9						
makes it clear that	2	1.9						
similar to that	2	1.9						
Total	**28**	**26.4**		**48**	**20.3**		**8**	**3.4**

It is striking that the professional corpus contains only two ADJ *that* bundles, whereas novice writers obviously show preference for this type. From the functional point of view, these bundles can be classified as stance bundles (similarly to V *that* bundles). Our findings indicate that the majority of ADJ *that* bundles are used to express epistemic modality, conveying either the writer's certainty (e.g. *it is clear that*, *it is obvious that*, *it is evident that*), or uncertainty (*it is possible that*, *it is likely that).* In addition, ADJ *that* bundles can also express the speaker's attitude (*it is only natural that*, *it is interesting that*, and *it is significant that*). As regards the epistemic modality, the bundles expressing uncertainty are – contrary to our expectations – not as frequent as those expressing certainty, and they only appear in the L1 novice corpus. This corroborates the findings of Chen and Baker (2010, 43), who suggest that L2 writers manifest "[t]he tendency to hedge less and instead adopt an overstating tone". This tendency "seems to be universal for learners from different L1 backgrounds" (2010, 43). A similar idea has been pointed out by Hewings and

Hewings (2002, 380-381), who claim that "student writers make a much greater and more overt effort to persuade readers of the truth of their statements than do the published writers". It should be noted that even stance bundles expressing a high degree of certainty can be viewed as a means of hedging as they allow writers "to present information as an opinion rather than accredited fact" (Hyland 2005, 178).

4.4 Prep N *that* bundles

Two prep N *that* bundles were found in all three corpora: *to the fact that* and *by the fact that*. Especially in novice writing, most prep N *that* bundles are extensions of the nominal type containing a shell noun: *fact* or *idea*. Our results suggest that L2 Czech learners overuse the bundle *by saying that*, whereas native professional writers opt for other bundles, using more sophisticated verbs to express the same meaning, namely *by suggesting that* and *by claiming that*. However, due to the low number of tokens and their nature, no conclusive results can be drawn from the analysis of prep N *that* bundles.

Table 7. Prep N *that* bundles

VESPA-CZ	raw freq	per 100k	BAWE-EL	raw freq	per 100k	AP	raw freq	per 100k
by saying that	5	4.7	**to the fact that**	14	5.9	**by the fact that**	10	4.3
to the fact that	5	4.7	due to the fact that	9	3.8	in a way that	7	3.0
by the fact that	4	3.8	with the idea that	5	2.1	by suggesting that	6	2.6
as something that	2	1.9	**by the fact that**	4	1.7	of all that	5	2.1
due to the fact that	2	1.9	in the sense that	4	1.7	by claiming that	4	1.7
in the fact that	2	1.9				in ways that	4	1.7
						to the extent that	4	1.7
						to the fact that	4	1.7
Total	**20**	**18.9**		**36**	**15.2**		**44**	**18.8**

5. Conclusions

The paper has explored how Czech learners of English use lexical bundles ending in *that* in academic texts compared to native speakers. The analysis has revealed both similarities and differences in the two dimensions studied, i.e. between L1 and L2 writing and between novice and professional writing.

In contrast with our expectations, Czech learners of English do not use a more limited repertoire of lexical bundles ending in *that*. Surprisingly, it is the professional L1 writers whose repertoire is most restricted. This suggests that the study of a specific structural pattern (bundles ending in *that* in our case) may yield different results than the study of lexical bundles in academic texts in general. Thus, the

structures containing a *that*-clause seem to be favoured by authors who are in the process of learning academic language and their excessive use by novice writers may create the impression of verbosity. In addition, novice writers, struggling to master the intricacies of the academic register, rely more strongly on selected multi-word sequences which they are comfortable with (i.e. phraseological teddy bears, e.g. *the fact that*, *be said that*, *by saying that*, *it is obvious that*).

As regards the formal classification, all four types (N *that*, V *that*, ADJ *that* and prep N *that*) are represented in the three corpora, with the nominal and verbal type being most frequent. Novice writers tend to overuse the adjectival type, while professional writers use the widest range of prepositional sequences. An important semantic subtype of N *that* bundles is represented by bundles containing a shell noun. The results suggest that novice writers, both L1 and L2, are aware of their use in the academic register. However, there are differences between the two groups of novice writers in that L1 novice writers use a wide range of shell nouns with various meanings (*notion*, *belief*, *impression*, *suggestion*, etc.), whereas L2 novice writers show preference for a limited number of generally applicable nouns (*fact*, *idea*, *thing*). L1 professional writers, again, use a restricted range of N *that* bundles (i.e. types).

The functional analysis revealed that the function of lexical bundles ending in *that* is clearly associated with their structural type. While N *that* bundles were found to perform primarily the referential function, V *that* bundles, being mostly used with reporting verbs, can be viewed as borderline cases between referential and discourse organising bundles, and ADJ *that* bundles generally express stance. The area in which the texts differed most was the expression of stance. Our findings indicate that novice writers use bundles ending in *that* to express stance more frequently than professional writers. Most stance bundles express epistemic modality. The bundles were used not only to express uncertainty or caution, i.e. as a means of hedging, but also to express certainty. We argue that the expression of certainty can be seen as a means of overstatement, possibly used with the intention to persuade the reader of the writer's opinion.

The results imply that stance is typically expressed by structures employing the anticipatory *it*, both in V *that* bundles with a passive verb and ADJ *that* bundles. The anticipatory *it* and the passive voice allow the writer to express stance impersonally without the attitude being directly attributed to the author (cf. Hyland 2008b, 18). It is curious that novice authors were found to use the passive structures more frequently than professional writers. Although the passive is generally considered to be a characteristic feature of the academic register, this particular structure, i.e. (anticipatory *it*) + (modal verb) + passive verb + *that*, does not occur among the lexical bundles retrieved from L1 professional texts.

We hope to have shown that in some aspects, there are no significant differences between the language of L2 novice academic writers and L1 novice academic writers, who both struggle with acquiring academic proficiency, while in other aspects there is a clear distinction between the language used by L2 and L1 writers

regardless of their proficiency. If we were to propose a direction for future research, we would choose to focus on the use of reporting verbs in order to investigate the range and sophistication of these verbs in L2 academic texts.

Notes

1 As has been pointed out by Paquot and Granger (2012, 143), "[in learner corpus research], the terms overuse and underuse are descriptive, not prescriptive terms: they refer to the fact that a linguistic feature is found significantly more or less often in a learner corpus than in a reference native or expert corpus".
2 No instance of the demonstrative *that* has been found in the bundles retrieved.
3 The tenth position is occupied by all the bundles with the threshold frequency.
4 Note that *VESPA-CZ* is approximately half the size of the other two corpora.
5 Shell nouns have been referred to by various terms: carrier nouns (Ivanič 1991), general nouns (Halliday and Hasan 1976), signalling nouns (Flowerdew 2003).

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Corpora

BAWE (*British Academic Written English Corpus*)
https://www.coventry.ac.uk/research/research-directories/current-projects/2015/british-academic-written-english-corpus-bawe/

VESPA-CZ (*Varieties of English for Specific Purposes Database*)
https://uclouvain.be/en/research-institutes/ilc/cecl/vespa.html

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Redundancy in ELF: A Corpus-Based Study on Negative and Modal Concord

Abstract: English as a lingua franca (henceforth ELF) is a contact language that has attracted great attention due to its unique global role. Thus, numerous studies have been conducted to determine its characteristics, among which research on such processes as, for example, simplification, added prominence or redundancy underlying language use in the ELF context is of the main interest. Therefore, the paper aims to broaden the perspective on redundancy in ELF, focusing on negative and modal concord in spoken and written data. With the reliance on *VOICE*, *ELFA*, and *WrELFA* corpora, the analysis shows that both phenomena are noticeable in ELF; however, while redundancy in terms of modal concord appears in spoken and written ELF, negative concord is characteristic only of spoken data.

Keywords: English as a lingua franca, contact languages, redundancy, negative concord, modal concord

1. English as a lingua franca

English as a lingua franca (henceforth ELF) is an example of a contact language that has spread on a global scale (Seidlhofer 2005; Hülmbauer et al. 2008; Mauranen 2015; Christiansen 2016). Although initially treated as a deviant phenomenon from the English language (Firth 1990; 1996), ELF has started to be perceived as a variety in its own right (Fiedler 2011), the analysis of which may shed light on how language is used among people in the context of a global lingua franca. Therefore, numerous studies have been conducted on ELF in relation to both its general tendencies (Jenkins 2000; Seidlhofer 2004) as well as dominant features in a given domain, e.g. business (Pitzl 2010; Martins 2017), education (Si 2019; Lai 2020), internet communication (Ke and Cahyani 2014; Chen et al. 2015),

or academia (Björkman 2013; Wang 2018; Sung 2019). In fact, ELF research is constantly developing and has become a "vast, widely known and largely accepted research field" (Jenkins et al. 2018, 1). However, despite the growing number of scholars focusing on written ELF (Önder 2012; Mur-Dueñas 2015; Yilmaz and Römer 2020), previous research has mostly been concerned with spoken data (Laitinen 2020).

The beginnings of ELF research emphasizing its uniqueness focused on the description of emerging elements that do not lead to communicative problems among ELF speakers. To illustrate this, it has been found they tend to rely on the non-standard use of, among others, articles, prepositions, adverbs, and relative pronouns as well as the omission of the third person singular *-s* in present tense verbs or objects of transitive clauses (Erling and Bartlett 2006; Dewey 2006). On the other hand, great attention has been paid to establishing underlying mechanisms that motivate this type of language use. One of the proposals is offered by Cogo and Dewey (2006; 2012), who state that the use of ELF is characterized by such motives as exploiting redundancy, regularization, added prominence, explicitness, clarity of proposition, as well as accommodation. However, with reference to redundancy, a certain discrepancy may be noticed as researchers emphasize ELF speakers' tendency to either avoid or rely on elements considered redundant to achieve mutual understanding. Nevertheless, before moving to a description of how redundancy is presented in ELF research, let us have a brief look at how redundancy may be defined.

2. Redundancy in ELF

As stated by Leufkens (2013, 338), redundancy "involves constructions or sentences in which one pragmatic or semantic unit has more than one formal equivalent" and may be exemplified by, for instance, negative or modal concord (Leufkens 2015). As for the former (see Anderwald 2005; Giannakidou 2006; Van der Auwera et al. 2016), it emerges when one semantic negation is expressed two or more times in one clause (Martínez 2013), e.g. *I do not know nobody*, in which it is achieved by means of the negative indefinite pronoun *nobody* and the negative particle *not*. The latter (see Kratzer 1991; Huitink 2012) involves the occurrence of two modal elements which refer to one semantic modal unit (Zeijlstra 2007), e.g. *They may possibly know him*, in which the modal auxiliary verb *may* is followed by the modal adverb *possibly*, both expressing possibility. Therefore, since ELF interactions are said to be as efficient as possible, one of the theories concerning redundancy in ELF relates to ELF speakers' tendency to reduce redundant elements so as to increase the clarity of their utterances (Björkman 2011; Cogo and Dewey 2012). In other words, if one semantic unit is expressed in a given clause, it is not repeated by the second element. For instance, the omission of the third person singular *-s* in ELF, whose function in English is often presented in the context of marking

identity (Breiteneder 2005, 5), may result from the fact that the *-s* ending becomes communicatively redundant when a subject is already mentioned in a clause (Cogo and Dewey 2012, 228). What is more, ELF speakers are also said to apply the single demonstrative determiner *this* (instead of *these*) before plural nouns as the plural is expressed in the *-s* inflectional morpheme attached to the noun (Hülmbauer 2010, 84 in Vettorel 2014, 139), e.g. *this dogs*. A similar principle is noticed in relation to existential *there is* (instead of *there are*) since it is commonly followed by a plural noun (Ranta 2009, 97), e.g. *there is people*. On the other hand, if, for example, a plural demonstrative determiner is used, it can precede a singular noun, e.g. *those Christmas drawing* (Vettorel 2014, 143), showing that redundancy reduction may be achieved by means of various strategies.

However, as claimed by Seidlhofer (2013), while "ELF usage reduces redundancy in some aspects of the language, it increases it in others". Thus, another view is offered by scholars who pay attention to the use of redundant elements in ELF to increase clarity and explicitness. For instance, redundancy in ELF is presented in relation to comparatives and superlatives, e.g. *more bigger*, *the most cheapest,* prepositions, e.g. *to return back*, and nouns after semantically transparent units, e.g. *black colour* (Seidlhofer 2013; Formentelli 2017, 27). In other words, while a comparative form is commonly realized by both an adverb and an inflectional morpheme, transparent words are often followed by lexical units having meanings which are expressed in preceding words. Therefore, it clearly indicates that the strategy of ELF speakers to increase the clarity of interactions is analyzed with reference to either reduction or application of redundant elements. At the same time, since ELF is considered an example of a contact language, studies focused on redundancy reduction present their findings in the context of research on other contact languages which emphasizes this type of mechanism as well (see Mackenzie 2014). Admittedly, such a point of reference is relevant since "ELF may manifest features akin (...) to contact languages" (Ranta 2013, 64) with which it is connected by the same developmental processes (Doyle 2013, 14). However, despite the widely described preference to avoid redundancy, there are examples of contact languages in which redundant elements can be noticed. Thus, due to the main aim of this paper to broaden the perspective on redundancy in ELF, such studies may function as its point of departure.

3. Redundancy in contact languages

A contact language is mainly defined as an emergent tool of communication among people who do not share a mother tongue (Lindstedt 2009; Matras 2009; Bakker and Matras 2013). Although there are a number of theories as to what examples of contact languages can be proposed since, for example, pidgins and creoles (Sebba 1997), mixed bilingual languages (Thomason 2001), multi-ethnolects (Bakker and Matras

2013), as well as lingua francas (Weirong 2017; Mauranen 2018) are suggested, pidgins and creoles are considered the prime examples of contact languages (Garrett 2004; Gilquin 2015). Therefore, I focus on studies devoted to redundancy with reference to the aforementioned two examples of well-known contact languages.

Pidgins are commonly defined as new languages that emerge among people who need to communicate but have no language in common (Sakoda and Siegel 2003; Danladi 2013). Consequently, such definitions seem to be synonymous with the general definition of a contact language. Pidgins, however, exhibit various features that distinguish them from other contact languages, e.g. creoles. In other words, pidgins do not have their native speakers, are used in a limited number of contexts (Velupillai 2015), and are characterized by such processes as simplification and reduction in relation to languages in contact responsible for their emergence (Al-Jasser 2012; Romaine 2017; Day 2019). On the other hand, a pidgin can gradually develop and become a native language of a given community, leading to the emergence of a creole that is perceived as "a pidgin language which has become a mother tongue" (Watts 2011: 86). Hence, due to its transition into a native language,[1] a creole is applied in a great variety of contexts and becomes more complex (in comparison to a pidgin); however, it is still considered simplified with reference to fully-fledged natural languages. On that account, pidgins and creoles are typically characterized by avoidance of redundancy (Crowley 2009; Velupillai 2015). Nevertheless, it has been proved that there are certain cases in which redundancy in both contact languages can be noticed. For example, with reference to negative concord, Leufkens (2013) states that it is a characteristic feature of Diu Indo-Portuguese and Pitchi (see Yakpo 2018). Similarly, the same phenomenon has been detected in Cameroon Pidgin (Martínez 2013).

Therefore, the first question arises whether ELF can also be characterized by negative concord, which, consequently, may broaden the perspective on the occurrence of redundancy in ELF. However, as suggested by Geurts and Huitink (2006), "the most widely studied concord phenomenon is undoubtedly negative concord". Thus, it seems crucial to go beyond the most prototypical focus of studies and pay attention to, for instance, the above-mentioned modal concord, data of which is considered scarce (Leufkens 2015). Hence, in view of the above discussion, the subject of the study is negative and modal concord, which, first of all, allows for answering the question of whether negative and modal concord can be found in ELF. At the same time, it may also contribute to the general understanding of modal concord in contact languages.

4. Methodology

Before establishing whether ELF, as one of the contact languages, can be characterized by means of negative and modal concord, which, subsequently, may

shed light on redundancy in ELF, methodological underpinnings of the study should be delineated.

First of all, due to the fact that negative concord is commonly described with reference to the co-occurrence of negative indefinite pronouns and negative particles (see Leufkens 2013; 2015; Déprez and Henri 2018), I limit my analysis on negative concord in ELF to the co-occurrence of a negative indefinite pronoun *nothing/nobody* and the negative particle *not* attached to the auxiliary verb in one clause. Modal concord, however, is tested on the basis of the co-occurrence of the modal adverb *possibly* and modal auxiliary verbs *can/could/may/might*, which Quirk and Greenbaum (1990, 61-62) define as modal verbs of possibility. What is more, owing to the indicated disproportion between the studies on spoken and written ELF, the study focuses on both types of data and relies on the most popular ELF corpora, i.e. *VOICE*, *ELFA*, and *WrELFA*. The *Vienna-Oxford International Corpus of English* (*VOICE*) is the first computer-readable inventory of ELF (in total 1 023 127 words) which includes the transcript of spoken interactions derived from approximately 1 260 speakers of 50 different native languages in various contexts (the most dominant are education and leisure). The *Corpus of English as a Lingua Franca in Academic Settings* (*ELFA*) is a 1-million-word corpus of spoken academic ELF. The transcript is derived from approximately 650 speakers of 51 different first languages in numerous domains, among which social sciences and technology are the most prominent. The *Written Corpus of English as a Lingua Franca in Academic Settings* (*WrELFA*), which consists of 1 533 328 words, is a written complement to the *ELFA* corpus. It contains the data from speakers of at least 35 different mother tongues in the disciplines of science, social science, as well as humanities, in which natural sciences are the best represented. In order to extract data from the corpora, two tools are applied – a word search engine available at the website of the *VOICE* corpus (https://voice.acdh.oeaw.ac.at/index.xql) as well as AntConc (Anthony 2019), freely available corpus software, applied to the *ELFA* and *WrELFA* corpora. It is worth noting, however, that the study does not intend to perform a statistical analysis but aims at spotting the features of ELF which may offer tentative tendencies concerning negative and modal concord in ELF.

