



BRILL



brill.com/ieul

Vedic *dāśvāms-* ‘pious one’, Homeric ἀδηκότες ‘inattentive’, and the “long-vowel” perfects of Proto-Indo-European

Ryan Sandell

Ludwig-Maximilians Universität München

ryan.sandell@gmail.com

Abstract

Although the morphological components of the Vedic noun *dāśvāms-* are, from the Indo-European point of view, relatively transparent (root */deḱ-/ ‘perceive’, perfect participle suffix */-uós-/), the exact derivation of the form is disputed, insofar as its history is bound up with an understanding of Proto-Indo-European “long-vowel preterites” (Schumacher 2005, Jasanoff 2012). This article argues that a shallow synchronic derivation of *dāśvāms-* in Vedic Sanskrit encounters problems in both morphology and phonology that have been overlooked by proponents of such a derivation (Jasanoff 2012, LIV²: 110–111). The article then further proposes that a cognate of *dāśvāms-* is to be found in the isolated Homeric adjective, ἀδηκότες, previously without certain interpretation or etymology; here the gloss ‘inattentive, oblivious, unheeding’ is proposed. The etymological connection of *dāśvāms-* to Homeric (ἀ-)δηκότες(-ε/ας) thus supports the reconstruction of a Proto-(Nuclear)-Indo-European (PNIE) form *[dēḱuós-]; within the grammar of PNIE itself, such a form would be synchronically derived as a perfect participle /RED-deḱ-uós-/, in which a “long-vowel” form surfaces in perfect stems whose zero-grade form is phonologically dispreferred and therefore repaired (cf. Schumacher 2005, Zukoff 2014, Sandell 2015a, Sandell 2015b: Ch. 8, Zukoff 2017a: Ch. 5, 7). The larger implication is at least some “long-vowel” preterites of PNIE can be explained as phonologically driven allomorphs of perfect weak stems.

Keywords

Vedic Sanskrit – Homeric Greek – reduplication – Indo-European phonology – corpus linguistics

1 Whence *dāśvāms*-?¹

The Vedic lexical item *dāśvāms*- ‘pious man (plural: pious ones)’ (so consistently translated by Jamison and Brereton (2014: *passim*)) is among the most frequent lexical items in the Ṛgvedic corpus (155 distinct occurrences; cf. Lubot-sky 1998: 674–675), thereby attesting to the functional importance of the figure in Vedic cultic practice.² A cognate form is unknown in the Avestan corpus or elsewhere in Iranian, a fact for which the well-established innovations of Zoroastrianism *vis-à-vis* Indic religious practice may be responsible (Kellens 2005), although an Indic innovation cannot be strictly excluded. In Vedic, the form appears to contain the perfect participle suffix *-vāms*- and inflects identically to productively built perfect participles (ACC.SG *dāśvāmsam*, DAT.SG *dāśúṣe*; compare *cakṛvāmsam*, *cakṛúṣe* to \sqrt{kr} ‘make, do’). Although this lexeme can be analyzed without problem in terms of inherited Indo-European lexical components—a root */deḱ-/ ‘perceive, be aware of’ (cf. LIV²:110–111) and ablauting perfect active participle suffix */-uós-/~/-ús/-—whether the stem *dāśvāms*- proper is older than Proto-Indic (at the earliest) may be doubted; without the attestation of a matching perfect active participle built to */deḱ-/ showing similar formal peculiarities in another Indo-European language, the form is not of demonstrable antiquity.

The objective of the first section of this paper is to argue that, even without the support of a matching cognate, Vedic *dāśvāms*- must be considered an archaism; it could not have been generated in the synchronic grammar of Vedic. The second section then will take up the interpretation of an adjective in Homeric Greek NOM.PL ἀδηρότατος (also ACC.PL. ἀδηρότατος), and argue that this form is in fact semantically compatible with derivation from the root */deḱ-/ ‘perceive’, and thus constitutes a formal match for Vedic *dāśvāms*-. Given that the derivational morphology of a P(N)IE stem *[deḱuós-] cannot be readily understood as anything other than a perfect participle, the conclusion that some PNIE perfect weak stems exhibited a long vowel instead of transparent reduplication is difficult to escape.

-
- 1 The following linguistic and textual abbreviations are employed: NOM. = nominative; ACC. = accusative; DAT. = dative; GEN. = genitive; SG. = singular; PL. = plural; RV = *Ṛgveda*; AVŚ = *Atharvaveda* (Śaunaka recension); SV = *Sāmaveda*; KS = *Kāṭhaka-Saṃhita*; TB = *Taittirīya-Bṛāhmana*; Il. = *Iliad*; Od. = *Odyssey*.
 - 2 The dat.sg. form *dāśúṣe*, in particular, which occurs 115×, is, according to a concordance generated on an electronic text of the RV based on van Nooten and Holland 1995, the 109th most-frequent specific surface form of the RV, placing it among the top 1% of Vedic word types by token frequency.