Overall, three main questions form the basis for the empirical part of this article:

1. Does ELF exhibit redundancy in terms of negative concord?
2. Does ELF exhibit redundancy in terms of modal concord?
3. Can such phenomena be found only in spoken or written ELF or are they noticeable in both spoken and written ELF data?

5. Findings

The section describes the findings concerning negative and modal concord in spoken and written ELF. At first, the examples extracted from the corpora in relation to negative concord are presented. Then, they are followed by examples related

to modal concord. The occurrence of a given phenomenon in spoken and written data is summarized in Table 1, where (+) stands for the occurrence and (-) for the non-occurrence of a given phenomenon in the corpora. Due to space limitations, many of the presented examples are only selected fragments of a given utterance exhibiting the subject of the analysis and are as follows:

a) Negative concord (*VOICE*)

(1a) EDsed251:191 S12: PROfessionally it **doesn't** er bring **nothing** to me because hh <9> e:r </9> when i want to be a good lawyer in slovakia i need to know slovak law (.)

(1b) EDsed251:249 S12: it (.) **doesn't** bring (.) really hh **nothing** to me to (.) go somewhere abroad and to study (.)

(1c) EDsed363:2 S1: you don't have to worry **nothing** (er) <8> **will not** (.) be handed to </8> the secret service or <9><@> something </@></9>

(1d) PBmtg269:788 S3: <6> it </6> (.) it's simply **does not** have **nothing** to do with the consumer.

(1e) PRint597:154 S9: yeah but (.) i **didn't** (.) shop (1) er **nothing** so (1)

(1f) PRint597:202 S9: er (.) actually well @ (.) <2> i- (.) <loud> i **didn't** find </loud></2> **nothing** that (1) i like (.) really @@@

(1g) POwsd374:101 S3: the situation of some immigrants who actually **didn't** know (.) **NOTHING** about the country or NOTHING about the the social

(1h) POwgd14:309 S1: on a joint er master i:- **is** in in per se **not** worth **nothing** more than (.) the joint program

(1i) POwgd325:1858 S12: and you need this requirement </3> in the humanities <slow> it **is** </slow> **not nothing** we we can't invent e:r

b) Negative concord (*ELFA*)

(2a) ULEC020 S1: funny to look at, if i if if you **don't** have **nothing** else to do in the evening

(2b) USMED190 S16: ally know what's citizenship education because we **don't** have **nothing** like this in spain bu er

(2c) USEMP12A S2: at cytokinin signalling is inhibiting this but we **don't** know **nothing** about the molecular nature about it

(2d) USEMD230 S13: commons which in strict sense **aren't** owned by **nobody** not even the state remember there is land that

(2e) CPRE09C S6: no major issue or the or the state feels that er it**'s not nothing** is special

(2f) CPRE06C S15: trials and of course we found out that (xx) **nobody** knew **nothing** that

Examples 1a–i and 2a–f present redundancy in ELF in terms of negative concord based on the *VOICE* and *ELFA* corpora. No results have been found in the *WrELFA*

corpus, which may initially suggest that negative concord is characteristic only of spoken data. In example (1i) only the co-occurrence of the negative pronoun *nothing* and the negative particle *not* in the same clause is taken into account. What is more, due to the adoption of a perspective in which negative concord is analyzed on the basis of the indefinite pronouns *nothing/nobody* and the negative particle *not* attached to an auxiliary verb, example (2f) is not taken into consideration in the analysis. However, it has been included for the sake of presentation of possible realizations of negative concord as it has been extracted as one of the hits in the word search engine by means of the indefinite pronoun *nothing*.

Based on the examples above, it may be inferred that negative concord is not the dominant regularity in the two corpora, which, at the same time, may suggest that it is also not the dominant feature of ELF speakers' interactions. Nevertheless, despite the small number of hits presenting the subject of the analysis, certain tendencies can also be found. First of all, a preference to apply two units with a negative meaning in the present tense clauses is noticeable (10/14 occurrences), in which a negative particle is rarely attached to a modal auxiliary verb (1/14 occurrences). Secondly, the subjects of the clauses in which negative concord occurs are mostly expressed by personal pronouns (10/14 occurrences). Additionally, there are only two cases in which negative concord occurs in the passive voice.

The following set of examples concerns modal concord in ELF, in which certain regularities can also be delineated.

c) Modal concord (*VOICE*)

(3a) EDsed301:320 S2: they would (.) USually not er <soft> er er </soft> sort of achieve the number of of of of cows that er **could possibly** be er be held (.)

(3b) EDsed301:376 S2: but you **can't possibly** sort of sustain the system say well these these are ten ten countries that are for some reason different

(3c) EDsed363:254 S3: his PHOTOGRAPHS can be art (.) his (.) like the documentation **COULD possibly** be (tried) as art in literature

(3d) EDsed303:574 S17: so i do agree with [S13] that e:very language **can possibly** become a lingua franca <8> and it('s) </8> depends on the historical STAGE

(3e) POmtg315:902 S3: if it takes up too much time now (with) thinking how we **can possibly** arrange it according to a chronological order

(3f) POmtg447:394 S2: or you </7> can (.) **possibly** you **could** <8> try it </8> in French and <1> spanish </1> or <2>SOMEthing </2>

(3g) PRcon534:75 S2: and then to show that (.) the other one cannot be constructed pos- (.) **cannot possibly** be constructed

(3h) PRcon550:36 S2: problem is that it would be a little too difficult maybe to fit (.) (although) **possibly** i **could** (.)

(3i) PRcon550:38 S2: both visits in (.) two thousand seven (.) **possibly** i <1> **could** because <1> let's say two month er in your <2> place

d) Modal concord (*ELFA*)

(4a) ULEC180 S2: then you can project the M-E-G data down to that (xx) what **could possibly** come there

(4b) CDIS01C S6: you **can't possibly** fail to be aware er of the er extremely long history of er white er er or european and native interaction in the north

(4c) CPRE01B S2: the meeting point between true wilderness we **might possibly** have american indians because this is also it's conceived as part of the wilderness

(4d) ULEC180 S2: first i want to show how we **could possibly** study this so what wh- what i did when i was working in in helsinki

(4e) USEMD26A S1: because in finland you you **could not possibly** you couldn't do that you know

(4f) ULECD060 S1: the species' probabilities of occurrence were negatively related to local probabilities of extinction so can er **could** we **possibly** use er this kind of information for reserve planning

(4g) USEMD26A S1: but there is a link what is that link **possibly** you **might** know this

e) Modal concord (*WrELFA*)

(5a) B22F: For very high massive excitations this **cannot possibly** apply.

(5b) UDEFS238: In conclusion, I do not see how this thesis **can possibly** be accepted without a major reworking

(5c) UDEFS121B: Could these two tables be presented next to each other or **could** they **possibly** be combined?

(5d) UDEFS212B_eng: An exploration of these issues, the answers of which **may possibly** be found from the author's data if they were approached from a new perspective, could produce important research results.

(5e) SSH11: the reader-imager comes as close as one **possibly can** to forgetting that the experience was in fact mediated by a string of words on a page.

(5f) SSH11: I have also proposed that description-imagery, amounting to visualisation from the perspective of an extraneous spectator, is most reliably prompted by descriptions (detailed) of inanimate objects, which **cannot possibly** be imaged from

(5g) SSH70: Even if the Student's love to the Young Girl is rendered as serious and devoted it **cannot possibly** carry associations like these

(5h) UDEFS167B: This **may** be **possibly** correct if we only look at the twenty years that have passed since the end of the cold war.

(5i) Sci30: RCTs **could possibly** demonstrate which subgroups (such as highly myopic and perhaps even paediatric cases) of RRD eyes could benefit from statin medication

(5j) B22E: But he pointed out how a fine report to which he collaborated shows that no black hole **could possibly** form swallowing Earth

(5k) UDEFS157: And to the extent that such material has been available to the candidate, it **could possibly** have been used more systematically throughout the dissertation
(5l) B34A: concentration was found at a depth of 30 to 50 cm and **could not possibly** have originated from Chemie-Pack.
(5m) BDIS39 C2: Your normal brain **couldn't possibly** look down at yourself from outside of itself.
(5n) UDEFS163A: The paper **could possibly** provide the reader with a material that is somewhat easier to chew.
(5o) SSH23: I must say I fail to see how it **could possibly** serve e.g. semantical anti-realism \xE1 la Dummett.
(5p) BDIS_TRF12 B1: I don't understand in what sense you **could possibly** say that it just rewrote some things that physicists knew.
(5q) UDEFS153B: I can clearly see how it fits in the overall dissertation, but **possibly** this **could** have linked more intensely and explicitly to the other chapters.
(5r) BDIS_TRF09 C15: For 5. the only way a photon or any other particle **could possibly** travel at the speed of light is to have no mass.
(5s) BDIS_TRF12 B1: I understand that you **can't possibly** understand why my conclusion is very thoughtful and rational if you don't have an idea about the maths

Examples 3a–i, 4a–g, and 5a–s illustrate the occurrence of modal concord in ELF. First of all, the apparent difference between negative and modal concord is that modal concord in ELF is not limited to spoken data. Nevertheless, similar to negative concord, modal concord does not seem to be a dominant phenomenon, certain tendencies of which, however, can be inferred. As the analysis focuses on modal concord in terms of the co-occurrence of a modal verb *can/could/might/may* and the modal adverb *possibly*, the first emerging tendency is related to the application of a given modal verb with the aforementioned adverb. The most frequent co-occurrence concerns *could* + *possibly*, which appears 11 times in written data (11/19 occurrences) and 9 (9/16 occurrences) in spoken data. In written data, the co-occurrence of other examples is as follows: *can* + *possibly* (6/19 occurrences), *may* + *possibly* (2/19 occurrences) and no results of *might* + *possibly* (0/19 occurrences) have been found. In spoken data, *can* + *possibly* occurs 5 times (5/16 occurrences), but, conversely to written data, there are two examples of *might* + *possibly* (2/16 occurrences) and no results of *may* + *possibly* (0/16) have been detected (in (3f), due to the ambiguous example because of the presence of *can* and *could* in one clause, only the co-occurrence of *could* + *possibly* has been taken into consideration). Secondly, in both types of data, there are fewer negative clauses (6/19 occurrences in written and 4/16 occurrences in spoken data) as well as clauses in the passive voice (5/19 occurrences in written and 3/16 occurrences

in spoken data). Moreover, there are only two examples in written data in which a modal auxiliary verb and a modal adverb are followed by a perfect infinitive. At the same time, while in written data there are fewer clauses in which the subject is expressed by means of a personal pronoun (6/19 occurrences), there is, similar to negative concord in spoken data, a greater number of clauses in which such a tendency is found in the *VOICE* and *ELFA* corpora (11/16 occurrences). Therefore, although further research is undoubtedly needed to test this regularity, it may initially suggest that the characteristic of redundancy in spoken ELF data is its more common occurrence in clauses in which the subject is realized by a personal pronoun. Additionally, with reference to the co-occurrence of a modal verb and a modal adverb together with a personal pronoun, it is worth noting that, in example (5c), there are two clauses with the modal verb *could*; however, the modal adverb *possibly* is applied only in the clause in which a personal pronoun is anaphorically used.

Table 1. Negative and modal concord in three ELF corpora

	Negative concord	**Modal concord**
VOICE	+	+
ELFA	+	+
WrELFA	-	+

6. Conclusion

The paper focuses on the occurrence of redundancy in ELF. While it has been stated that interactions of speakers in the context of a global lingua franca can be characterized by means of both the reliance and omission of elements treated as redundant to achieve mutual understanding, the author aims to broaden the perspective on redundancy in ELF and pays attention to phenomena recognized as the examples of redundancy that have not yet been presented in ELF research. With the reliance on previous studies on redundancy in other contact languages as well as research on concord phenomenon, the performed analysis has allowed for delineating tentative regularities concerning negative and modal concord in ELF.

With the support of the *VOICE*, *ELFA*, and *WrELFA* corpora, it has been shown that redundancy in terms of both negative concord, analyzed by means of the co-occurrence of a negative indefinite pronoun *nothing*/*nobody* and the negative particle *not* attached to the auxiliary verb in one clause, and modal concord, analyzed by means of the co-occurrence of a modal auxiliary verb *can/could/might/may* and the modal adverb *possibly* in one clause, occurs in ELF corpora but there are only a few examples illustrating the aforementioned phenomena. However,

despite its lack of prominence in the three ELF corpora, a number of initial tendencies can be proposed, which may also contribute to the general understanding of modal concord in contact languages. To begin with, the analysis has indicated that while modal concord is noticeable in both spoken and written data, negative concord is limited only to spoken corpora (the results are summarized in Table 1). What is more, redundancy in terms of negative concord occurs mostly in the present tense, in the active voice and in clauses in which the subject is expressed by a personal pronoun. With reference to modal concord, in both spoken and written data, it mostly concerns the co-occurrence of the modal auxiliary *could* and the modal adverb *possibly*. Moreover, in written data, there are examples of the co-occurrence of *may* + *possibly* but no results of *might* + *possibly* are found. On the contrary, there are examples of the co-occurrence of *might* + *possibly* in spoken data and, at the same time, no results of *may* + *possibly* are detected. Additionally, similarly to negative concord, most of the examples concerning modal concord appear in the active voice in spoken and written data. Likewise, there is a greater number of examples illustrating modal concord in clauses in which the subject is realized by means of a personal pronoun in spoken data whereas such a tendency in written data is not noticed.

On the other hand, as the findings can only be considered indicative rather than representative, they may function as a reference point for further research on redundancy in ELF. First of all, since the analysis has initially shown that negative concord appears only in spoken data in ELF, it seems crucial to determine whether there are certain regularities which could be treated as examples of redundancy specific to written ELF. Additionally, if the use of redundant elements is said to have a function of marking identity, subsequent studies on redundancy may shed light on the way in which redundant elements specific to ELF have such a function as well. To put it differently, since ELF speakers are becoming to be treated as an imagined community that need not be in physical proximity but feels the membership to such a group (Mauranen 2018), research on redundant elements characteristic of ELF may also function as a background on which theories focused on the appearing ELF speakers' identity may be based.

Notes

1 While most theories emphasize that a creole is a nativized pidgin, a pidgin does not have to evolve into a creole (do Couto 1996) and, at the same time, the emergence of a creole need not be based on the input from a pidgin only (Mather 2006).

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Discursive Chain and Movement in Crisis-Driven Nigerian Political Discourse: Corpus Evidence from Herdsmen Newspaper Headlines

Abstract: A central tenet of critical discourse analysis spells that language in discourse meant for mass consumption is often permeated with a reproduction and/or a resistance of certain ideologies, assumptions, and knowledge characteristic of different social groups making up the society. One of such best scenarios is news headlines narrating crisis-driven national discourse in Nigeria, where almost all national discourses are driven by certain inherent ideologies and political power. In this paper, we propose a *discourse chain* principle uncovering the underlying socio-psychological idiosyncrasies of the participants (inclusive of agents and recipients) and processes in most national discourses in Nigeria. Combining concepts in corpus methods with critical discourse analysis, the paper shows a basic approach to operationalising ideologies in notational form. Applying corpus analytic method to 761 herdsmen news headlines extracted from Nigerian newspapers, the present paper nicely illustrates the extent to which these news headlines move the discourse-at-hand (i.e. herdsmen crisis) to discourse-around. Such movement is performed by reproducing institutionalised ideological patterns revolving around identity politics (ethnicity), religion, question of nationhood, corruption, citizenry distrust, and political power imbalance. The paper argues that this discursive movement is often driven by a chain of discourse that defines the existence of the nationhood.

Keywords: discourse chain, discursive movement, herdsmen discourse, corpus-based discourse analysis, Nigeria political discourse model

1. Introduction

While there exists a catalogue of different brands of discourse analysis extricating how different ideologies and knowledge permeate mass-consumed or political texts in Nigeria, no available study has put forward an empirical-driven model accounting for how this is done within the Nigerian political discourse. Also, there has been no available literature showing corpus-based or corpus-driven critical analysis of the Nigerian political discourse, a gap to which the present paper contributes. Responding to this gap, the paper will, among many other things, provide a model conceptualising the readings of Nigerian political discourse, using herdsmen news discourse as a reference point. It is well established in the literature that news language, most especially the headlines, is a subtle channel with which power and ideologies are constructed and deconstructed in the schemes of social structure. This practice has repeatedly been shown across different texts produced in almost all contexts in all societies. Given its powerful interpretative projection, news language is thus an important site for linguists to account for the extent to which power and dominant ideologies are (de)constructed.