TABLE 1 Verbal Forms to $\sqrt{dās}$ ‘(piously) serve’ (not all inflected forms are exhaustively listed; glosses after the translations in Jamison and Brereton 2014: *passim*)

Stem type	Forms	Token frequency	Gloss
Class I Present	3.SG <i>dāśati</i> ^a	37	‘piously honor/serve’
Class (I/II) Present Participle ^b	<i>dāśat-</i>	2	‘(piously) offering/serving’
Class II Present	3.SG <i>dāṣṭi</i>	2	‘do/offer service’
Class V Present	3.SG <i>dāśnóti</i>	1	‘ritually serves’
Perfect	3.SG 3.PL. <i>dadāśúr</i>	20	‘have labored/done pious service’
Perfect Active Participle	DAT.SG <i>dadāśúṣe</i>	4	‘having done pious service’

- a Among forms built to the stem *dāśa-* is the 1.PL.OPT *dāśema* (11×), one occurrence of which at RV 7.3.7a falls in the cadence of the line, which ought to scan as $\sim -$, and thus, according to Tichy (1976: 80), preserves the optative to a Class II present, **dāśima* < *[dékīh₁me].
- b Lubotsky (1998: 674) takes this participle to belong to the thematic Class I stem *dāśa-*, though the justification for this classification is unclear to me; a participle stem *dāśant-** would have been expected in Vedic (cf. the present active participle *tákṣat-* to $\sqrt{takṣ}$ ‘fashion’). Most likely this classification is a mistake, perhaps driven by the fact that thematic present participles (even Class I) do show suffix ablaut in Classical Sanskrit (cf. Whitney 1889 [1960]: 164–165).

1.1 *dāśvāms-* in Vedic

At first blush, one might reasonably be tempted to suppose that *dāśvāms-* is a formation built internal to Vedic or its shallow prehistory, to the fairly well-represented verbal root *dāś-*, the verbal forms of which are given in Table 1.

Nevertheless, a combination of phonological, morphological, syntactic, pragmatic considerations suggest that *dāśvāms-* is an archaism.

First, the form’s high token frequency itself in the RV, a function of its pragmatic usefulness in ritual texts of the Vedic type,³ suggests a well-established lexeme, not a novel creation, or a form liable to undergo morphological renewal. Note that the token frequency of *dāśvāms-* is greater than the combined token frequency of all verbal forms (66) built to the same root. As Hay (2003) and Hay and Baayen (2003) have shown, lexical items that have a higher token frequency than their base of derivation are often not psychologically recognized by speakers as related morphologically related to their bases. This fact alone throws into doubt whether *dāśvāms-* has a direct synchronic connection

3 See Baayen 1989: 24–26, Baayen 1992 on the relationship between pragmatic usefulness and token frequency.

to the wider *averbo* of $\sqrt{d\acute{a}s}$, despite the frequent attribution of the long vowel \bar{a} in both *dāśvāms-* and the synchronic root that underlies the verbal forms in Table 1 to the same diachronic source (see discussion at the opening of 1.2 below).⁴

Syntactically, *dāśvāms-* normally functions as a noun, not an adjectival modifier of another noun, unlike most productively derived perfect participles. Among its adjectival usages, in fact, evidence for a fixed expression in the RV is available: the collocation *dāśúṣe mártvāya* ‘for the pious mortal’, occurring 11× in the R.V., is the most frequent two-word sequence involving a form of *dāśvāms-*; given the relative frequencies of the forms *dāśúṣe* (114×) and *mártvāya* (24×), a likelihood-ratio test indicates a very high degree of collostructional dependency (cf. Stewanowitsch and Gries 2003) between *dāśúṣe* and *mártvāya* ($p < 0.001$ on d.f. = 1), meaning that the null hypothesis that *dāśúṣe* and *mártvāya* are completely independent of one another should be rejected).⁵

From a morphological point of view, to treat *dāśvāms-* as a direct adjectival or nominal derivative of $\sqrt{d\acute{a}s}$ through the suffix *-vāms-* is challenging, since *-vāms-* is almost exclusively attested to perfect stems, and is not normally (if ever) found built directly to verbal roots.⁶ Besides forms of *vidvāms-* ‘knowing’, where the perfect stem to \sqrt{vid} regularly lacks reduplication, other possible Vedic examples of formations similar to *dāśvāms-* recorded in von

4 Under the approach to be argued for in this article, *dāśvāms-* and the derivatives of $\sqrt{d\acute{a}s}$ in Table 1 should probably be regarded as independent of one another. Another possibility, however, supported by the frequency relations in the Vedic corpus and the reading given to the forms by Jamison and Brereton 2014, may be that a root $\sqrt{d\acute{a}s}$ has been extracted from *dāśvāms-* itself. In either case, the important point for present purposes is that the long vowel of *dāśvāms-* should not be seen as dependent upon a PIE long-vowel present, supposedly reflected in *dāṣṭi* (cf. fn. 10 below).

5 Specifically, $-2 \log(\lambda) = 127.4$, given two words occurring 114 and 24 times, respectively, and occurring in the sequence Word₁ Word₂ 11 times, in a text of 159430 tokens. The value 127.4 can be interpreted under a χ^2 -distribution to find the p -value. The likelihood value can also be expressed in terms of odds: we can say that the bigram *dāśúṣe mártvāya* is 4.2×10^{26} times more likely to be found under the hypothesis that *mártvāya* is more likely to follow *dāśúṣe* (and vice-versa) than the base rates of occurrence (i.e., token frequency) of the two forms would suggest. λ is the ratio of $P(\text{word}_2|\text{word}_1) = P(\text{word}_2|\neg\text{word}_1)$ to $P(\text{word}_2|\text{word}_1) \neq P(\text{word}_2|\neg\text{word}_1)$, where $P(X|Y)$ is the probability of seeing x given y . See Manning and Schütze 1999: 172–174 for details on the calculation and interpretation of likelihood ratio tests.

6 It is, of course, normal for roots whose initial segment is a long vowel, e.g., $\sqrt{v\acute{a}p}$ ‘obtain’ to show a perfect stem, including the weak stem to which the active participle is built, that is identical to the root itself. Forms exhibiting perfect inflection without any trace of reduplication to short-vowel or consonant-initial roots are unusual and rare. On the special case of perfect weak stems of the form C_1eC_2 , see Sandell 2015b: Ch. 8, Sandell 2017, and Zukoff 2017a: Ch. 5.

Böhtlingk and Roth (1855) are: *ávarjuṣṇām* ‘avoiding (?)’ ($a + \sqrt{vrj}$ ‘twist’; AVŚ 7.50.2), *bhakṣivámṣ-* ‘enjoying’ (\sqrt{bhaj} ‘share?’; AVŚ 6.79.3),⁷ *mīḍhvámṣ-* ‘generous’ (RV 42×), *vijānivámṣ-* ‘discerning one’ (RV 10.77.1), and *sāhvámṣ-* (\sqrt{sah} ‘conquer’; 10× RV).⁸ The only forms here perhaps really comparable to *dāśvámṣ-* are *mīḍhvámṣ-* and *sāhvámṣ-* (the latter probably very much so); the others are variously dubious.

The gen.sg. form *vijānūśah* at RV 10.77.1 is interpreted by Jamison and Brereton (2014) as belonging to the root $\sqrt{jñā}$ ‘know’, as indicated by their rendering ‘of a discerning one’. This stem is a hapax in the RV, where a perfect active participle to $\sqrt{jñā}$ is otherwise unattested (the middle participle *jajñāná-* occurs 26×); one might note that an expected $*vijajñūśah$ would be metrically equivalent to the transmitted form. Oldenberg (1909–1912: vol. 3, 281) approvingly cites a suggestion of Bartholomae that the form reflects a contamination of *jānatáh* and *jajñūśah*, to which he adds “daß nicht *vijānatáh* gesagt [wird], hängt vielleicht mit dem in [Vers] *a* vorangehenden *-úšo* [*abhraprúšo* ‘showering rain from a cloud’], *-uṣā* [*pruṣā vāsu* ‘showering goods’] zusammen”.

In turn, Whitney (1905: 420) regards the reading of *avarjuṣṇām* at AVŚ 7.50.2 (preceded immediately by *viśám*) as “very suspicious”, given that *viśám vavarjuṣṇām* occurs at RV 1.134.6; perhaps [v] in the AVŚ passage was lost in transmission due to the immediately preceding labial nasal, which could have hindered the perception of a following labial continuant. Finally, *bhaktivámṣah* at AVŚ 6.79.3 should probably be interpreted as containing the adjectival suffix *-vān-*, not *-vámṣ-*: parallel passages at KS 5.4 and TB 3.7.57, read *bhaktivāno* and *bhakṣivānaḥ* respectively. It is altogether uncertain what the correct reading of this form is (Whitney (1905: 340) pronounces all variants “irregular or anomalous”), for which reason no compelling trace of an unreduplicated perfect participle can be seen here.

In the comparatively frequent *mīḍhvámṣ-*, it is phonologically conceivable to derive the form from the active participle of a perfect stem built to the univerbation $*/me\check{i}(H)es-d^he_1-$ ‘providing refreshment’ (cf. Mayrhofer 1986–2001: 357–358): if the reduplicated participle stem $*/me\check{i}(H)es-d^he-d^he_1-u\acute{o}s-$ were assumed to target all full-grade vowels to the left of the accented suffix *-u\acute{o}s-* for the application of zero-grade ablaut, the intermediate resulting derivation would be $*/mi(H)s-d^h-d^h_1-u\acute{o}s-$, which would surface as PNIE

7 AVŚ 6.79.3 in fact reads *bhaktivámṣah*, but von Böhtlingk and Roth (1855) propose to read *bhakṣivámṣah* to match a parallel passage at TB 3.7.5.7.

8 A further stem *darśivámṣ-* to $\sqrt{dṛś}$ ‘watch, see’ first appears in the *Mahābhārata*, and is left out of consideration here.