In present-day Nigeria's political entity, there is an infinite number of ideologies. These ideologies come handy with inherent issues of conversation revolving around religion, identity politics, social and political corruption, citizenry's distrust of the government, political domination, political power imbalance, ethnicity, the question of nationhood and that of national unity. Since all of these ideological issues often form the basis of almost all national conversations in Nigeria, then media reportage of such a national crisis bordering on herdsmen could not but be an ideological reflection on each issue. In other words, the news reportage of such national crisis will not only reflect an ideological orientation but also be a consequential stance. That way, it can be conceptualised that media language in national crisis is an equivalent to the (de)construction of the ideological realities in the society to which it is contextualised.

The present paper combines concepts from corpus analytic framework with that of critical discourse analysis to answer a discourse central question; the extent to which text reproduces or resists ideologies and knowledge peculiar to conversation among different social groups making up the society (Van Dijk 1988; 2008; 2014; Fairclough 1995; 2001; 2014; Blommaert 2013). Showing a very basic approach with which corpus method can be applied to political discourse analysis in Nigeria, the present paper draws on corpus evidence showing the extent to which news headlines reporting the herdsmen crisis in Nigeria reproduce or resist inherent ideologies of identity politics (ethnicity), religion, the question of nationhood, corruption, citizenry distrust, and political power imbalance.

Given that these ideologies are themselves subtle discourse units in the herdsmen discourse, we propose a *discursive chain movement* model to navigate through them. Also, the principle of *discursive chain movement* allows for easy

identification of ideologies driving national discourse, as well as conversation across different social groupings making up Nigerian society. In other words, such a principle enables a generalised description of the Nigerian political discourse structure. Relying on the extracted data, we also report on a linguistic and discursive pattern in the news headlines. For instance, the herdsmen news which is supposed to focus on the thrust of the conversation, i.e. *discourse-at-hand,* often moves the conversation in different directions, refocusing it on another *discourse-around* which itself is often characterised by the reproduction of the questions relating to political dominance, resistance, and political inequality, among many others.

By analysing a total of 751 news headlines, we provide corpus evidence for how the object of the discourse-at-hand (i.e. herdsmen crisis) is formed and transformed by a way of *discursive movement.* Such *discursive movement* is volatile, multidirectional and thus almost always can be decomposed only by a member of society. For example, the headline "CAN Accuses Muslim Leaders of Endorsing Herdsmen Killings" drives on the ideology of religious suppression, moving from discourse-at-hand (i.e. herdsmen crisis discourse) to discourse-around (in this case, the question of the islamisation of Nigeria).

2. Mapping ideologies in Nigerian political discourse

Aspects of Nigerian political discourse have been extensively discussed (see, for example: Opeibi 2007; Taiwo 2008; Chiluwa 2012; Okafor and Alabi 2017; Alabi and Ayeloja 2019; Chiluwa et al. 2020; Chiluwa and Chiluwa 2020; Unuabonah and Oyebode 2021, just to mention a few).

Van Dijk (1988; 2008; 2014) and Norman Fairclough (1995; 2001; 2014) have made significant intervention and contributions to the theory and practice of discourse analysis. Many of their works have shown a variety of methods uncovering the more important messages underlying social and political texts. These methods continue to influence how linguists approach and analyse discourse and texts, leading to the development of an infinite number of methodologies, theoretical frameworks, practices and textual understandings. Among many other contributions, van Dijk (1988; 2008; 2014) argued that texts produced by important social institutions such as the media, and politicians require careful mental interrogation in order to uncover their subtle messages. Contributing to the principles of discourse analysis, van Dijk asserted that a serious analysis of discourse should reveal and profile the mental processes of the person(s) that produced the texts.

Taking discourse analysis further, Fairclough (1995; 2001; 2014) added a blend of criticalness. In a similar vein, Blommaert (2013) made an important contribution to the question of method in discourse analysis, arguing for the discipline to be much more empirical in nature than being solely intuitive and introspective. Fairclough (2014) specifically showed how power, domination, social injustice, social struggles, resistance,

manipulation of the masses (by the political class via the media writings) run through such texts dedicated for mass consumption. Fairclough (1995; 2001; 2014) also highlighted the death and birth of ideologies that continually enshrine the political class in power. Following Fairclough's principles of critical discourse analysis, the present study shows how news headlines on the herdsmen crisis in Nigeria reveal and reproduce more subtle issues of dominance and resistance, power and its abuse, social and political inequality, and the consequential manipulation of the masses.

Of course, the strong arguments for the use of corpus method in discourse analysis had preceded Blommaert (2013). However, his proposal for a theoretic framework that accounts for a pattern showing how language is used to (de)construct socio-political contexts means that (critical) discourse analysis stands a better chance in fulfilling its primary objectives of uncovering the psychology underpinning the voice in a text. Following this line of thought, it can thus be argued that the brand, empirical/corpus-driven discourse analysis explicating different dimensions of the structure of society, is still largely missing in its application to Nigerian political discourse structure. In other words, the present paper intends to provide the very basic empirical approach to media discourse texts emanating from Nigeria.

Such a basic descriptive approach is expected to stimulate Blommaert's empirical practice of discourse studies within the Nigeria discourse domain. Although CDA does not clearly state the importance of using naturally occurring data in its analysis, the present paper, following the traditions of corpus-driven analytic method, mainly analyses naturally occurring herdsmen news headlines. This approach will allow us to show and itemise the spontaneity in the movement of issues being reproduced or resisted in the texts under investigation. With a blend of corpus method, the present paper thus stands a chance of contributing to the body of corpus-based discourse analysis works that show how much more penetrative analyses backed with quantitative measurement can be beneficial. Such analysis will greatly help to show the miniature details involving the profiling of the psychology, voice and persons producing these social texts.

Following the traditional method of discourse analysis, quite a large number of works focusing on Nigerian political discourse have examined the role of the media language in the (de)construction of political and social domination, manipulation, power and its abuses. Many of these works have identified underlying ideologies relating to social and political inequality as they permeate texts produced by the reserved elites (politicians, religious leaders, journalists, and leaders of the different socio-cultural groupings). Doki and Buhari (2013) interrogated media reportage in the context of Nigerian media laws and ethics, and found a catalogue of power abuse in which the reportage language reproduced mainstream ideologies manipulating the readers. Taiwo (2007) showed how language use in news headlines in Nigerian newspapers can serve as a veritable site for the (de)construction of ideologies and power in the national discourse. Tobechuckwu (2007) examined the media writings during the political crisis that characterised Obasanjo's administration and found in

these media writings the voice of biased participants armed with social power suppressing ideologies characteristically held by the masses. Unlike Doki and Buhari (2013) and Tobechuckwu (2007), the present paper primarily applies corpus analytic method to corpus discourse data drawn from newspapers, with a view to showing institutionalised patterns of inherent ideologies and knowledge that manifest in nearly all Nigerian national discourses. It further shows how such inherent ideologies and knowledge serve as chain moving the discourse-at-hand to discourse-around.

3. Method: data extraction, discourse variables, and preliminary analyses

Data extraction: Since the primary concerns of the paper revolve around quantifying the *herdsmen crisis* and its representation in the reportage language, a very basic corpus analytic method is thus applied. We extracted only the news headlines reporting *herdsmen crisis* in all their different frames from three national dailies: *The Punch, The Guardian,* and *The Vanguard.* Relevant headlines were extracted searching each newspaper online via the keywords "herdsmen" or "Fulani herdsmen". Sample extracted headlines included: "Herders/Farmers Clashes: Osun To Enumerate Cattle" and "School Shut over Herdsmen Attack – LG Boss".

The initial extraction returned 872 tokens, of which after removal of irrelevant headlines such as "Fulani Will Not Vote for an Igbo President", 761 were used for the analysis presented herein. A total number of ten variables were developed from a variety of sources in the literature ranging from Van Dijk's (1998; 2008; 2014) discourse theoretic framework of *Agent, process,* and *recipient*, Fairclough's (1995; 2001; 2014) concepts of *constructed personification* (the relationship between language use in such a carefully prepared discourse and the consumer of such discourse), Blommaert's (2013) argument for empirical data and method in discourse studies and Akinlotan's (2018a; 2018b) exemplary works showing how corpus method can be applied to a variety of Nigerian data ranging from the analysis of structure, to meaning process, to discourse.

All the variables developed and analysed in the present work are on the basis of the arguments in these aforementioned works, which affirmed the fact that there is indeed a strong relationship between discourse, its structure, and the syntactic structures that lend and constitute the voice in the transmission of their ideologies, knowledge, and political power abuse. In other words, accounting for the internal and external linguistic variables that underlie the internal structure of any discourse can provide significant insights into the herdsmen discourse. More specifically, when such analysis is juxtaposed with essentially discursive variables, we can then arrive at a propertied, comprehensive and infinite profiling of the agents, processes, and recipients in the discourse. Such understanding can as well provide inputs as to how the reader/listener is expected to process such discourse. Following the methods of variable selection and operationalisation in Akinlotan (2018a; 2018b),

the present paper operationalised the selected variables in simple terms, which are described below.

Discourse variables and their operationalisation: The following is a list of variables, together with their operationalisations in the study. (1) *Presence/absence of intensifier* which identifies usage of certain words such as the use of the adverb *again* (for example, "Again, Fulani Herdsmen Kill One, Injure Three Policemen in Delta"), *another* (for example, "Another Five Die in Fulani Herdsmen, Natives' Clash in Niger"), choice of stronger verb such as *kill* ("Pastor Tells Security Aides to 'Kill Fulani Herdsmen'"), and stronger noun/adjective such as *hack,* and *blood* ("Blood Bloodbath in Benue as Fulani Herdsmen Hack Eight to Death Again"). All of these intensifiers *again, another,* and *kill* are deliberate (rhetorical) choices made in the text to trigger a certain psychological response from the audience. Such intention perhaps leads to the manipulation of the mind. (2) Variable representing *animacy of victim* identifies whether there is a victim or no victim. If there is, what type of victim (human or non-human, i.e. property) is reported? For instance, while no victim is reported in "Delta Youths Warn Fulani Herdsmen against Attacks", there is a human victim in "Two Killed as Fulani Herdsmen Attack Benue Communities", and a property victim in "Benue Livestock Guards Killed 207 of Our Cows – Herdsmen Allege".

Furthermore, (3) *discourse fragment* is another variable that classifies every headline as either being *advisory, narrative, or escalative* in its discursive function. For instance, "Allay Fears of Nigerians on Fulanisation, Alao Tells Buhari" is advisory, while "Herdsmen Attack Passengers on Ife-Ibadan Highway, Kill One" narrates an instance of the crisis discourse. Meanwhile, "Expose Killer Herdsmen, Sanusi Tells Miyetti Allah" is escalative in nature because it accuses another person Miyetti Allah of harbouring "killer herdsmen". (4) Similarly, we further classify every sentence on the basis of *conversationality*. News headlines are categorized as conversational when they are reported as conversation exchanges. In other words, we classify as conversational headline reports where participants or citizens are commenting on the Fulani herdsmen crisis, or speaking to the authorities on managing the crisis, such as "Our Training Helicopters Not Dropping Weapons for Herdsmen in Enugu – NAF", which are perceived to be replying to an accusation. Non-conversational headlines are classified as informational, which means that such headlines contain no conversation, no participant or citizens exchanging views with, talking to or replying to another participant in the discourse. An example of a non-conversational headline is "Herdsmen on Rampage in Delta Community". (5) The fifth variable is described as *discourse effect.* It classifies every headline as creating an effect of *fear* (e.g. "2018 Herdsmen Attacks: 500 Killed, One Million Persons Displaced in Benue in 6 Months"), of *hope* (e.g. "We Have Brought Herdsmen Issue under Control in Benue – Ortom"), or of *divisiveness* (e.g. "Fulani Herdsmen are Jihadists, Say Christian Elders").

Variable (6) *length/heaviness* accounts for the length/heaviness of every headline. We measure the length by counting the content words constituting each headline. For example, "APC Wants End to Killings by Fulani Herdsmen" consists

of six words ("APC", "wants", "end", "killing", "Fulani", and "herdsmen"). Variable (7) *focus argument* accounts for whether or not the keywords "Fulani herdsmen" or "herdsmen" function as the focus or argument of the headline (i.e. being placed in the subject position in the construction). For instance, in "Herdsmen Burn Plateau Village Houses, Kill 100-year-old Man", the focus argument is "herdsmen", whereas this is not the case in "Planned Cattle Ranches, Ploy to Create Havens for Herdsmen – MASSOB". While the emphasis is placed on "herdsmen" in the first headline, it is not the case in the second headline where the emphasis is on the discursive subordination "planned cattle ranches".

Variable (8) *discourse landscape,* accounts for the different regions of the events being reported and/or persons speaking in the headline. For instance, the speaker Miyetti Allah in "Cattle Colonies not Practicable in South-East – Miyetti Allah" is classified as a northerner, and Amaechi as an easterner in "Fulani Herdsmen Plotting Total Islamisation of Nigeria – Amaechi". Another linguistic variable (9) identifies the *modification* of the keyword "herdsmen" as either used as a noun (e.g. "Herdsmen Clash in Imo Over Missing Cows, Many Left Injured"), or as an adjective (e.g. "Suspected Herdsmen Kill Hunter in Plateau"). The last variable (10) *discourse weight* classifies headlines as reporting: (1) loss of lives, (2) serious but no loss of lives but loss of property, and (3) no loss of lives or property but commentaries which might be escalating or de-escalating the crisis. In order to answer the research question of the extent to which these news headlines reproduce or resist different ideologies inherent in herdsmen crisis discourse, all of the headlines are classified as either reproducing or resisting an ideology. That is, each headline is tagged to an ideology reproduced or resisted.

On the basis of the previous works explicating Nigerian political discourse (Taiwo 2007; Chiluwa 2007; Ayodele 2010) and patterns that emerge from the annotation of all the 751 headlines, 5 ideological groups representing *religion*, *ethnicity*, *power*, *identity politics*, and *citizenry distrust* are developed. For example, the headline "Govt Compensated Fulani for Losing Two Cows, but Ignored Farmers Whose Farmlands Were Destroyed – Teneke, Adamawa First-class Chief" drives on the ideology of identity politics and accentuates the question of social and political inequality. In addition to these five ideological groupings, we also identified headlines that are clearly neutral, i.e. headlines that do not clearly reproduce or resist any crisis-related ideology. Additional information relating to the different ideological groupings is provided in the analysis section.

Having analysed the headlines on the basis of the ten variables discussed, the results of the distributional patterns are presented in the following section. All of the variables are treated as categorical variables for statistical analysis purpose. Of course, we are well aware of the complex nature of ideologies, yet the binary operationalising of these ideologies ensures that multiple interpretations are still obtainable. A critical qualitative analysis is also provided explicating on such complexities and that of patterns that emerge from the quantitative measures.

4. Results: a distributional analysis

In this section, the results of the distributional patterns of all the variables analysed in the preceding section are presented. A statistical significance test showing what kind of relationship exists between the ideological groupings and discourse variable is conducted. As can be seen, Table 1 shows an overview distribution of all the ten variables operationalised. The distribution shows a comprehensive ideological classification into five ideological groupings, where the first one (1) is *identity politics*, which refers to headlines reproducing (p) or resisting (r) the ideological orientation that a particular group of people (who can be characterised by their religion, race, or any other social label) forms a restrictive and exclusive group, and that this exclusive group motivates the deadly activities of the herdsmen.

The next one is (2) *religion*, which refers to the headlines reproducing (p) or resisting (r) the religious ideological interpretation that the herdsmen crisis is essentially a subtle battle between Islam and Christianity. *Citizenry distrust* (3) refers to headlines reproducing (p) or resisting (r) the ideology that masses should not trust the government on bringing the crisis to an end. Such citizenry distrust implies that people should take up arms, and "defend themselves" as the security institutions of the government, particularly the police and the military will, as usual, fail to defend them against the "killer herdsmen". *Power* (4) classifies those headlines reproducing (p) or resisting (r) the ideology that the herdsmen crisis is a reflection of abuse of political power by the politically powerful North. In other words, the powerful North subjugates the politically weak South and the West. Also, such ideological interpretation will include headlines asserting that President Mohammed Buhari, himself a Fulani, shields the perpetrating herdsmen from political justice.

The last ideological grouping is *ethnicity* (5), and this classifies those headlines conceptualising the herdsmen crisis as a subtle game of ethnicity in which one ethnicity (i.e. Fulani, or the Northerners) dislikes the other ethnicities and would therefore "go to war" fighting them. Of course, not all the headlines are constructed in a way that they can be clearly operationalised in a binary form as reproducing or resisting inherent ideologies prevalent in the national political discourse. Such headlines are classified as *neutral*. Neutral headlines are then the ideal news headlines, especially in crisis-driven national political discourse. On the other hand, given that these ideologies are so tied to the social fibre and cognition of the Nigerian political discourse, then news writers, who are themselves stakeholders in any given crisis, could not but reflect a stance. Hence, neutral headlines are expected to be rare compared to ideology-loaded headlines. As Table 1 shows, there is an infinite movement of ideology underpinning the conversation in the news headlines.