*[mĩ(H)zd^huós-] (by consonant deletion to avoid geminate segments and regressive voicing assimilation of */s/) > PIIr. *[mĩžd^huás-] > Ved. *mĩđhvám̐s-*.

sāhvám̐s-, meanwhile, clearly does serve as a perfect participle synchronically to *√sah*, and competes with an alternative perfect active participle *sāsahvám̐s-* (6× RV). *sāhvám̐s-* exhibits the same peculiar absence of reduplication and long vowel in the root, which cannot readily be explained by derivation from a root that exclusively appears with a long vowel, as one might with *dāśvám̐s-*. The ultimate point at this juncture is that the possibility of deriving an adjective or noun, rather than paradigmatic perfect participle, synchronically with the suffix /-vám̐s-/ in Vedic is virtually to be excluded.

Finally, a crucial phonological fact categorically precludes the interpretation that *dāśvám̐s-* is a productively derived perfect participle in Vedic. As Cooper (2013, 2015:96–106) has systematically demonstrated (cf. also examples and discussion in Kümmel 2000: 38, 42–43, 50–51), consonant-initial suffixes (including the active participle in its strong form /-vám̐s-/) attached to a perfect stem regularly condition epenthesis of a vowel [-i-], just in case the syllable preceding the suffix would be superheavy (i.e., a long vowel with at least one coda consonant, or a syllable with two or more coda consonants). See the examples in 1 below.

- (1) Epenthesis of Linking [-i-] in the Vedic Perfect
 - a. NOM.PL.PART.ACT *tasthivám̐sah* (*√sthā* ‘stand’)
 - b. 1.PL.ACT *dadāśima* (*√dās* ‘do pious service’)
 - c. 2.SG *tatarditha* (*√trd* ‘bore’)

As examples 1(a) and (b) show, this linking [-i-] is attested with both the perfect participle suffix /-vám̐s-/ and the root *√dās*; one cannot therefore presume that either the root or suffix involved in *dāśvám̐s-* might fail to condition or block the insertion of linking [-i-]. Given these facts, one may safely assert that the productive synchronic derivation of a perfect active participle to *√dās*, in its strong stem, would have appeared in Vedic as *^xdāśivám̐s-*; as seen above in Table 1 above, the reduplicated perfect active participle is attested in the RV, but only in its weak stem *dadāśús-*.⁹

9 Although the strong stem *dāśivám̐s-* is, in fact, one time transmitted in a Vedic text, at SV 1.2.1.1.1a *purú tvā dāśivám̐s voce*, it is unlikely to represent a linguistically real form. SV 1.2.1.1.1 is a complete repetition of RV 1.150.1, where the *saṃhitā* text reads *dāśvān*. The *gāyatrī* line as transmitted in the RV *saṃhitā* evidently has one syllable too few; van Nooten and Holland (1995) thus (correctly) restore *dāś^uvān*, just as they read *dāś^uvám̐sam*, *dāś^uvám̐sah*, *dāś^uvám̐sam*, *dāś^uvám̐sam*, and *dāś^uvám̐sam* for the *saṃhitā*'s *dāśvám̐sam*, *dāśvám̐sah*,

1.2 *Towards a prehistory of dāśvāms-*

For all of the above reasons, to assume that “*dāśvāms-* is probably the analogical replacement (with *dās-* from the present) of **dakṣvāms-* < **de-dk-*, with the regular treatment of a “thorn” cluster”, as per Jasanoff 2012: 128, fn. 5, is not readily defensible. If a form of PIE or early PIIr. antiquity *[*deḱuós-*] had indeed existed, there is good reason to think that a **dakṣvāms-* would have persisted into Vedic. LIV²:110–111 accounts for the long *ā* of *dāśvāms-* through just the same assumption of reformation of the form after *dās-* in the present stem: “Vielleicht Ptz. Perf. Akt. **de-dk-ṁós-* dissimiliert zu **deḱ-ṁós-* > **dać-ṁās-*, dann umgeformt nach Präs. **dāć-* > ved. *dās-* zu ved. *dās-vāms-/uṣ-*.” Again, the need to accept renewed derivation of *dāśvāms-* from the basic root is simply incompatible with the broader linguistic facts of Vedic mustered above.¹⁰ Kümmel 2000: 243–244, like the LIV², posits a dissimilation of */d/ with compensatory lengthening of the preceding vowel as responsible for *dāśvāms-*, and situates the development in Proto-Indo-Iranian. Among earlier treatments of *dāśvāms-* in the literature, Kümmel’s is the most compatible with the linguistic facts of Vedic, but suffers from two arguable drawbacks: 1) the assumed consonant dissimilation is essentially *ad hoc*, and not grounded in more general facts about PIE or PIIr. phonology; 2) if the argument advanced in Sandell 2014 is correct—namely, that compensatory lengthening applied to PIIr. short */ǎ/ in PIIr. or

dāśvāmsam, *dāśvāmsam*, and *dāśvāmsam* at RV 4.2.8d, 7.37.4c, 7.92.3a, 8.57.4d, and 8.71.4c, respectively. The sv’s repair of an apparent metrical fault by creating the form *dāśvām* might be explained through a combination of two factors: metrical distraction of consonant + ⟨v⟩ into consonant + [uv] is significantly less common in the RV *samhitā* than distraction of consonant + ⟨y⟩ into consonant + [iy] (by my reckoning, comparing the *samhitā* text to the metrically restored text, there are ~3777 instances of distracted [iy], but only ~1597 instances of distracted [uv]), while the occurrence of ⟨i⟩ before the perfect participle strong stem form is reasonably common (44 out of 159 instances of the sequence ⟨vāms⟩ in the RV *samhitā* (= 27.7%) are ⟨ivāms⟩). One can explicitly contrast SV 1.2.1.11a with SV 4.7.2.9.2b (*dāśvām aśnoti mārtyaḥ*), which precisely copies RV 3.11.7b, where the need for an additional syllable could be, in principle, satisfied by distraction of either *dāśvām* or *mārtyaḥ*—or by use of the form *dāśivām*. That *dāśivām* does not also appear here probably lies with the frequent, and thus presumably more familiar, trisyllabic scansion of *mārtya-*. Whether the creation of *dāśivām* ultimately lies with the oral or manuscript tradition of the sv cannot be established, but that the form is not linguistically real seems indisputable.

- 10 The reason that Jasanoff (2012) and LIV² make explicit reference to “analogical replacement” or “Umformung”—which can be seen here as merely descriptive labels that do not properly motivate the presumed changes—from the present stem is due to the reconstruction of a long-vowel present 3.SG *[*dékti*] (> Ved. *dāṣṭi*), where the active singular indicative/imperfect would be the locus of paradigmatic forms with a long *[*ē*] at the Proto-Indo-European level.

later results in Vedic *e*—, then dissimilation and compensatory lengthening applied to a *[dadūás-] should have resulted in Vedic ^x*deśvám̄s-*.

The Avestan past participle *spara-dāšta-* ‘served’ (Yašt 13, Karde 8.1c, Yašt 19, Karde 7.10b) suggests that a root */dāc-/ had largely displaced an Indo-European lexeme */deḱ-/ (> PIIr. */dać-/) with short vowel.¹¹ Any newly derived perfect participle to */dāc-/ ought then to have clearly shown reduplication, thus PIIr. *[dadāćúás-] > Vedic ^x*dadāśvám̄s-*.¹² Such a reduplicated perfect participle stem synchronically exists in Vedic, but is functionally completely distinct from our *dāśvám̄s-*. Since there is no linguistic basis to set up the derivation of a non-reduplicated stem with the suffix */-úás-/ in PIIr, just as such a derivation cannot be justified within the synchrony of Vedic, we fall back to the originally reduplicated perfect participles set up by Jasanoff, LIV², and Kümmel 2000; the presumed *[dedḱúós-], however, obviously cannot phonologically result in *dāśvám̄s-* without the assumption of unjustifiable morphological changes or *ad hoc* phonological developments.¹³ What is to be done?

The possible PIE surface forms from which *dāśvám̄s-* could be unproblematically derived are as follows: *[dēḱúós-], *[dōḱúós-], and *[de/oHḱúós-].

-
- 11 OAv. *dasəma-* ‘offering; ritual ceremony’ (Yašt 28.9) seems, however, to preserve the original short vowel form of the root. As a nominal derivative, this form is more likely to represent an archaism, while the productive past participle shows the synchronic base of derivation.
- 12 In the event that PIIr. *[dadāćúás-] were directly inherited into Vedic, ^x*dadāśvám̄s-* would be the result. Only when the perfect participle is synchronically generated would *i*-epenthesis be found (giving *dadāśivám̄s-*), since Vedic *i*-epenthesis in the perfect does not result directly from any sound change where *aniṭ*-roots are concerned.
- 13 If one believes that the strong stem form of the Vedic perfect participle itself, /-vám̄s-/, is a product of some morphological changes in the prehistory of Vedic (as argued in, e.g., Jamison 1991), then one could potentially object that the instances of the strong stem *dāśvám̄s-* (9× RV) in fact must reflect a newly productively derived form, and in fact, *all* strong stem forms of the perfect participle, when not synchronically derived, must have been newly built in the recent history of Vedic. At minimum, however, the much more frequent weak stem *dāśús-* could readily continue a PNIE form *[dēḱús-] without the presumption of any productive morphological derivation; in that case, the strong stem in Vedic might be generated by kinds of “rules of referral” (Zwicky 1985) or “paradigm structure rules” (Stump 2001), depending upon one’s assumptions and tastes in morphological theory. The assumption that the strong stem of the perfect participle reflects a morphological change is itself though not necessary. I find more credible the assumption of a sound change [a:] > [ā:] / __sa, seen also in the primary comparative suffix *-vām̄s-* and a few isolated lexemes like *púmām̄s-* ‘man’; see Ohala 1981 on nasalization of [–high] vowels followed by fricatives, and the similar change of ǎ > [+nasal] / __hǎ (i.e., to the sequence *ǎnhǎ*) in Avestan as accounted for by de Vaan 2013.