Table 1 provides a two-way dimension of the ideological distribution. It shows the different communicative purposes that these headlines set to achieve. For

instance, the headlines "Buhari Not Shielding Killer Herdsmen – Osinbajo" and "Police Say They Can't Arrest Herdsmen Sponsors – Ex Naval Chief" reflect on the questions of political power and support characterising the herdsmen. While the latter headline reproduces the assumption that herdsmen enjoy political power, the former resists such an assumption. Such a two-way distinction allows us to clearly identify what kind of question is being asked in relation to the ideology underlying these different headlines. Furthermore, as can be seen in Table 1, of all the questions relating to ideological construction, the headlines reproducing ideologies of ethnicity (p.14%), and the headlines resisting ideology of power (r. 14%) are the most frequent, whereas the headlines reproducing ideology of power (p.13%) and the headlines resisting citizenry distrust (r.11%) are more likely to occur than the headlines resisting the ideology of religion (r.7%) and those reproducing the ideology of identity politics (p.4%). Surprisingly, we had expected that reproducing the ideology of religion would emerge the preferred or the strongest choice. Such expectation is driven by the fact that religion plays a crucial role in almost all spheres of Nigerian society, including the fact that the activities of the herdsmen have been understood as a two-way crisis with actors divided along the lines of Christianity and Islam.

More specifically, such expectation is clearly dismissed by the fact that the headlines reproducing religious ideology are significantly deselected (0%). Rather, a small percentage (7%) of religious-driven headlines actually resists the belief that the herdsmen crisis is a subtle crisis between Islam and Christianity. Such deselection of religious ideology reproducing headlines could be a deliberate choice by the news writers to avoid moving the representation of the herdsmen crisis to a more sensitive and volatile national debate bordering on religion. In other words, rather than move the discourse to such a sensitive question, the news writers would move the discourse to those of power, ethnicity, and citizenry distrust. Such a careful selection of headlines between those that reproduce and resist religious ideology (0% versus 7%) does not only provide insights into the underlying rhetoric of media texts (such rhetorical strategy is often associated with a possibility of manipulating the masses), but also conversely shows that ideologies reproducing religious animosity rank very highly in the discourse paradigm characterising Nigerian national political discourse structure.

In order to find out the extent to which the discourse variables and the different ideological orientations are related, which allows us to argue that the presence of a certain variable will influence the ideological direction to which a certain headline goes, we conducted a chi-square test of independence for every variable operationalised. We summed up each distribution in p & r (for example in intensification, p 9 + r1 = 10). In addition, we excluded the headlines reporting a neutral ideological stance from the chi-square test because our primary concern is to find out the relationship between ideological rhetoric underlying the texts and also that of different ideological orientations. A chi-square test of independence showed

Table 1. An overview of the distribution of ideologies reproduced and resisted by discourse variables

	Identity politics		Neutral	Religion		Citizenry distrust		Power		Ethnicity		Total
	p	r	n	r	p	p	r	p	r	p	r	
INTENSIFIER												
Intensify	9	1	90	11	0	15	14	12	28	16	2	198
(%)	*(5)*	*(0)*	*(45)*	*(6)*	*(0)*	*(8)*	*(7)*	*(6)*	*(14)*	*(8)*	*(1)*	*(100)*
Not intensify	19	6	95	43	1	55	73	83	80	87	17	559
(%)	*(3)*	*(1)*	*(17)*	*(8)*	*(0)*	*(10)*	*(13)*	*(15)*	*(15)*	*(15)*	*(3)*	*(100)*
ANIMACY OF VICTIM												
human	3	0	103	3	0	9	6	9	10	4	0	147
(%)	*(2)*	*(0)*	*(70)*	*(2)*	*(0)*	*(6)*	*(4)*	*(6)*	*(7)*	*(3)*	*(0)*	*(100)*
nonhuman	0	0	9	0	0	0	0	0	1	1	0	11
(%)	*(0)*	*(0)*	*(82)*	*(0)*	*(0)*	*(0)*	*(0)*	*(0)*	*(9)*	*(9)*	*(0)*	*(100)*
no victim	25	7	73	51	1	61	81	86	97	98	19	599
(%)	*(4)*	*(1)*	*(12)*	*(9)*	*(0)*	*(10)*	*(14)*	*(14)*	*(17)*	*(16)*	*(3)*	*(100)*
DISCOURSE FRAGMENT												
declarative	9	3	157	20	1	38	50	60	56	40	6	440
%	*(2)*	*(1)*	*(36)*	*(5)*	*(0)*	*(8)*	*(11)*	*(14)*	*(13)*	*(9)*	*(1)*	*(100)*
advisory	2	2	20	5	0	16	24	15	22	18	6	130
%	*(2)*	*(2)*	*(15)*	*(4)*	*(0)*	*(12)*	*(18)*	*(12)*	*(17)*	*(14)*	*(4)*	*(100)*
escalating	17	2	8	29	0	16	13	20	30	45	7	187
%	*(9)*	*(1)*	*(4)*	*(16)*	*(0)*	*(9)*	*(7)*	*(11)*	*(16)*	*(24)*	*(3)*	*(100)*
CONVERSATIONALITY												
conversational	19	5	20	40	1	30	27	28	42	61	12	285
%	*(7)*	*(2)*	*(7)*	*(14)*	*(0)*	*(11)*	*(9)*	*(10)*	*(15)*	*(21)*	*(4)*	*(100)*
Informational	9	2	165	14	0	40	60	67	66	42	7	472
%	*(2)*	*(0)*	*(35)*	*(3)*	*(0)*	*(8)*	*(13)*	*(14)*	*(14)*	*(9)*	*(2)*	*(100)*
DISCOURSE EFFECT												
Fear	4	1	109	8	0	21	11	35	31	9	0	229
%	*(2)*	*(0)*	*(48)*	*(3)*	*(0)*	*(9)*	*(5)*	*(15)*	*(14)*	*(4)*	*(0)*	*(100)*
hope	18	5	7	25	1	12	11	12	19	49	8	167
%	*(11)*	*(3)*	*(4)*	*(15)*	*(1)*	*(7)*	*(7)*	*(7)*	*(11)*	*(29)*	*(5)*	*(100)*
narrative	2	0	15	6	0	12	53	10	45	2	2	147
%	*(1)*	*(0)*	*(10)*	*(4)*	*(0)*	*(8)*	*(37)*	*(7)*	*(31)*	*(1)*	*(1)*	*(100)*
preventive	4	1	54	15	0	25	12	38	13	43	9	214
%	*(2)*	*(0)*	*(25)*	*(7)*	*(0)*	*(12)*	*(6)*	*(18)*	*(6)*	*(20)*	*(4)*	*(100)*

	Identity politics		Neutral	Religion		Citizenry distrust		Power		Ethnicity		Total
	p	r	n	r	p	p	r	p	r	p	r	
HEAVINESS												
short	23	7	175	49	1	60	79	82	99	99	17	691
%	*(3)*	*(1)*	*(25)*	*(7)*	*(0)*	*(9)*	*(11)*	*(13)*	*(15)*	*(14)*	*(2)*	*(100)*
Long	5	0	10	5	0	10	8	13	9	4	2	66
%	*(8)*	*(0)*	*(15)*	*(8)*	*(0)*	*(15)*	*(12)*	*(20)*	*(14)*	*(6)*	*(2)*	*(100)*
FOCUS ARGUMENT												
active voice	17	3	156	39	1	55	72	72	66	72	12	565
%	*(3)*	*(1)*	*(28)*	*(7)*	*(0)*	*(9)*	*(13)*	*(13)*	*(11)*	*(13)*	*(2)*	*(100)*
passive voice	11	4	29	15	0	15	15	19	46	31	7	192
%	*(6)*	*(2)*	*(15)*	*(8)*	*(0)*	*(8)*	*(8)*	*(10)*	*(24)*	*(16)*	*(3)*	*(100)*
DISCOURSE LANDSCAPE												
eastern	5	2	5	4	0	1	4	6	9	16	1	53
%	*(9)*	*(4)*	*(9)*	*(8)*	*(0)*	*(2)*	*(8)*	*(11)*	*(17)*	*(30)*	*(2)*	*(100)*
southern	14	3	135	48	0	25	0	15	0	12	3	255
%	*(5)*	*(1)*	*(53)*	*(19)*	*(0)*	*(10)*	*(0)*	*(6)*	*(0)*	*(5)*	*(1)*	*(100)*
northern	9	2	45	2	0	2	5	8	7	16	8	104
%	*(9)*	*(2)*	*(43)*	*(2)*	*(0)*	*(2)*	*(5)*	*(8)*	*(7)*	*(14)*	*(8)*	*(100)*
none	0	0	0	0	1	42	78	66	92	59	7	345
%	*(0)*	*(0)*	*(0)*	*(0)*	*(0)*	*(12)*	*(23)*	*(19)*	*(27)*	*(17)*	*(2)*	*(100)*
MODIFICATION												
noun	5	5	117	36	1	28	51	67	81	68	16	475
%	*(1)*	*(1)*	*(25)*	*(8)*	*(0)*	*(6)*	*(11)*	*(14)*	*(17)*	*(14)*	*(3)*	*(100)*
adjective	23	2	68	18	0	42	36	28	27	35	3	282
%	*(8)*	*(1)*	*(24)*	*(6)*	*(0)*	*(15)*	*(13)*	*(10)*	*(10)*	*(12)*	*(1)*	*(100)*
DISCOURSE WEIGHT												
loss of lives	3	2	99	1	0	10	4	26	17	5	0	167
%	*(2)*	*(1)*	*(60)*	*(1)*	*(0)*	*(6)*	*(2)*	*(16)*	*(9)*	*(3)*	*(0)*	*(100)*
no loss of lives	0	0	30	0	0	10	10	14	12	14	2	92
%	*(0)*	*(0)*	*(33)*	*(0)*	*(0)*	*(11)*	*(11)*	*(15)*	*(13)*	*(15)*	*(2)*	*(100)*
commentaries	25	6	56	53	1	50	73	55	79	84	17	499
%	*(5)*	*(1)*	*(11)*	*(11)*	*(0)*	*(10)*	*(15)*	*(11)*	*(16)*	*(17)*	*(3)*	*(100)*
TOTAL	28	7	185	54	1	70	87	95	108	103	19	757
%	*(4)*	*(1)*	*(24)*	*(7)*	*(0)*	*(9)*	*(11)*	*(13)*	*(14)*	*(14)*	*(3)*	*(100)*

that there is no relation between intensified news headlines and construction of ideological tenets. The relation between these variables was insignificant, X2 (4, N = 572) = 3.66, p <.45. In other words, herdsmen news headlines which clearly deployed intensifiers such as “again”, “another”, “severe”, might not necessarily be (re)producing or resisting a certain ideology in its communicative purpose.

As can be seen in Table 1, headlines bearing ideologies relating to citizenry distrust, power and ethnicity were constructed without the use of intensifiers (23%, 30% and 17% respectively). It implies that while intensifiers can indeed strengthen the focus of news headlines, they might actually fail to do one of the things they were to do, which is to drive out an ideology. Nevertheless, we can observe in Table 1 that the headlines not consisting of intensifiers are more likely than those consisting of intensifiers to construct ideologies relating to citizenry distrust (23%), power (30%), and ethnicity (18%). Such a pattern shows that the detection of ideology in news writing might, to some high extent, be inherently related and predicated on the basis of the intensity of the language with which the writer constructs the text, even though a network of the social structure, their sensibilities, membership, and idiosyncrasies are required.

Similar insignificant results emerged for animacy of victim, which shows that the relation between animacy of victim and ideology construction was insignificant, X2 (8, N = 572) = 7.04, p <.53. The analysis shows that the rhetoric behind referencing the victim in news headlines reporting no victim or non-human victim for 74% of the distribution might be more related to another communicative purpose than the construction of a crisis-driven ideology. However, in a study of this nature, whose focus is to objectively report crisis-driven discourse, a 26% reference to the human victim is rather surprising, given that loss of lives should rank higher than loss of property. One assumption associated with the Nigerian media and the police reporting crisis-driven events is that they both are more likely to report lesser than actual number of human casualty (e.g. report a loss of five when there is a loss of fifteen). Our distribution might be related with such reductionist reportage assumption. If news headlines are what they are, then in a crisis-driven discourse many more headlines are expected to report human casualty. As Table 1 shows, headlines reporting no victim are more likely than those reporting human or non-human victim to construct ideologies relating to citizenry distrust (24%), power (21%), and ethnicity (19%). This probably shows a negotiation by the writer in terms of what is preferred: a construction of ideology or reportage of human casualty.

Another discourse variable found insignificant is that of the heaviness/complexity of the news headlines. It thus implies that the length of the headline, be it short or long, simple or complex, is not related to the ideological function being performed by the headline. Chi-square showed an insignificant relation, X2 (4, N = 572) = 3.09, p <.54, which did not meet our expectation that longer

(or more complex) headlines are purposely long because they have more to say. Although having more to say is not necessarily selling ideology to the audience, the essential characteristic of news writing which is brevity means that only the more important words, phrases, and ideas make it to the headlines. As can be seen in Table 1, 90% of the headlines are short or simple, while just only 10% are long or complex. Meanwhile, irrespective of the complexity of the headlines, be it short/simple or long/complex, they are more likely to construct ideologies relating to citizenry distrust and power (20% and 27% for citizenry distrust, and 28% and 34% respectively). Nevertheless, there is a stand out pattern: construction of ethnicity ideology is more likely to occur in short/simple news headlines than in long/complex ones (16% versus 8%), whereas construction of power ideology is more likely to occur in long/complex news headlines than in short/simple ones.

Unlike heaviness, animacy of victim, and intensifier, all other discourse variables representing discourse fragment, conversationality, focus argument, discourse landscape, modification of keyword, and discourse weight are found significant, showing how the writers manipulate the impression given to the readers by driving the news headlines on a wide range of ideologies. A chi-square result shows that the relation between discourse fragment and construction and detection of ideology in the news headlines is significant, $X2\ (8, N = 572) = 44.94$, $p < .00$. In other words, discourse fragment, i.e. whether the headlines serve advisory, escalating, or declarative purpose, can indeed uncover whether headlines are underpinned with an ideology, and also to some extent, what kind of ideology it is. As in this case, Table 1 shows that escalating headlines (27%) are more likely than advisory (18%) or declarative (10%) headlines to express ideology relating to ethnicity, whereas advisory (30%) headlines are more likely than escalating (16%) or declarative (19%) to express ideology relating to citizenry distrust. In the same vein, a chi-square result shows that the relation between conversationality of headlines and expression of ideology is significantly related, $X2\ (4, N = 572) = 51.33$, $p < .00$.

It is further revealed that conversational headlines (25%), a sort of headlines that engage the readers, or expect to generate a conversation at the community or national level, on the one hand, are more likely than informational headlines (7%) (i.e. a sort of headlines which simply report events) to express ideology relating to ethnicity. Similarly, conversational headlines (14%) are also more likely than informational headlines (3%) to construct religious ideology. On the other hand, informational headlines (28%) are more likely than conversational headlines (25%) to construct and express ideology relating to social or political power. The emerging pattern shows that the writer is very much aware of the important ideologies in the national political discourse, which range from those of political power, dominance, ethnicity, and citizenry distrust, and would therefore manipulate the readers into activating a national discourse that moves the herdsmen discourse-at-hand to more central issues of discourse-around which always revolve around the questions of political power imbalance, domination of one ethnic group over the other, citizenry

distrust of the government and all its institutions. Moving the herdsmen discourse to those questions implies that the ideologies upon which the herdsmen headlines are constructed are more of institutionalised patterns of knowledge and discourse that often become manifest in national political discourse.

According to a chi-square test of independence, the relation between focus argument and expression of ideology is significant, $X2\ (4, N = 572) = 12.03$, $p < .02$. As can be seen, the headlines constructed in active voice (21%) are more likely than passive voice ones (16%) to express ideologies relating to citizenry distrust, whereas passive voice headlines (34%) are more likely than active voice headlines (24%) to express ideology relating to power. This pattern validates the argument that discourse crafted for mass consumption, such as news writing, is often carefully prepared with a thoughtful selection of different rhetorical strategies for different purposes. Of course, the news writer, or indeed any other writer of discourse meant to be consumed by the masses, must appear objective so that the audience do not expressly detect such linguistic manipulation. Similarly, with regards to focus argument, there is a significant relation between discourse landscape and expression of ideology in the headlines, $X2\ (12, N = 572) = 272.53$, $p < .00$. This implies that the political region of the participants brought into the herdsmen conversation by the news writers represents deliberate choices which aided the expression of different ideologies. As Table 1 shows, participants/politicians from the Eastern region of the country correlated with the expression of ethnicity and power.

In other words, the news writers use more contributions of politicians from the Eastern part of Nigeria (29% and 32%) than from the Northern (6% and 6%) or Southern parts (15% and 22%) to express the ideologies of political power and ethnic dominance respectively. As can be seen, Southern politicians are the least to express ideologies relating to political power and ethnicity. The pattern partly validates the political realities in Nigeria, in which the Eastern region of the country has been deprived of the coveted presidency of the nation for many decades. The Eastern region has never enjoyed federal power as there has always been a coalition between the South and the North, which is also the present reality. It may therefore be right to assume that the Eastern politicians would expectedly avail themselves of the opportunity, in a national political discourse, to resist the continuing political power imbalance, and domination of one ethnicity over the other.