Under the assumption, by all lights correct, that a perfect participle is at hand, *[dōkḗús-] or *[doHkḗús-] can probably be safely excluded on morphological grounds. The best remaining remaining option, *[dēkḗús-], and *[deHkḗús-], might conceivably represent the output of some PIE phonological process applied to an underlying form */de-dk-ús-/.¹⁴ A virtual *[dēkḗús-] would reflect a process of consonant deletion and compensatory lengthening; how a *[deHkḗús-] should relate to */de-dk-ús-/ is unclear.¹⁵

Indeed, there exists ample evidence across many older Indo-European languages that points towards the possibility of consonant deletion and compensatory lengthening in precisely the context that a virtual */de-dk-ús-/ would deliver. Zukoff (2017a) has systematically demonstrated that the phonologically diverse patterns of reduplication attested across Sanskrit, Greek, Anatolian, and Germanic, especially when built to roots containing initial [s] + stop or laryngeal + stop cluster, or roots lacking any sonorants (especially */TeT-/; cf. a similar proposal in Schumacher 2005) can be attributed to the effects of a phonetically grounded phonological constraint NO POORLY-CUED REPETITION (*PCR), as defined in 2.

14 For the sake of simplicity and transparency, I will sometimes represent PIE URS with expected ablaut grades, although some ablaut under some conditions might be phonologically derived. Similarly, the reduplicant should, following McCarthy and Prince 1995, properly be represented as /RED/ (or /RED(e)/, with a fixed segment).

15 More specifically, a less likely option as the forebear of *dāsávāms*- is *[deh,ḗús-], where the [h₁] would reflect debuccalization of an underlying /d/. The possibility that some Indo-European stops (and more specifically */d/) might be subject to lenition to *[h₁] is to be inferred from the interpretation of Greek *ἐκατόν* ‘100’ proposed in Kortlandt (1982): */dkm-tóm/ → *[h₁kmtóm] > *[ekaton] >> (contamination with εἰς ‘one’) *ἐκατόν*. Lubotsky (1994: 204) has suggested that *dāsávāms*- might reflect the same lenition of “d to h₁”. I take the evidence for a specific process of */d/ → [h₁] (under whatever conditions) to be uncertain, at best; the crucial analysis of Greek *ἐκατόν* requires reference to contamination, in any case, to account for the rough breathing in non-psilotic dialects (cf. Chantraine 1968–1980 [2009]: s.v. *ἐκατόν*), for which reason a basis in contamination, or another origin altogether, for the prothetic ε- itself is difficult to exclude.

Worth noting in this connection are also forms of the numeral ‘50’ in Greek and Vedic, *πεντήκοντα* and *pañcāśát-*, which contain long vowels in the second syllables that might also be attributed to a sequence *[eh₁k̄] ← */edk̄/. Following Rau (2009: 17, fn. 15) and Kümmel (2012: 302), I prefer to see the long vowel in these forms as the result of direct deletion of */d/ with concomitant compensatory lengthening: */penk^we-dk̄(ō)mt-/. The Vedic form may be directly derived from */penk^we-dk̄rnt-/ → *[penk^wēk̄rnt-] by reference to the established deletion of coronals preceding a dorsal + nasal sequence (cf. Gk. *χάμαι* and *καίνω* < *[ḡ^hm₂ai], *[k_ṇiōh₂] ← */d^hḡ^hm₂e_i/, */tk_ṇiōh₂/, respectively, with discussion in Rau (2009): *loc. cit.*).

(2) **The NO POORLY-CUED REPETITIONS Constraint *_{PCR}** (cf. Zukoff 2017a: 220):

Languages may set stricter conditions (in terms of acoustic/auditory cues) for the licensing of C~Ø contrasts (i.e. the presence of C) when that C would be the second member of a transvocalic consonant repetition (i.e. C_{α}^2 in a $C_{\alpha}^1VC_{\alpha}^2$ sequence) than in other contexts. Assign a violation mark * for each C_{α}^2 (i.e. each C~Ø contrast where C is a C_{α}^2) which is not cued to the level required by the language-specific repetition licensing conditions.

Zukoff's *_{PCR} thus serves to penalize transvocalic consonant repetitions ($C_{\alpha}VC_{\alpha}$ sequences) in particular contexts. The *_{PCR} constraint circumscribes the context(s) of repetition avoidance in phonetic terms: namely, repeated consonants are especially avoided when they lack robust acoustic/auditory cues to their presence (i.e., the contrast between that consonant and Ø), where the most important cue is a rising intensity contour (cf. Parker 2002, 2008, Yun 2016) between the consonant and the following segment; other relevant cues may be a [-sonorant] to [+sonorant] transition or stop-release burst.

As an example, consider the behavior in reduplication of roots in Sanskrit beginning with an [s] + stop sequence versus stop + sonorant. A root such as \sqrt{druh} 'be hostile' exhibits C_1 -copy in reduplication: the /d/ at the left edge of the root appears in the reduplicant, and thus the perfect and desiderative built to this root have a reduplicant of the form *du-*. The perfect strong stem *dudroh-* contains a $C_{\alpha}^1VC_{\alpha}^2$ sequence *dud-* here, in which the C_{α}^2 *d* following *u* is permitted to surface because the phonetic cues to the presence of the stop preceding the sonorant /r/ are considered adequate in the phonological grammar of Sanskrit; the sequence [dr] shows an intensity rise, sonorant transition, and stop-release burst, and thus in absolute terms is acoustically well-cued. On the other hand, a root such as $\sqrt{sthā}$ 'stand' exhibits C_2 -copy, thus building a perfect stem *tasthā-*, precisely because the alternative with C_1 -copy, x *sasthā-*, would have contained a $C_{\alpha}^1VC_{\alpha}^2$ *sas* in which the C_2 *s* preceding the stop *th* would be considered inadequately cued. As a repair, the second consonant from the left edge of the root is pressed into service in the reduplicant. See Zukoff 2017a: *passim* for detailed formalization and application.

Particularly relevant to the problem at hand is that Zukoff takes effects of *_{PCR} to be responsible for the emergence of perfect weak stems of the form $C_1\tilde{e}C_2-$ in Sanskrit (cf. also Sandell 2015b: Ch. 8, Sandell 2017) and for the preterite plural/subjunctive stem in Class IV and Class V Strong Verbs in Germanic (e.g., Goth. 3.PL *nēm-un* 'took' and *gēb-un* 'gave'). The common factor in both the Class IV–V strong verbs and the Sanskrit perfect weak stems is that

they involve roots of the form /C₁eC₂-/ (especially where C₁ = stop), reduplication with *e grade (~ PIIr. *a grade) in the reduplicant, and zero grade of the root, thus /C₁e-C₁C₂-/. Depending upon the precise sequence of consonants /-C₁C₂-/ and the language-specific phonetic cues required for the licensing of of C~Ø contrast, a *PCR violation may be incurred, and some phonological repair required. Such a repair could conceivably be the deletion, with concomitant compensatory lengthening, of a /C₁/ in an unacceptable /C₁C₂/ cluster.¹⁶ See Zukoff 2017a: 199–205 for a more precise formal representation of such a process.

In general, the role of PCR in shaping reduplicants in Indo-Iranian is clear: besides driving reduplication with a stop in roots with [s] + stop clusters synchronically in Sanskrit, and playing a role in the creation and synchronic productivity of the C₁eC₂-pattern in Sanskrit perfects, a handful of other isolated matches between Vedic and Avestan support the Indo-Iranian antiquity of C₁-deletion and compensatory lengthening at the Proto-Indo-Iranian level. Most compelling here is the reflex of the thematic reduplicated present /si-sd-e/o-/ ‘sit’. The perhaps “expected” PIIr. form would be a *[sízda-] > [sízda-] (by RUKI), which would be expected to yield Vedic ^ssídāti (with retroflex ḍ) and Avestan ^hhiždaiti. The actual forms, Vedic ^ssídāti and Avestan ^hhiždaiti belie a reconstruction with ž—the segment ought to have been maintained in Avestan, and ought to have yielded a retroflex ḍ in Vedic. Faced with this problem, already Klingenschmitt (1982: 129) (followed by LIV²:513–514) assumes a sporadic dissimilation of [s ... z] prior to the emergence of RUKI as a phonological process in Proto-Indo-Iranian. Such a sporadic dissimilation can capture the same facts in the languages, but is obviously *ad hoc*, for which reason connection to more general phonological phenomena of the languages ought to be preferred.¹⁷ Besides

- 16 Attention to the precise root segments is indeed important, since, as a reviewer notes, true zero-grade forms (as shown by the sequence *[uR] < PIE *[R̥]) are preserved in the Germanic preterite-presents *[mun-] ‘will’ and *[skul-] ‘shall’, which have Class IV root shapes. These must be archaisms, unsurprisingly, given the isolation and functional specialization of the preterite presents. Among inherited roots of the Class IV shape */CeR-/, some probably built “long-vowel” perfect weak stems, while others admitted perfects with true zero grade; in Germanic, paradigmatically integrated Class IV forms were all eventually given a “long-vowel” preterite plural/subjunctive stem (cf. Ringe 2006: 235–268 on Proto-Germanic verbal inflection). Compare the R̥gvedic perfect weak stems *nem-* (√*nam* ‘bow’) versus *mamn-* (√*man* ‘think’), cognate with Germanic *[nēm-] and *[mun-].
- 17 In Avestan, we find productively built perfect forms to √*sad* ‘sit’ and √*stā* ‘stand’, which would appear to contradict the application of a PCR-driven consonant deletion in a cluster consisting of a coronal sibilant fricative and a coronal stop: 3.sg.opt. *ha-zd-iīāt* (Y. 65.5) and 3.pl.perf. *vi-ša-sta-rə*. In both cases, however, the perfect stem is precisely productively generated, and the resulting C₁VC₁- sequence produces consonants with two different places of articulation. A *PCR violation would not be expected in such cases.