The variables representing discourse weight and modification of the keyword "herdsmen" are also found explaining what kind of ideology we expect to find in our news headlines. Modification of the keyword "herdsmen", i.e. being used as a noun or as an adjective, is rather a more linguistic variable than a discourse variable which helps to see how the linguistic choices made by the writer contributed to the ideological function of the headlines. Complete emphasis and focus on the keyword "herdsmen" is altered when the keyword is used as an adjective (e.g. "Suspected Herdsmen Kill Five"), whereas the opposite is the case when it is used as a noun (e.g. "Herdsmen Kill five"). A chi-square test shows that indeed

the usage of the keyword as a noun or as an adjective is significant for explaining where the construction of ideology is located in the news headlines, $X2 (4, N = 572) = 39.18$, $p < .00$. The distribution in Table 1 shows that writers put all emphasis on the keyword "herdsmen" (i.e. using it as a noun without a pre-modifying element) to express ideology relating to power.

On the other hand, the keyword is pre-modified (i.e. the keyword "herdsmen" is used with an adjective before it) for the communicative purpose of expressing citizenry distrust. Also, the significant relation between discourse weight and expression of ideology, $X2 (8, N = 572) = 46.03$, $p < .00$, shows a clear manipulation of the impression given to the readers. It is also revealed that the news headlines reporting no loss of lives are crafted in such a way that they express ideologies relating to citizenry distrust and ethnic dominance though it would have been expected that headlines reporting loss of lives are a perfect fit resisting political abuse and all different means of social inequality. However, an explanation for such a choice could be the assumption that politics should not be played with loss of lives. Another explanation might be that given Nigeria's politicians' idiosyncratic practices of political power abuse, domination, and subjugation, headlines reporting a loss of property may rank higher than headlines reporting loss of lives in constructing ideologies of identity politics, power, citizenry distrust, religion, and ethnicity. In other words, some headlines can exhibit more creativity than others. That can thus imply that the writer of the news headlines ranks selling of ideology to the audience higher than just doing an objective reportage of loss of lives associated with the herdsmen crisis. This pattern reaffirms our earlier findings in the animacy of victims which shows that, for the purpose of moving the herdsmen discourse to the centre and constructing a wide range of ideologies that correlate with national political discourse, the news writers of these headlines deliberately deselect headlines reporting loss of lives, and carefully choose those headlines reporting loss of property (or those merely commenting on the loss of lives and broader events bordering on the crisis).

5. Discourse chain and movement: discourse-at-hand vs discourse-around

As the preceding analyses have shown, there is clearly a movement and a flow of discourse from discourse-at-hand to discourse-around. As evident in the data, the discourse-at-hand is that of herdsmen crisis, which is often conceptualised and juxtaposed with more central and national issues of religion, identity politics, ethnicity and domination, political and social power and its abuse, and citizenry distrust. In other words, herdsmen discourse is just a fraction of the discourse adequate enough to allow a transition to more crucial issues and questions relating to the national political discourse. In other words, the national issues of religion, identity politics, ethnicity and domination, political and social power and its abuse, and citizenry distrust are

more permanent in the cognition of the different groups making up the society than transient discourses such as herdsmen talk. This implies that almost every transient discourse in such a society as Nigeria will almost always be driven by its more permanent and inherent ideological questions, which means that outsider analysts (i.e. non-members of the society) trying to find significant social meaning in such discourse-at-hand using a different network of framework apart from those peculiar to the cognitions of the discourse-around and of the social members who live out the contours, would have failed to account for the totality of the text.

As we have shown, the chain of movement between discourse-at-hand and discourse-around is driven by motivations in discourse-around, which is often a desire to return to the centre the questions of political imbalance, domination, etc. In other words, motivation for participation in herdsmen talks, which is a periphery discourse fragment, should be found in the issues and ideologies relating to the centre discourse or discourse-around. If discourse, be it peripheral or central, at hand or around, is a totality of texts produced by people who share the same language and sensibilities (Koteyko 2006), then a small text will almost always find its meaning of the realities within the bigger text. In other words, given the different shades of the meanings of its realities, the herdsmen talk has not only shown how periphery discourse drives centre discourse but also how issues in the centre discourse create the discourse in the periphery. More specifically, in such a Nigerian socio-political entity where conversation around issues and ideologies in centre discourse can often turn violent (e.g. religion is so tied to the people and the government at all levels that discourse around religion cannot be sustained without a quick flow to ethnicity, the question of nationhood, social oppression, etc.), then they often do not form an object of national discourse in themselves but through any periphery discourse-at-hand.

Following our line of argument, it can thus be contended that a generalised discourse movement model for the identification, classification and interpretation of ideologies and its inherent dimensions would follow: (1) a creation of centre discourse, which is often a range of issues and ideologies that define the membership of the different social groups constituting Nigeria; (2) a current socio-political reality interpreting the centre discourse in (1); and (3) a fine-grained distinction of the different texts making up the periphery discourse, as to whether they reproduce or resist ideologies in the centre discourse. We assert that finding out the reality of the social meaning in a periphery discourse, i.e. discourse-at-hand, can only be reasonably done by moving the periphery discourse into the centre.

6. Concluding remarks

The present study has been able to achieve its two-fold purpose: (1) to provide a model for corpus-based discourse analysis of Nigerian political discourse, a sort of

political discourse that could not be sufficiently accounted for with only qualitative means, but with corpus method, which allows the data to speak rather than relying on all-intuitive assumptions, and (2) to show the extent to which crisis-driven discourse or periphery discourse drives on broader social ideologies to move the discourse away from transitory issues to a broader perpetual concern. We have shown that such transient herdsmen discourse drives on a chain of ideologies relating to identity politics, religion, citizenry distrust, power and its abuse, and ethnicity. We have also argued that in order to adequately and relevantly produce insightful realities into the way such transitory discourse is formed, structured and negotiated, then a recourse to the inherent ideologies that move the centre must be properly identified, classified, and interpreted.

As the distribution shows, there are emerging institutionalised patterns of ideologies, assumptions, and knowledge that are crucial for understanding the news headlines or any other such texts produced for mass consumption in the Nigerian political space. In other words, the paper has been able to show how any such transitory text can shed light on the broader social structures, together with the socio-psychological tendencies of the people involved in the texts. More specifically, the variable representing discourse landscape allows us to see into the inner make-up of the Nigerian political space, so that insights into the reality of socio-political co-existence of the Eastern, Southern, and Northern politicians and their people are provided. Furthermore, we have shown that indeed news headlines are either driven by ideology or driven by the journalistic objective principle of writing (i.e. neutral headlines), at least as shown by our data.

Of course, the degree to which such a distinction can be made is more a matter of the analyst. However, we have certainly shown that ideologically-driven media writings are usually drivers of centre ideologies. Also, we have shown that such reproduction or resistance of these centre ideologies can be predicted on the basis of linguistic and social variables. We have also shown how such variables can be derived, developed, and operationalised within a discourse theoretic framework. We have shown that discourse analysis can indeed gain so much from empirical practice; which allows us to develop hypotheses with which further studies can be tested.

For instance, the present paper has, among many others, hypothesised that any crisis-driven discourse in Nigerian political discourse will be motivated by centre ideologies such as identity politics, power, citizenry distrust, religion and ethnicity. Such hypothesis thus requires further replicability which intuitive-based approaches would not afford. On the basis of chi-square results, we can scale the variables tested in the study in this order of importance: discourse landscape, discourse effect, conversationality, discourse weight, and focus argument. In other words, discourse landscape is the strongest variable that explains the variability in our data, followed by discourse effect, and so on. The emergence of discourse landscape as a very strong variable is a true reflection of the reality of political

conversation in Nigeria, which often views the contributions of the people from the Eastern region of Nigeria as reproducing dissent, resistance of power, and reproduction of identity politics or ethnicity. As usual with empirical analysis, the findings in the present study remain tentative and should be tested in a logistic regression with a view to building a model which can more reliably provide us with a fine-grained profile revealing the socio-psychological tendencies of all the people involved in the discourse.

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Phonological Awareness of L1 Systemic Segmental Contrasts among Advanced ESL Speakers with Varied L1 Backgrounds

Abstract: The paper explores the phonological awareness of L1 among advanced adult speakers of EFL in the context of L2 pronunciation training. The subjects are students of English with Polish, Spanish, Turkish and Russian L1 background. All subjects have participated in intensive English pronunciation instruction as part of their degree training, in the English Department at the Pedagogical University in Kraków. Two aspects are targeted for examination: perception of sound contrasts and awareness of contextual variants in L1, mostly those pertaining to the consonantal and vocalic inventories, all related to their L2 (English) production goals. The material is based on longitudinal examination of course test results over the span of 3 years. The analysis reveals low sound discrimination skills in the subjects' L1, largely based on letter-to-sound correspondences and inability to see beyond print. Through explicit training in their L2 they become more sensitive to the inventory and the details of their L1 sound system, the awareness they can use to the advantage when targeting L2 sound production.

Keywords: phonological awareness, pronunciation, Formal Instruction, First Language, Second Language, Cross-Linguistic Influence

1. Introduction

The relationship between the second language (L2) learners' general language awareness and the quality of their L2 pronunciation has been noticed in a number of studies, with the claim that pronunciation instruction can promote learners' awareness of the spoken L2 and of their own learning (Kennedy and Trofimovich 2010, 173). Their awareness of the L2 language sound system, on the other hand, may provide some insights and inform their learning and pronunciation

achievement. The area infrequently addressed is the students' awareness of their native language phonological system characteristics which may affect and actually facilitate their L2 pronunciation. Phonological awareness, i.e. "conscious knowledge of the sounds, syllable structure, phonotactics and prosody of the target language" (Venkatagiri and Levis 2007, 265) has long been observed to play a major role, for example, in learning to read individual words, sentences and paragraphs in any particular language. Native sounds, contextual variants, syllables and prosody can be successfully manipulated when working on the recognition of target language phonological system properties and then moving onto the ability to produce the target elements themselves.

The present paper does not focus solely on those L1s characteristics, nor on the role of language awareness in L2 pronunciation learning in general. It fundamentally attempts to verify how much students' L1 phonological awareness pertaining to the consonantal (Polish, Spanish, Turkish) and vocalic (Russian) inventories ESL users actually possess and whether that knowledge can be meaningfully manipulated to be turned into their advantage when trying to improve English pronunciation.

To that end, we observed and examined students of English with Polish, Spanish, Turkish and Russian L1 background who have been participants of intensive formal instruction (henceforth FI; Carlet and Kivistö de Souza 2018) in English pronunciation as part of their degree training, being (foreign exchange) students in the English Department at the Pedagogical University in Kraków (henceforth PUK for convenience). Pronunciation FI at PUK is combined with activities that aim at raising learners' awareness of the cross-linguistic features between the L1 and L2 (Carlet and Kivistö de Souza 2018). The students, both Polish and foreign, are training to become EFL teachers, translators or specialists in English for Specific Purposes.

In terms of native accents of the participants, the Polish students represent an amalgam of standard and regional accents of Polish, most notably General Polish and Kraków-Poznań Speech (Ostaszewska and Tabor 2000; Dunaj 2006), with several representatives of local Podhale dialects. Students from Spain predominantly come from two main dialect areas: the Andalusian and the Castilian Spanish (Hualde 2005; Ruiz-Sanchez 2017), with a few isolated instances of Canary Island Spanish (2 students) and, recently, from Latin America, Salvador (1 student). The Turkish students in their overwhelming majority come from Adana, the Çukurova University, yet identify themselves as speakers of Istanbul Turkish, the pan-Turkish educated standard, with some of them admitting certain regional bias (Göksel and Kerslake 2005). The Russian participants speak their native tongue with a standard Moscow accent, though it has been claimed that in contemporary Russian the two competing standards of Moscow and St. Petersburg have merged so that the 21st century witnesses the emergence of a general pronunciation standard (Yanushevskaya and Bunčić 2015). In any of these cases, as per personal communication

with the participants, the differences in their native varieties are not substantial enough to guarantee a conspicuous influence on the matters investigated in the paper. The groups are heterogeneous in terms of gender, with more female participants in most L1 groups, save among students from Turkey, yet no relation has been observed between the genders in terms of their L1 awareness. The paper builds on the assumption that the perception of the native language signal (the segments and their variants) can significantly facilitate target phonology acquisition, first in perception and ultimately in production. The research material is focused on certain segmental aspects of pronunciation, therefore the conclusions are limited in scale by definition.

The paper is organized as follows: we begin by briefly discussing the state of the art knowledge about the role of first and second language phonologies in positive or negative transfer. This is followed by describing the rationale and the methodology of the study, while the data from the tests are presented and analysed subsequently. Discussion of emerging trends and observations concludes the paper.

2. Phonological awareness and Cross-Linguistic Influence: literature review

Transfer in adult language learning is normally taken to mean the effects of the native language (or some previously learned languages) on the acquisition and use of a second (or next) language (Pavlenko and Jarvis 2002, 190). Claims are made that it can simultaneously work both ways, with L1 influencing L2 and vice versa. Cross-Linguistic Influence (CLI) may then be assumed to be a process whereby the learner makes use of linguistic resources other than the knowledge of the language in which communication takes place (Ringbom 2006, 38). Therefore, such a strategy becomes a regular fixture in the context of learning the target language. Where similarity can be perceived between existing categories and structures, a general facilitating effect for comprehension and learning is assumed to occur.

> Everybody is aware that the items are different in languages other than the L1, but tends to assume that the procedures and underlying systems are basically the same in the target language as in L1, or some other language known, unless they have been shown to be different. (Ringbom 2006, 37)

Systematic differences between L1 and foreign language may naturally lead to interference in the learner's performance (Rojczyk and Porzuczek 2012, 109), though claims to the contrary have also been made, for example, that phonological learning is fundamentally guided by the learners' perception of the foreign language. As a result, learners can more easily acquire foreign sounds which are notably different from the L1 categories (so-called "new sounds"), while they experience difficulties with those sounds/elements that are similar to those of their L1 and

are thus not perceived as different (Gabriel and Thiele 2017, 80). In his review of research on transfer in second language phonology, Major (2008) notes the following:

> A great deal of research has demonstrated that similar sounds tend to be more difficult than dissimilar sounds. The reason seems to be that because that the larger the differences are, the more easily they tend to be noticed; therefore, learning is more likely to take place. In contrast, minimal differences often go unnoticed, resulting in non-learning, that is, transfer persists. (Major 2008, 72)

Ringbom (2009, 62), in turn, underlines the common instances where L1 phonological rules regularly interact with L2 rules, such as Final Obstruent Devoicing in some languages (for our study: Polish and Russian, Turkish to some extent) and claims that this L1 regularity is seldom consciously realised. When discussing phonological transfer, Escudero (2007, 112) states directly that "there is nowhere else in the learner's L2 where L1 influence is more obvious". However, the claim that the influence is always undesirable is exaggerated, as discussed below. Instances of phonological transfer are researched and documented widely (Jarvis and Pavlenko 2008).

Combined with the above notions of Cross-Linguistic Influence (CLI) is the concept of metalinguistic knowledge, defined as explicit and verbalisable knowledge about language which has been demonstrated to have facilitative effects in the acquisition of implicit knowledge by focusing on features of linguistic input (Ammar et al. 2010). The overview of research on metalinguistic awareness, conceptualised as "the ability to focus attention on language as an object in itself, or to think abstractly about language and, consequently, to play with and manipulate language" is provided in Jessner (2006, 42). It is a trait present in the linguistic behaviour of monolinguals and multilinguals, yet these groups make different use of it, both in extent and nature. The degree of metalinguistic awareness utilisation is contingent on learning strategies informing and guiding the learning process, both for perception and production. SLA learners have to take account of the knowledge of the relationships between one's two languages: "The metalinguistically aware multilingual learner explores and analyzes points of commonality between her or his language systems to obtain the target language item" (Jessner 2006, 70). This is the assumption behind the instructional practices employed during explicit L2 phonetic training that Polish and foreign students experience at PUK. The necessary pre-condition for any role that metalinguistic (phonological) awareness may potentially play is that students are able to notice patterns and paradigms. This noticing hypothesis stipulates that conscious awareness (noticing) is essential for the development of L2 (and, presumably, L1) proficiency (Venkatagiri and Levis 2007, 265), to the effect that learners' awareness of the disparity between the input and their current interlanguage enhances learning.

Available research posits that phonological awareness skills already developed in the acquisition of the first language, including knowledge of the phonological

system of the L1, will be transferred to the second language (le Roux et al. 2017). Put differently, learners come into the new language(s) with patterns from their first tongue already fixed in place (Levis and McCrocklin 2018, 78). Via extensive explicit training in the phonetics of L2, both form-focused and communicatively-based (Arteaga 2000), learners apply the known to the new, using L1 competence and familiarity as a reference point (Carey et al. 2015). The approach, known as *An L1 point of reference approach* initially develops the learner's physical awareness of their L1 phonology as a scaffold towards developing an acceptable approximation of the target speech sounds. During classes run at PUK, students are referred to L1 phonological rules, such as e.g. FOD in Polish, Russian or to a certain extent in Turkish, vowel reduction – the *ikanye* or *akanye* in Russian, or voiced stops spirantization in Spanish (Gonzáles 2006), with the hope to sensitise students to the phenomenon of transfer, negative and positive. Importantly, the learner becomes metalinguistic about their pronunciation needs (Carey et al. 2015, A27) and more aware of the L1 rules and the problems they entail.

This becomes particularly relevant when one realises that the students are reported to believe that their main problems were spelling discrepancies, lack of fluency and individual segments, they have a negative view of the role of pronunciation in their textbooks, and desire to have other types of pronunciation activities (Calvo-Benzies 2013, 46-47). Calvo-Benzies (2013) interviewed Spanish ESL learners, yet the results appear to have a universal appeal, especially in the light of the research reported below and in Buczek-Zawiła (2020; in press). It makes pedagogical sense, then, to try and sensitise students to their own potential as active participants in the studying process, drawing constant attention to their individual resources and emphasising speech awareness (Morley 1991, 493). Arteaga (2000, 343), quoting Estarellas, points out the following: "if a listener is completely unprepared for the sequence of speech sounds that he hears, his ability to mimic the sound is greatly reduced."

Most of the research that has examined learners' awareness of their L1 on L2 processing has been carried out with adolescent and adult students, and the present study is in line with that trend.

3. The study

The subject literature consistently highlights the benefits of pronunciation instruction, especially once we realise that students are routinely tested through activities such as oral exams or in-class presentations, where comprehensibility and/or fluency contribute to the grade (Steed and Delicado Cantero 2018, 104). Hardly surprising, then, is the ongoing popularity of courses dedicated to improving it, especially among (Erasmus) foreign exchange students coming to PUK. Beginning in 2015, foreign exchange students coming to the English Studies Department at PUK, apart from attending regular courses with their Polish friends

(for whom English Pronunciation course is mandatory), can participate in extra classes of different subjects. One of those, called Remedial Pronunciation Classes (for Speakers of ...) involves intensive explicit pronunciation training (FI) geared towards students of homogenous L1 background, and thus likely to experience similar systematic difficulties in their L2 oral performance. The most numerous L1 groups were Spanish and Turkish students. In recent years, more students with Russian as L1 have been joining the classes as a result of bi-lateral exchange agreements between PUK and their respective institutions. Polish students as per curriculum have 90 hours of the course called Phonetics, spanning two semesters in Year 1 and involving intensive formal instruction in English pronunciation. In either of the courses, some degree of metalinguistic ability in the L2 is promoted by classroom attention to the formal system of English. The accent taught both in regular curricular classes for Polish students and in courses designed for Erasmus students is the British Received Pronunciation. The phono-didactic materials used with students are consistent with the accent choice.

Participants of these courses provided the research material. This paper reports on the analysis of part of the material, the analysis of the whole was first attempted in Buczek-Zawiła (2020). The division of the research material was prompted by a change in course assessment protocols for foreign students, from self-reports and essays to written tests and oral production assessment. Since Polish students have been taking intra-and end-of-semester tests for many years, it seemed like a logical step to combine their results with those of the foreign learners.

The study reported on in this paper is an investigation into the extent to which adult proficient Spanish-, Turkish-, Russian- and Polish-speaking users of English as a Second Language are aware of (1) their own L1 phonological systems with segments and their variants and peculiarities; (2) of the influence (positive or adverse) of their first language segmental phonologies on the processing and producing their target language forms. The main framework behind these investigations is student multicompetence, as it offers a much broader perspective for investigating Cross-Linguistic Influence in its positive and adverse effects.

4. The material: the tests

The data for the analysis were collected primarily via two paths: experimental elicitation data (i.e. guided linguistic performance, such as elicited imitation, (oral and pen-and-paper) tests of reception and production), and self-report data (i.e. introspection and retrospection essays) (Jarvis and Pavlenko 2008). The self-reports have been analysed elsewhere (Buczek-Zawiła; in press), this paper examines the results of the tests taken by course participants. The tests were not introduced with research in mind, they form part of the evaluation procedures for course participants. The study is cross-sectional in nature.

> By way of definition, (...) a *cross-sectional* study of CLI [...] is one in which performance data are collected from individual language users at a single point in time, with no attempt made to track how CLI might change in relation to changes in the individuals' knowledge of their languages. It is relevant to point out that (...) cross-sectional research tends to be intersubjective. (Jarvis and Pavlenko 2008, 32)

The oral and pen-and-paper tests, both intra-semester and final examinations, are focused on a number of problematic areas in teaching and learning English pronunciation. Every such test comprises, among other types, a selection of "true/false" tasks, where some of the statements given target issues that are linked to the L1 sound system. These statements are designed to check whether learners are aware that certain sounds are actually present in the native sound system, even if only at the level of phonetic realisations. Secondly, the test items verify whether students can consciously identify certain patterns that may be/have been transferred and manifest themselves in their target language production. To avoid burdening students with having to remember and apply technical terminology, the questions are worded in a straightforward but non-technical manner. Examples are cited below, four test items for each L1 group of participants, the correct answer is marked in bold[1]:

(1a) Polish

The Polish word *łeb* and the English word *web* sound the same.	T	**F**
The Polish word *ręka* in natural speech has the same nasal consonant as the English *rank.*	**T**	F
The initial consonants of *tynk* (Polish) and *think* (English) have the same place of articulation.	**T**	F
The last two sounds in the Polish borrowing *mastermind* and the English source word *master-mind* do not sound the same.	**T**	F

(1b) Spanish

Spanish has more nasal consonants than English.	**T**	F
In Spanish, the "b" sounds the same in *blanco* and in *cantaba*.	T	**F**
In Spanish, the "g" sounds the same in *pagar* and in *ganas*.	T	**F**
In the Spanish words *saber* and *jóven*, the middle consonants sound the same.	**T**	F

(1c) Russian

In Russian, vowel reduction is reflected in the spelling.	T	**F**
The initial vowels in the Russian words *ягода* and *ягнёнок* sound the same.	T	**F**
In Russian, there are not so many vowels as in English.	**T**	F
Vowel length is not a distinctive feature in Russian.	**T**	F

(1d) Turkish

In Turkish, all voiced plosive consonants become voiceless when word final.	**T**	F
In Turkish, the "r" sounds the same in *Ankara* and in *Izmir*.	T	**F**
In the Turkish name *Bilal*, the two "l's" sound different.	T	**F**
The word *film* sounds the same both in English and in Turkish.	T	**F**

5. Results and analysis

While the test questions for foreign exchange students are a recent addition to the class procedures (3 years, 5 cycles of class), the ones for regular Polish students in the Department of English Studies have been used at least for 7 consecutive years. For the purposes of this study, a random selection of responses has been prepared for analysis, spanning the period of the last three academic years: 2017-18, 2018-19 and 2019-20.

Most of the test items deal with details of L1 consonantal inventories, but when preparing the tests for students with Russian as L1, the decision was made to select those that concern vowels. The primary reason for that move was that these features of Russian are universally valid, irrespective of the students' accent and vowels are where they experience the greatest interference problems. Moreover, since Russian applies unstressed vowel reduction, quite unlike the other native languages of the participants, the assumption was that this L1 property can potentially have a facilitative effect on the performance in the target system.

Table 1 shows the data for the foreign participants; there, one finds the number of participants taking the test questions (N) for each group, the number of tokens of answers and the ratio of good to bad answers. The data in this table are not broken down to individual items, since each L1 group questions targeted L1 specific phonological properties. All tests were taken at the end of the course.

Table 1. Foreign exchange students' test results

	Spanish	**Russian**	**Turkish**
N (total)	22	4	13
Tokens (4 qs x N)	88	16	52
Good answers	66	15	33
Wrong answers	22	1	19
Chi-square	6.085		
DF	2		
P-value	0.0477		

Table 2 provides the data relating to Polish students. Here, the relevant cells show results for each of the questions separately, as not all of them were used in the same number of tests, by the same number of trainees and on the same occasion.

Table 2. Polish students' test results

	The *leb* question	The *tynk* question	The *ręka* question	The *mastermind* question
N (total)	431	431	190	72
N Finals & resits	292	292	82	---
N Intra-semester	139	139	108	72
Overall good answers	223	369	89	26
Overall wrong answers	208	62	101	46
Mean	51%	85%	46%	36%
Mean total	63%			

While the data in Table 1 provide some support for the claim that as a result of training, FL learners of different L1 background have become more aware of certain features of their respective phonologies, the data for Polish students are less encouraging in this respect. The item that proved particularly problematic is the one that tackles the issue of FOD (Final Obstruent Devoicing) transfer from Polish into English (*łeb* and *mastermind*). This Polish (and Russian, for that matter) phonological pattern is regularly described in class meetings, to make students aware of the rule and the negative transfer that may result from it. They are actively encouraged through material selection and classroom practice to avoid the transfer. Yet, one could ask rather rhetorically: How can you avoid word final devoicing if you cannot identify it?, which seems to be the case with Polish participants. A significantly large number of wrong answers to this question may be interpreted as a failure to hear what they audibly produce, namely the final [p] and [t].

The inability to equate the place of articulation in the *tynk/think* pair, which essentially share the dental place (Cruttenden 2008; Rogerson-Revell 2011), confirms two assumptions: (1) that even advanced adult ESL users think graphemically rather than phonetically, and (2) that they did not engage in any cognitive effort to go beyond print. During explicit class instruction, the students are encouraged to experiment with tongue movements and lip shapes to better understand both the mechanisms of speech production and articulation in either language. At the start of the course, they may be advised to perform a more interdental articulation for the English consonant, but as the course progresses, they are instructed and expected to follow the dental (near-)contact, as advised in Kelly (2001, 55).[2] Apparently, no cognitive focus on the pronunciation features and system was implemented in this case, no metalinguistic reflection occurred.

The velar nasal occurrence in *ręka* 'hand' was not identified either. L2 learners fail to identify this realisation of a so-called "nasal e" vowel [ẽ] as a sequence of an oral vowel [e] followed by a nasal, in turn followed by a voiceless velar plosive, though they consistently pronounce them in such a manner. They blindly follow the orthographic hints and rely on the L1 transparent grapheme-to-phoneme relationship in Polish (Śpiewak and Gołębiowska 2001). Interestingly, the data from self-reports (Buczek-Zawiła 2020; in press) confirm that also foreign students, most notably Turkish and Spanish ones, in their submitted self-reports would insist on the absence of [ŋ] in the phonological systems of their respective L1, despite cases of homorganic nasal-to-stop assimilation, within words or across word boundaries:

(2a) Spanish *tengo* ['teŋgo] 'I have', *domingo* [do'miŋgo] 'Sunday' and *un caso* [uŋ 'kaso] 'a/one case' (Arteaga 2000; Coe 2001; Kochetov and Colantoni 2011)
(2b) Turkish *mangal* ['maŋgal] 'barbecue', *banka* ['baŋka] 'bank', *Ankara* ['aŋkara] (Thomson 2001; Yavuz and Balcı 2011)

The velar nasal was not targeted in the case of Russian speakers, since Russian lacks a phonemic or allophonic [ŋ] (Walczak 2018). The velar nasal in English words is usually replaced by a [g] or a dental [n] (Monk and Burak 2001, 147).

The analysis of responses from foreign participants demonstrates that, after intensive perceptual and articulatory training in English phonetics supplemented with performing written consciousness-raising tasks pertaining to their first language phonologies, they have become more familiar with their respective phonological background, though not all to the same degree. At the same time, all the probe questions emphasise again the importance of phonetic/phonological environment in which speech sounds occur, focusing on important sound-spelling relationships (Morley 1991).

Table 3. Spanish students' test results

	The *blanco*/*cantaba* question	**The *pagar*/*ganas* question**	**The *nasals* question**	**The *saber*/*jóven* question**
N (total)	22	22	22	22
Overall good answers	21	20	8	17
Overall wrong answers	1	2	14	5
Mean	95%	90%	36%	77%
Mean total	74.5%			

To begin with Spanish students (Table 3), the answers given generally reveal their understanding that same spelling does not always mean same pronunciation,

even in their own language. Pairs like *blanco*/*cantaba* and *pagar*/*ganas* illustrate the case in point – the stop ([b/g]) vs. the approximant ([ß/ɣ]) realisation. The pair *saber*/*jóven* represent the reverse case – different spellings stand for the same sound, the approximant [ß] (Coe 2001, 92; Gonzáles 2006; Nowikow 2012). The question pertaining to the number of nasal consonants in Spanish targets their perceptual sensitivity to contextual variants, as with the contextually present [ŋ] in *tango* ['taŋgo] and the phonemic palatal [ɲ] in *caña* ['kaɲa] 'cane' or the allophonic one in *banyo* ['baɲdʒo] 'banjo', Spanish outnumbers English when it comes to nasal segments (Hualde 2005; Nowikow 2012). To be able to handle the questions successfully, the respondents needed to approach them metacognitively, admitting that what you actually hear or say may be effectively different from what you expect from the written form, especially so because in Spanish one can normally predict the pronunciation of a Spanish word by its spelling, while in English the situation can be markedly different (Calvo-Benzies 2019).

Table 4. Russian students' test results

	The *vowel reduction* question	**The *ягода*/*ягнёнок* question**	**The *number of vowels* question**	**The *vowel length* question**
N (total)	4	4	4	4
Overall good answers	4	3	4	4
Overall wrong answers	0	1	0	0
Mean	100%	75%	100%	100%
Mean total	93.7%			

Russian students (Table 4), apart from sharing the transfer of word-final obstruent devoicing with Polish learners (Monk and Burak 2001), additionally experience problems with vowel reduction, absent from any of the remaining L1s discussed here. The process of reduction of unstressed vowels does not exist in Spanish, Polish or Turkish. In Russian it does, but the orthography does not mark it in any way (Yanushevskaya and Bunčić 2015; Walczak 2018). That is why the first two questions proved problematic during class practice, though it appears that students succeeded in assimilating this piece of their L1 phonologies. The questions relatively less problematic turned out to be those that dealt with the inventory numbers and vowel length as a contrastive property. Here, much like in Polish, the students rightly noticed the absence of long vowels from the phonology of Russian. And following awareness-raising class activities, just as with the Spanish speakers, the Russian students were able to notice that not only do the vowels differ in number but, also, there is technically no vowel that is identical in the two languages compared. In L1 Russian, Spanish or Polish, vowels are relatively short but maximally distinct (Arteaga 2000, 344).

The L1-reference test questions selected for Turkish participants represent the

problem areas pertaining to features that can be labelled "pan-Turkish". They will be characteristic not just of standard Turkish accent (Istanbul Turkish) but also of other varieties, most notably Southern and Western Anatolian (e.g. Adana), where the overwhelming majority of students come from.

Table 5. Turkish students' test results

	The *final plosives* question	The *Ankara/Izmir* question	The *Bilal* question	The *film* question
N (total)	13	13	13	13
Overall good answers	10	8	8	12
Overall wrong answers	3	5	5	1
Mean	76%	61%	61%	92%
Mean total	73%			

The Turkish ESL students (Table 5) surprisingly showed good handling of word final devoicing of stop consonants, they knew that words in Turkish do not end in a voiced plosive [b, d, g] or a voiced affricate [ʤ] and even the presence of a corresponding grapheme in the written form of words would probably signify that the word is a borrowing and thus alien to the Turkish system (Thomson 2001, 216; Göksel and Kerslake 2005; Yavuz and Balcı 2011, 48; Rogerson-Revell 2011, 289). The more problematic turned out to be the instances of variants of [r] and [l] sounds. Turkish /l/ has two allophones [l] and [ɫ], used in mutually exclusive contexts, the same is true about the /r/-type sounds (Thomson 2001, 216). Exactly why it is that in these cases the overwhelming influence of orthography is so powerful remains unclear. Dealing with the word-final cluster *-lm-* in *film* was only mildly problematic. When the students were able to disassociate themselves from the written form, they noticed that indeed this consonant combination in Turkish is not permissible and is broken by an epenthetic vowel (Thomson 2001, 216; Yavuz and Balcı 2011, 48).

These results on their own perhaps do not reveal much, yet the implications, coupled with the data from self-reports (Buczek-Zawiła 2020; in press) and (admittedly partially anecdotal) class observations tendencies, reveal certain patterns. These are discussed in the following section.

6. Discussion

The data obtained and analysed above essentially indicate that advanced learners of ESL perceive the target and the native language sound system phonemically and may be guided in their perceptions by the phonological rules applicable in their

L1. The spelling conventions of the participants' native language appear to play a role, too, at least at a superficial "first glance" level. The *web/łeb* pair illustrates this point: although speakers of Polish do not pronounce the voiced [b] in *łeb* as a result of the rule of Final Obstruent Devoicing, upon seeing the word spelt with the <b> grapheme, they immediately assume that the grapheme must stand for the /b/ phoneme and thus they equate the pronunciation of the two words. A similar case is reported for Turkish ESL learners: in Turkish, there is a substantial degree of regularity in terms of orthography and pronunciation, therefore "when Turkish EFL learners first encounter words in English in their written forms, they tend to pronounce these words as they are represented on paper" (Bardakçi 2015, 2375). Individuals vary in their ability to notice actual pronunciation details and foreign language learners vary in the amount and depth of their (non-) verbalisable knowledge about both their L1 phonology and L2 pronunciation. It has been argued before that for ESL learners to be able to create new L2 phonetic/phonological categories, they must first be able to perceive the cross-linguistic difference or similarity and link those to achieve accuracy in L2 production (Arteaga 2000, 346). An awareness of similarities and/or differences between languages can also be raised through direct instruction and, therefore, formal class instruction, executed in all types of pronunciation classes at PUK might be a mediating variable that facilitates cross-linguistic positive influence (Melby-Lervåg and Lervåg 2011).

It transpires from the data that adult advanced ESL learners to a large extent rely on rules and categories of their own language when learning to perceive and ultimately produce target language sounds. That inevitably leads to inaccuracies, as L1 categories are replicated and adjusted so that they can fit into the L2 systemic contrasts, to take the example of transfer of word final obstruent devoicing pervading the phonological systems of, among others, Polish and Russian, and to some extent Turkish, which seems non-detected until specifically and straightforwardly pointed out during consciousness-raising tasks and productive practice (Buczek-Zawiła 2015). The test results obtained by Polish Advanced ESL speakers on recognition tests (the *web/łeb* or *mastermind* assumed equivalence) clearly show that in cross-linguistic contexts the FOD fails to be identified. This, in turn, is related to the next group of problematic areas. One of these is that there are some persistent issues in understanding the concepts of the English sound system when teaching the language, resulting in "fossilised habits of articulating certain sounds due to factors ranging from little awareness of the importance of pronunciation training during learning to orthographic structure difference between Turkish and English language" (Geylanioğlu and Dikilitaş 2012, 49). These remarks appear to be pertinent also to speakers of Polish, Russian and Spanish.

Another factor is the relative insensitivity to allophonic variants which are generally not reflected in the spelling. The insistence on the actual isomorphy of [b] and [v] in all contexts in Spanish, on the absence of [ŋ] in Turkish or Polish, on one and unchanging quality of some vowel sounds (most notably [a] and [o]) in Russian – all

this testifies to strong resistance on the part of adult advanced ESL students to incorporate contextual influence on sound perception and production. The awareness that what are contextual variants in L1 can actually function as contrastive segments in the target language phonology can effectively facilitate the mental adjustment to the perceived impossibility of pronouncing them well. When they develop fine recognition skills, the students become better able to organise and manipulate the contextual variants as required by the target phonological system. Part of the variation in L2 phonological awareness could be explained with differences in L1 phonological awareness, either implicit, developed through language contact and use, or explicit through instruction, consciousness-raising activities and contact with the written script (Kivistö de Souza 2015). That idea receives support in the test data, which show a better, more conscious understanding of the L1 systems as a result of specific classroom task demands. The results also testify to the developing ability to apply L1 phonological awareness to the system of L2. By asking students to compare elements of their respective native languages and English, we effectively engage them in performing meaningful analysis that fosters active access to the target system.

Classroom practice as well as the tests results provide ample evidence that in the speakers' minds both first and foreign languages are represented graphically. Polish, Russian, Spanish and Turkish ESL students begin their linguistic experience in a linguistic system with transparent regular spelling systems. Therefore, one of the greatest areas of difficulty they face is to be able to disassociate themselves from the evidence of orthography. That is not to say that spelling information cannot and should not be utilised in adult ESL pronunciation training. It can, as long as through meaningful activities, e.g. think-aloud protocols, classroom data analysis, students are made aware that near-religious adherence to what spelling offers can lead to intelligibility problems. When, for example, every letter is faithfully reproduced (Spanish, Russian) or the grapheme-to-phoneme relationship in English is different than in L1 (Turkish 'j' = [ʒ]), severe distortion in the speech signal may occur.

All this suggests that L2 experience alone might not be enough to develop the awareness of L2 phonological rules to be transformed into actual use. Kivistö de Souza (2015) observes that aspects of L2 pronunciation are not easily noticed and identified by students on their own or only through exposure to L2. Therefore, it appears that before most L2 language learners can accurately identify phonological variances, they require specific training or the use of consciousness-raising activities or input enhancement. It is also possible that part of the variation in L2 phonological awareness could be explained with differences in L1 phonological awareness, where instruction about L1 phonology could be employed as an aid in L2 pronunciation teaching.

7. Conclusion

The paper attempts to demonstrate how the concepts of cross-linguistic similarity along with students' phonological awareness of their first language are relevant to foreign language phonological acquisition. The role played by such perceived similarity – or lack thereof – will differ both qualitatively and quantitatively, being contingent on the learners' awareness of L1 phonological system intricacies.

Such awareness is not easily acquired. It requires implementing active consciousness-raising and noticing tasks. Such an approach would initially involve developing the learner's awareness of their own L1 phonology as a scaffold towards developing an acceptable approximation of the target speech sounds while taking into account learner needs (Carey et al. 2015). Admittedly, the focus of the study was on the segmental portion of both L1 and L2 phonological systems. However, it is entirely feasible that similar treatment is needed in the case of the suprasegmental domain, frequently argued to be the desirable starting point in developing and improving English oral skills (Morley 1991; Carey et al. 2015; Levis and McCrocklin 2018).

In the teaching of a foreign language, teachers consistently assume that explicit teaching of the L2 system, whether grammatical or phonological, will facilitate both what is learned and how quickly it is learned (Venkatagiri and Levis 2007). This paper argues that mastering of the phonological rules of English and their practical application can additionally be supported through raising and manipulating learners' awareness of their native phonologies.

Notes

1 For the Spanish, Russian and Turkish examples, I am greatly indebted to both my colleague, Piotr Okas, IFA, PUK as well as former students who consulted their relevance and suggested adjustments.

2 Kelly (2001, 55) gives us some suggested ways of explaining how to form these two TH consonants: "For the articulation of the [ð] and [θ] sounds: Put the front of your tongue against the back of your top teeth. Let the air pass through as you breathe out. Don't use your voice. Hold the sound, and add your voice".

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Development of Metalinguistic Awareness in EFL Vocabulary and Spelling: A Longitudinal Case Study of a Child and Adult with Dyslexia

Abstract: This longitudinal case study aimed at investigating the development of metalinguistic awareness in EFL spelling and vocabulary in two Croatian learners with dyslexia who differed in age and language proficiency – a child and an adult. They attended weekly sessions that aimed at improving their English spelling and vocabulary. The data were collected for 45 weeks using the teacher's notes and audio-recorded lesson observations. The results showed that the participants developed their metalinguistic skills; however, the age and language proficiency factor was salient. Also, the metacognitive component of the instruction had a different effect on the development of metalinguistic skills in spelling and vocabulary acquisition. Pedagogical implications are discussed.

Keywords: metalinguistic awareness, dyslexia, age factor, English as a foreign language, spelling, vocabulary

1. Introduction

Metacognition "refers to one's knowledge concerning one's own cognitive processes and products or anything related to them" (Flavell 1976, 232). It is critical for successful second language development (Anderson 2008; Haukås 2018) because self-reflective learning behaviour allows controlling cognitive processes (Goswami 2014). It is also a core element of second language learning strategies (Oxford 2017). For example, metacognition helps the learner extend their mental lexicon by identifying morphological patterns (Michońska-Stadnik 2013) and comprehend the text more efficiently (Chodkiewicz 2013). Metacognition is also crucial for spelling skills development (Cordewener et al. 2018). Metacognitive skills allow the learner to judge how difficult the word is likely to be spelt and

how this difficulty can be overcome to result in the correct spelling of the word (Block and Peskowitz 1990).

However, the use of metacognitive strategies may be age- and language proficiency dependent. Since children cannot fully control cognitive processes (Berk 2018), it can be assumed that older learners are more likely to monitor their language learning more efficiently (Griffiths 2008). On the other hand, higher language proficiency results in more extensive use of metacognitive strategies (Anderson 2008).

Metacognitive awareness may also be correlated with intelligence (Sternberg 1985), and dependent on the learner's non-academic characteristics such as socioeconomic status, cultural and family background (Hartman 2001), the learner's motivation (Mayer 2001), anxiety (Wolters and Pintrich 2001), and transformation of the learning experience (Kolb 1984 cited in Coffield et al. 2004, 61).

More specifically, metalinguistic awareness (MA) is a subfield of metacognition (Gombert 1992). It is conscious thinking about the patterns and rules of the language (Schneider and Crombie 2003). It involves multiple skills related to various language components (Gombert 1992; Bialystok et al. 2014), and it allows an individual to reflect and manipulate different language structures (Tunmer and Herriman 1984).

Baker and Brown (1984 in Schneider and Ganschow 2000, 74) distinguish two forms of MA: "knowledge about cognition", which is knowledge about the linguistic rule system underlying the language activities (e.g. recognition of the English spelling rule), and "regulation of cognition", which refers to knowledge about the strategies to apply this metacognitive knowledge (e.g. the ability to use this rule in writing).

According to Schneider (1999), metalinguistic awareness involves information processing and metalinguistic awareness application. The former includes self-correction after encouragement or stimulus, independent self-correction, remaining in thinking pause, asking questions indicating metalinguistic processing, and identifying vocabulary items correctly in the review using mnemonic devices, which is a partly automatised process. In contrast, the latter includes correct application of the learned rules in different contexts, summarising the rule of a rule pattern either correctly or incorrectly, making rules independently, discovering a rule without help, making correct constructive reference to native language structures, and identifying vocabulary items correctly in a review without using mnemonic devices, which is an automatised process.

The development of MA may start at the beginning of language acquisition, formal schooling, or at later stages (Tunmer and Herriman 1984). Research studies, though scarce, provide inconclusive evidence of various starting points of MA development. For example, Chaney (1992) found that children as young as three years old can make metalinguistic judgments, which is salient later for their reading skills development (Chaney 1998). Duncan et al. (2009), on the other hand,

observed that children aged 5-6 developed MA relying on their earlier linguistic knowledge.

MA development may depend on language characteristics, curricula of the educational system (Duncan et al. 2009), and the learner's vocabulary size (Altman et al. 2018). It was also found to be greater in multilingual speakers as second language acquisition is advantageous for developing MA in various language aspects (Adesope et al. 2010; Reder et al. 2013). However, MA development in the second language setting may significantly depend on language characteristics (Altman et al. 2018) and the learner's cognitive profile (Brooks and Kempe 2013).

Since the ability to monitor and control the thinking process is critical for successful learning (Goswami 2014), it should be promoted by language teachers (Siegel 2005). Students should be encouraged to find about the structures and uniqueness of the new language, why certain expressions are used the way they are, and how students can self-correct and monitor their own learning process (Schneider and Crombie 2003). However, the importance of metalinguistic instruction in second language learning has been questioned because it does not promote communicative competence (Serrano 2011).

Nevertheless, many studies have reported an overall positive effect of metalinguistic instruction on language skills development. Yet, its efficiency depended on participants' individual differences, the length and intensity of the instruction, as well as the content of the training programme. For example, the learner's age and language proficiency may be salient (White 2008; Vold 2018), a shorter period of instruction may yield moderate results (Serrano 2011), and improvements in metalinguistic skills may be due to the student's familiarity with the instructor and the metacognitive awareness training method (Schneider 1999).

In the context of the first language, especially in children with specific learning difficulties or speech and language disorders, research findings showed that metalinguistic instruction improved spelling and reading skills in Hebrew- (Schiff et al. 2016) and English- (Hirschman 2000) speaking children with specific language impairment, or impaired phonological skills in Arabic (Layes et al. 2015) and Chinese (Wang et al. 2020) children with dyslexia. In contrast, second language studies have investigated the effect of metalinguistic instruction on various second language skills, including English oral tasks in Spanish/Catalan bilinguals (Serrano 2011) and Quebec French-speaking children (White and Ranta 2002), English phonological skills (Siu et al. 2018) and grammar (Hu 2011) in Chinese speakers, and German phonology/orthography, grammar, and vocabulary/morphology in adult English speakers (Schneider 1999).

The specific difficulties in phonological processing, verbal memory, and verbal processing speed experienced by learners with dyslexia may have significantly affected the development of language skills in a second language (Kormos 2017). Therefore, language learners with dyslexia should be taught in a multisensory, explicit and structured way to develop higher metalinguistic skills (Schneider and

Crombie 2003). The positive effect of such instruction has been evidenced by many studies in the context of foreign languages (e.g. Schneider 1999; Nijakowska 2008; Pfenninger 2015). However, the study by Schneider (1999) is a rare example of monitoring MA development in learners with dyslexia in the second language context. From the research perspective, this may be so because monitoring metacognitive processes is challenging and time-consuming (Tracy-Ventura and Paquot 2020). However, from the pedagogical perspective, successful learning may significantly depend on metalinguistic skills (Goswami 2014) and thus metalinguistic strategy instruction is important (Siegel 2005). Therefore, this paper attempts to provide the reader with information on how metalinguistic processes can be researched in the form of case studies, and how teachers can successfully promote metalinguistic skills development in learners of different ages and language proficiency.

2. The study

This longitudinal multiple case study was conducted in a teaching context and according to the recommendations for conducting case studies research in rehabilitation studies (Tate et al. 2014, 316-317); the intervention involved discrete phases, and the effect of the intervention was measured repeatedly and frequently.

Since the time of instruction in the so-far studies that investigated the effect of metalinguistic training varied considerably, lasting between a few weeks (e.g. Serrano 2011; Siu et al. 2018) and a few months (Hirschman 2000), it is difficult to establish its optimal duration. All these studies reported a positive effect of the instruction; however, shorter training tended to be less effective (Serrano 2011). Given that metalinguistic development hinges on many academic and non-academic factors (Hartman 2001), it can be assumed that metacognitive instruction should take a considerable amount of time to have any significant effect on language skills performance, especially in younger learners whose language functional control hinges on language development (Gombert 1992). Therefore, the instruction in the present study lasted for 45 weeks.

Furthermore, as controlling of cognitive processing may be age-dependent (Berk 2018) and language proficiency may be a salient factor in metalinguistic processing (White 2008), this study compares the development of metalinguistic awareness in two learners of different language proficiency and ages, a child and an adult.

The study focused on spelling and vocabulary skills as learners with dyslexia may find these difficult to develop because of their lower working memory capacity (Crombie 2000; Kormos and Smith 2012), especially in English because of its low orthographic transparency (Nijakowska 2010).

Finally, vocabulary learning was not the main focus of the so-far studies that investigated metalinguistic development. Schneider (1999) suggested that

future investigation should focus on MA development in vocabulary learning since her participants struggled with explicit mnemonic metalinguistic vocabulary processing devices. Also, observing MA development in this area is undoubtedly important as vocabulary size is critical for the development of the core foreign and second language skills.

2.1 Aim and research questions

The study aimed at investigating the development of MA in EFL vocabulary and spelling learning in two learners with dyslexia who differed in age and language proficiency. The study sought to answer the following questions:

1. To what extent will the participants differ in their MA development in EFL vocabulary and spelling learning considering the age and language proficiency factor?
2. Will MA development be equally important for learning EFL vocabulary and spelling?

Drawing on the literature review, it could be hypothesised that the older participant will be developing their MA at a faster rate because of their higher language proficiency and more mature cognitive skills. As to the second research question, it could be assumed that metalinguistic development will be important for both spelling and vocabulary learning since MA considers many subfields (Gombert 1992) and facilitates the learning and use of different L2 skills (Hu 2011).

2.2 Participants

Two male EFL learners with dyslexia, whose mother tongue (L1) was Croatian, participated in the study. They differed in age. The first participant (P1) was ten years and eight months old when the study began, and 11 years and 11 months old when the study finished. The second participant (P2) was 21 years and eight months old when the study started, and 22 years and 11 months old when the study finished.

The participants were diagnosed with dyslexia in their L1. Both had an uneven cognitive profile typical of individuals with dyslexia. Their non-verbal intelligence was above-average, but they experienced difficulties in reading and spelling in their L1 and EFL.

P1's EFL knowledge was assessed against the national curriculum for primary school (The Croatian Ministry of Science, Education and Sports 2006). The scope of the assessment included the English language skills that were taught in the first four years of primary school. The results of the test showed that P1's English skills were at the level of year one, which suggested a three-year delay in reference to the curriculum requirements.

The academic version of the International English Language Testing System was used to measure P2's English language proficiency. The test results suggested

that P2's English language skills were upper intermediate (the B2 level according to the Common European Framework of Reference for Languages).

2.3 Procedure

The participants attended one English lesson weekly on a one-to-one basis. The break between the lessons was a minimum of three and a maximum of eight days. The lessons were arranged in three teaching sessions: 10-week-course (session 1), 15-week-course (session 2), and 20-week-course (session 3). Between session 1 and 2, there was a six-week break; between session 2 and 3, there was a four-week break.

The participants learned between two to five words or phrases per lesson – the meaning of the word or phrase and its spelling. The content of the lessons was adjusted to the student's knowledge and learning needs. The items were presented in an understandable context for the learner to make the instruction more effective, following the suggestion by Mihaljević Djigunović (1998). The teaching method was based on the approaches recommended for teaching EFL to learners with dyslexia, that is multisensory, structured, explicit, metacognitive instruction (Schneider 1999; Schneider and Ganschow 2000; Schneider and Crombie 2003; Nijakowska 2010). The author of this paper was the teacher.

2.4 Data collection

The learner's knowledge of the items learned in the previous lesson was assessed weekly (short-term retrieval). In the case of failure of acquisition or a partial acquisition, additional instruction was provided. An item was taught as long as full acquisition occurred; however, no longer than for five consecutive lessons.

Learning of the items was also assessed after each session (long-term retrieval). TEST-VOC was used to assess the participants' semantic knowledge of the vocabulary, whereas TEST-SPEL was used to assess the retrieval of spelling. There were three TEST-VOCs and TEST-SPELs. TEST-VOC 1 and TEST-SPEL 1 were administered after the first session and the break and included the items that were fully acquired; TEST-VOC 2 and TEST-SPEL 2 were carried out after session 2 and included the items learned in the first and second session; TEST-VOC 3 and TEST-SPEL 3 were conducted after session 3 and a break of six weeks and assessed the retrieval of the material learned in all three sessions. The findings regarding spelling and vocabulary development in the two participants were reported in two author's publications (Kałdonek-Crnjaković, 2015; 2019).

The development of metalinguistic awareness was monitored using "the Criteria for Metalinguistic Processing" developed by Schneider (1999, 166; see Table 1 below). The metalinguistic processing instances were observed in every session and during the vocabulary (TEST-VOC) and spelling (TEST-SPEL)

assessments. The instances were recorded by the teacher during each vocabulary and spelling activity. Subsequently, the record was verified with the lessons' audio recordings.

Table 1. Criteria for measuring metalinguistic processing

Codes	Metalinguistic skills in the information processing category
1	Self-correction after encouragement/stimulus
2	Self-correction on his own
3	Remaining in thinking pause
4	Asking questions indicating metalinguistic processing
5	Identifying vocabulary item(s) correctly in the review using mnemonic devices (partly automatised process)
Codes	**Metalinguistic skills in the application of metalinguistic awareness category**
6	Identifying vocabulary item(s) correctly in the review without using mnemonic devices (automatised process)
7	Correct application of the learned rules in different contexts
8	Summarising the rule of a rule pattern
9	Making his own rule or discovering a rule without help
10	Making correct constructive reference to native language structures

2.5 Data analysis

Data analyses are presented separately for each participant, and the discussion of the results is based on the two case studies. The analyses include the aggregate number and percentage of metalinguistic instances in spelling and vocabulary learning in each session and retrieval in each assessment (TEST-VOC, TEST-SPEL) with the indication of the metalinguistic skill type and its category.

The significance of the difference between instances in vocabulary and spelling was calculated using a *t*-test for independent means. Also, the Cohen's *d* was used to report the effect size (Cohen 1988).

The reported frequency of instances occurrence included the aggregate number of instances and the mean for the unit of five lessons and per one session. The difference between the participants in this regard was calculated using *t*-test for independent means and the Cohen's *d* (Cohen 1988).

3. Results

Participant 1

In the first session, there were 106 instances in total with 49 instances in vocabulary (46%) and 57 in spelling (54%). All the instances in vocabulary learning were in the information processing category involving three metalinguistic skills (codes 1, 3, 5). In contrast, when learning to spell in this session, P1 used two skills in the same category (code 1 and 3; 63% and 37%, respectively).

In the second session, the aggregate number of metalinguistic instances was 213, with 89 instances in vocabulary (42%) and 124 in spelling learning (58%). In vocabulary learning, all instances occurred in the information processing category involving four skills (codes 1, 2, 3, and 5); however, most frequent were self-correction after encouragement/stimulus (code 1) and remaining in thinking pause (code 3) (85%). Similarly, 95% instances in spelling learning involved the four skills in the information processing category (code 1, 2, 3, and 5), with a prevailing number of self-correction after encouragement/stimulus (code 1) and remaining in thinking pause (code 3) (87%). Five per cent of the instances were the correct application of the learned rules in different contexts (code 7) in the application of metalinguistic awareness category.

In the third session, 282 instances occurred; 105 instances in vocabulary (37%) and 177 in spelling learning (63%). When learning vocabulary in this session, P1 used four skills in the information processing category (codes 1, 2, 3, and 5), but mainly self-correction after encouragement/stimulus (code 1) and remaining in thinking pause (code 3) (86%). In spelling, 96% of the instances occurred in the information proceeding category (codes 1, 2, 3, and 5), and mainly involved two skills (codes 1 and 3) (87%). P1 also used the correct application of the learned rules in different contexts (code 7; 4%) in the application of metalinguistic awareness category.

In TEST-VOC 1 and TEST-SPEL 1, 28 instances occurred in total with seven in vocabulary (25%) and 21 in spelling retrieval (75%). All instances were in the information processing category, involving two skills (code 1 and 3).

In TEST-VOC 2 and TEST-SPEL 2, there were 24 instances in vocabulary (32.5%) and 50 in spelling retrieval (67.5%). In vocabulary retrieval, all instances were in the information processing category (codes 1, 2, and 3), and mainly involved the skills of remaining in thinking pause (code 3) (62.5%). Similarly, most of the instances in spelling retrieval were in the information processing category (92%; codes 1, 2, 3 and 5), and mainly involved self-correction after encouragement/stimulus (code 1) and remaining in thinking pause (code 3) (74%). The remaining instances involved the correct application of the learned rules in different contexts (code 7) in the application of metalinguistic awareness category (8%).

In TEST-VOC 3 and TEST-SPEL 3, 48 instances occurred in vocabulary

(43%) and 64 in spelling retrieval (57%). In vocabulary retrieval, P1 used four skills in the information processing category (codes 1, 2, 3, and 5), and mainly with self-correction after encouragement/stimulus (code 1) and remaining in thinking pause (code 3) (79%). Similarly, in spelling retrieval, the instances occurred in the information processing category (codes 1, 2, 3, and 5) (92%), and mainly self-correction after encouragement/stimulus (code 1) and remaining in thinking pause (code 3) (67%). The correct application of the learned rules in different contexts (code 7) in the application of metalinguistic awareness category was used in 8% of the instances.

The difference between the instances in vocabulary and spelling learning was statistically non-significant but with a medium effect size ($t(12) = -1.01876$; $p = .166$, $d = 0.59$).

A consistent increase of instances was observed over time. In the first session, there were 42 instances in the first five lessons and 64 in lessons 6–10. The average number of instances per lesson increased from 8.4 in the first five lessons to 12.8 in lessons 6–10; the overall mean was 10.6.

In the second session, there were 66 instances in the first five lessons, 75 in lessons 6–10, and 72 in lessons 11–15. The average number of instances per lesson increased from 13.2 in the first five lessons to 15 in lessons 6–10, and 14.4 in lessons 11–15; the overall mean was 14.2.

Similarly, in the third session, in the first five lessons, there were 65 instances, 72 in lessons 6–10, 69 in lessons 11–15, and 76 in lessons 16–20. The average number of instances per lesson rose from 13 to 15.2 (14.4 was for lessons 6–10 and 13.8 for lessons 11–15); the overall mean was 14.1.

Participant 2

In the first session, the aggregate number of instances was 251, with 27 in vocabulary (11%) and 224 in spelling learning (89%). The instances occurred both in the information processing (codes 1–5) and the application of metalinguistic awareness category (codes 6–8) but in the majority in the former (86%). In spelling learning, P2 used eight out of ten metalinguistic skills (codes 1–8). In contrast, in vocabulary learning, he used the first four skills in the information processing category (codes 1–4) and one in the application of metalinguistic awareness category (code 7).

In the second session, the total number of instances was 362, with 50 in vocabulary (14%) and 312 in spelling learning (86%). The instances occurred in both categories but mainly in the information processing one (87%). When learning to spell, P2 used nine skills (codes 1–9). When learning vocabulary, he used all the skills in the information processing category and one skill in the application of metalinguistic awareness category (code 7).

In the last session, there were 485 instances, with 76 in vocabulary (16%) and 409 in spelling learning (84%). The instances involved mainly the skills in

the information processing category (83%). P2 used all the skills but one (code 9) when learning to spell. In contrast, when learning vocabulary, he used all the skills in the information processing category but only one (code 7) in the application of metalinguistic awareness category.

In TEST-VOC 1 and TEST-SPEL 1, there were 83 instances in total with ten in vocabulary (12%) and 73 in spelling retrieval (88%). In vocabulary retrieval, the instances involved three skills in the information processing category (codes 1–3). In spelling retrieval, the instances involved all ten skills; however, most of the instances occurred in the information processing category (89%) and mainly in the form of self-correction after encouragement/stimulus and remaining in thinking pause (codes 1 and 3) (71%).

In TEST-VOC 2 and TEST-SPEL 2, there were 111 instances in total with 16 in vocabulary (14.5%) and 95 in spelling retrieval (85.5%). In vocabulary retrieval, the instances involved three skills in the information processing category (codes 1–3). In contrast, in spelling retrieval, P2 used all the skills but making his own rule or discovering a rule without help (code 9). However, most instances involved skills in the information processing category (codes 1–5) (88.5%), and mainly self-correction after encouragement/stimulus and remaining in thinking pause (codes 1 and 3) (74%).

In TEST-VOC 3 and TEST-SPEL 3, there were 134 instances in total with 22 in vocabulary (16.5%) and 112 in spelling retrieval (83.5%). In spelling retrieval, P2 used eight skills (codes 1–8); however, with a prevailing number of instances in three skills (codes 1–3) in the information processing category (89%). In vocabulary retrieval, P2 used three skills in the information processing category (codes 1–3).

The difference between instances in vocabulary and spelling learning was significant with a large effect size ($t(12) = -3.03753$; $p = .00$; $d = 1.75$).

The number of instances rose over time in all three sessions. In the first session, from 115 in the first five lessons to 136 instances in lessons 6–10. The average number of instances per lesson increased from 23 to 27.2; the overall mean was 25.1.

In the second session, there were 118 instances in the first five lessons, 123 in lessons 6–10, and 121 in lessons 11–15. The average number of instances per lesson increased from 23.6 in the first five lessons to 24.6 in lessons 6–10, and 24.2 in lessons 11–15; the overall mean was 24.13.

In the third session, in the first five lessons, there were 117 instances, 119 in lessons 6–10, 125 in lessons 11–15, and 124 in lessons 16–20. The average number of instances per lesson rose from 23.4 in the first five lessons to 23.8 in lessons 6–10, 25 in lessons 11–15, and 24.8 in the last five lessons; the overall mean was 24.25.

4. Discussion

The first research question asked whether the age and language proficiency factor would affect metalinguistic awareness development. It was assumed that it would be greater in P2 because of the learner's advanced English language skills and cognitive maturity. Drawing on the data analysis results, it can be stated that age and language proficiency are salient factors in the development of metalinguistic awareness in learners with dyslexia of different ages in the context of EFL.

Following Anderson (2008), Vold (2018), and White 2008, that is proficient learners use more metacognitive strategies than their less proficient peers, this study found that the aggregate number of instances in the case of P2 was higher; it was 1426 compared with 815 in the case of P1. This difference was statistically insignificant ($t(24) = 1.2$, $p = .10$) but with a medium effect size ($d = 0.52$), which suggests that both participants comparably developed their metalinguistic skills during the intervention. Drawing on the findings of Cordewener et al. (2018), that explicit instruction improves metacognitive skills, which allow learners to make more conscious decisions, the participants in this study, as previously reported (Kałdonek-Crnjaković 2015; 2019), significantly developed vocabulary and spelling skills during the intervention that was based on the explicit, structured and metacognitive approach.

However, it needs to be noted that the participants differed in their performance in terms of the instances frequency per a five-lesson unit. The mean in the case of P2 was significantly higher ($t(6) = -9.43$, $p = .00$, $d = 7.7$). Referring to the reported results on vocabulary and spelling learning by the participants (Kałdonek-Crnjaković 2015; 2019), it can be stated that more extensive use of metalinguistic skills positively affects vocabulary and spelling learning in EFL.

Moreover, P2 developed their metalinguistic skills at a higher level in spelling ($t(12) = -2.0326$, $p = .03$, $d = 1.17$). This difference between the participants may have resulted from the difficulty level of the words and phrases P2 learned to spell. They were far more complex, and thus P2 had to employ a wider range of metalinguistic skills. Therefore, it may be said that metalinguistic awareness development may be affected by the instruction content, as also observed by Schneider (1999).

On the other hand, considering the mean per a five-lesson unit in each session, P2's metalinguistic awareness was higher from the beginning of the instruction, and the development was not observed (25.1 in the first session, 24.13 in the second session, and 24.25 in the last session). In contrast, P1 had 10.6 instances on average in the first session but already 14.2 and 14.1 in the two following sessions, respectively. Drawing on Schneider's (1999) observations, on the one hand, this difference may suggest a rapid development of metalinguistic awareness; on the other hand, the lower frequency of instances at the beginning of the instruction could have been affected by the participant's unfamiliarity with the teacher and the method.

Furthermore, P2 used all ten metalinguistic skills. In contrast, P1 used only four out of five skills in the information processing and one in the application of metalinguistic awareness category. It may therefore be suggested, referring to Anderson (2008), that P2 could make more conscious decisions and improve their learning more efficiently. However, both participants mainly used processing information skills. It was 96% in the case of P1 and 87% in P2. The skills used primarily by both participants were self-correction after encouragement/stimulus (code 1), self-correction on his own (code 2), and remaining in thinking pause (code 3). The question that can be posed here is whether the use of specific metalinguistic skills is dependent on the length of the instruction, the learner's cognitive profile, or the features of the learning material. Namely, would longer instruction result in higher use of the application of metalinguistic awareness skills? Is the higher use of the information processing metalinguistic skills typical of learners with dyslexia? Or, are the information processing metalinguistic skills more frequently used in EFL vocabulary and spelling learning when the multisensory, explicit, and structured approach is applied? And, referring to the previously reported findings (Kałdonek-Crnjaković 2015; 2019), would higher use of the application of metalinguistic awareness skills result in a higher recall of the taught items in the short- and long-term?

Compare this finding with Schneider's (1999) results. Her learner participants mainly used self-correction after encouragement or stimulus, the application of the learned rule, or summarising the rule or the rule pattern. The skills used less often were self-correction on their own and remaining in thinking pause with evidence of silent or verbal processing. This said, the participants in Schneider's study (1999) used many application of metalinguistic awareness skills. However, they learned a wider variety of language skills: phonology/orthography, grammar, and vocabulary/morphology, and in German as a foreign language. Thus, it can be suggested that the use of specific metalinguistic skills may depend on the features of the skills and subskills learned in the target language of the instruction.

The second research question enquired about the importance of metalinguistic awareness development in vocabulary and spelling learning. The findings suggest that P1 used metalinguistic skills with a similar frequency in vocabulary and spelling learning and retrieval ($t(12) = -1.01876$; $p = .166$; $d = 0.59$).). By contrast, P2 used far more metalinguistic skills in spelling learning and retrieval (($t(12) = -3.03753$; $p = .00$; $d = 1.75$).

Moreover, the application of metalinguistic awareness was more important for spelling than for vocabulary learning and retrieval. In vocabulary learning, P1 only used skills in the information processing category, whereas in spelling, he also correctly applied learned rules in different contexts (code 7). Similarly, in spelling, P2 used all skills in the application of metalinguistic awareness category, but only one (code 7) in vocabulary learning.

It can therefore be concluded that metalinguistic skills play a more important

role in spelling activities. In order to learn to spell a word or write it correctly, one needs to apply a range of strategies that relate to phonological awareness and rapid automatised naming and linguistic contributors that are determined by the spelling acquisition stages (Russak 2020). Considering the stages proposed by Ehri (1992), in the early spelling acquisition when the child randomly combines print symbols, invents spelling patterns relying on grapheme-phoneme correspondence knowledge only to some extent, or spells the word as it sounds, phonological skills development is still in its infancy. This is why P1 relied mainly on information processing skills rather than apply more advanced metalinguistic skills such as summarising the rule of a rule pattern, making his own rule or discovering a rule without help or making correct constructive reference to native language structures (codes 8–10).

This limited usage of metacognitive skills resulted in less effective spelling instruction in the case of P1, whereas a wider use of metalinguistic skills ensured a more sustainable spelling development in the case of P2 (see Kałdonek-Crnjaković 2015). However, a lesser activation of metalinguistic skills in vocabulary did not significantly affect vocabulary development in the two participants; the retrieval of newly learned vocabulary was higher than in spelling acquisition (see Kałdonek-Crnjaković 2015; 2019). Hence, metalinguistic awareness seems to play a less important role in EFL vocabulary development in the case of learners with dyslexia.

5. Conclusion

This study found that learners with dyslexia, regardless of their age and language proficiency, can effectively develop their metalinguistic awareness skills when the instruction is based on the multisensory, structured, explicit, and metacognitive approach in the context of EFL. However, age and language proficiency are salient factors; the metalinguistic awareness development was higher in the older participant. Furthermore, metacognitive awareness seems to be more crucial for spelling development than for vocabulary learning in EFL.

Therefore, these findings imply that remedial second language instruction for learners with dyslexia should include the development of metalinguistic skills, especially those directly related to literacy, such as spelling. It will result in accelerated phonological skills development, which has been found weaker in individuals with dyslexia. In turn, this may improve higher-level writing skills.

Undoubtedly, the present study has limitations. It involved only two learners, and therefore its results should not be generalised. On the other hand, thanks to its design, the study offered a closer look at the metalinguistic awareness development in two learners of different ages and language proficiency levels but with similar manifestations of dyslexia in EFL. Such a case study can be treated as an "intriguing case" (Rose et al. 2020, 7) that may have practical pedagogical implementations and inform future research. As for the former, observing metalinguistic

skills development using the criteria proposed by Schneider (1999) may allow teachers to monitor specific language skills development more effectively in learners of different ages and language proficiency. As for the latter, this study illustrated how metalinguistic skills development can be observed within the framework proposed by Schneider (1999). However, in order to yield more substantial empirical evidence, future studies should involve a larger and more diverse sample, and investigate metalinguistic skills development in other languages than EFL.

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