a PIIr. * $[s\acute{ı}da-]$ ‘sit’, Vedic and Avestan attest a handful of matching desiderative stems with apparently “missing” reduplication and (sometimes) a transmitted long \bar{i} : to */ d^hah^h- /, Ved. $d\acute{i}ps-$ and Av. $di\beta\acute{z}a-$; to */ $\acute{c}ak-$ /, Ved. $s\acute{ı}k\acute{s}-$ and Av. $six\acute{s}a-$ (cf. Heenen 2006: 27–28 and Insler 1968).

At the same time, the status of the PCR already in Proto-Indo-European is much less certain. While PCR effects in reduplication, especially to roots with [s] + stop clusters, are attested in nearly every daughter branch, the equation of non-productive thematic reduplicated presents Lat. $sist\bar{o}$, and Gk. $\acute{\iota}\sigma\tau\eta\mu$, (as well as possibly Av. $hi\acute{s}t\bar{a}iti$) adduced by Byrd (2015: 120) (cf. also Zukoff 2017a: 308–310) securely permits the reconstruction of * $[sisth_2e/o-]$ for PIE—not * $[tisth_2e/o-]$, * $[s\bar{i}th_2e/o-]$, * $[stisth_2e/o-]$, or any other *PCR-driven alternative to C_1 -copy. Here one may note a difference in Indo-Iranian between the behavior of */ $si-sd-a-$ and */ $si-stH-a-$ /: the former evidently became frozen as * $[s\acute{ı}da-]$, while the latter must have still been productively generable in Indic, given Ved. $t\acute{i}st\bar{h}ati$. That Vedic $t\acute{i}st\bar{h}ati$ attests to the productive application of reduplication and the relevant phonology in Indic suggests that the same productive generation may have been possible in Iranian, whence $hi\acute{s}t\bar{a}iti$. Exactly what the Proto-Indo-Iranian surface realization of */ $si-stH-a-$ then was, is uncertain—either a * $[s\acute{i}stHa-]$ (* $[s\acute{i}st\bar{H}a-]$ with RUKI) or a * $[s\acute{ı}ta-]$ (PCR) is possible, provided that the underlying form */ $si-stH-a-$ remained recoverable.¹⁸ Regardless of the exact situation in Indo-Iranian, the equation of Lat. $sist\bar{o}$, and Gk. $\acute{\iota}\sigma\tau\eta\mu$ strongly suggests that [s] + stop clusters under conditions of reduplication were not subject to repair in PIE.

Although the precise history and development of PCR-effects in reduplication between PIE and its daughters is not yet wholly clear, the foregoing discussion opens the possibility that $d\bar{a}śv\acute{a}ms-$ directly continues a PIE or early PIIr. (i.e., prior to the merger of PIE */ $e/$ and */ $o/$) perfect participle * $[d\acute{e}k\bar{u}ós-]$, resulting from the application of PCR-driven deletion and compensatory lengthening from virtual underlying sequence / $de-d\acute{k}-\bar{u}ós-$ /. As Cowgill (1957) and Schumacher (2005: 600) have previously observed, the perfect active participle $s\bar{a}hv\acute{a}ms-$ to \sqrt{sah} ‘conquer’ (< */ $se\acute{g}^h-$ /) looks like an attractive parallel

18 Indeed, even * $[t\acute{i}st\bar{H}a-]$, with the same reduplication pattern of C_2 -copy seen in Sanskrit, cannot be totally excluded. The problem is that, in roots beginning with an [s] + stop cluster, Sanskrit attests no reduplicated forms with C_1 -copy that could be regarded as archaisms, and Iranian attests no reduplicated forms with C_2 -copy. It is not straightforward to argue that PCR-driven C_2 -copy is more easily an innovation of Indic, since [s] + stop forms in Iranian will not be subject to PCR effects in any case (/s/ will surface as [h] word-initially before a vowel), thereby allowing a default C_1 -copy to apply.

formation, continuing a virtual *[sēḡ^huós-]. Not previously observed, however, is the fact that the stem *sāh-* occurs only in the perfect active participle, while the alternative productive $C_1\bar{e}C_2$ -type perfect stem *seh-* occurs in the middle participle, thus *sehāná*—there is a complementary distribution in the RV.¹⁹ *seh-* might well reflect the productive generation of $C_1\bar{e}C_2$ - perfect weak stems, though Sandell (2015b: Ch. 8) argues that the analogical extension of the class in Vedic is more easily motivated if it possessed more members that developed phonologically. Since the stem *sehāná-* can phonologically continue PIIr. *[saz^haHná-] (< PIE *[sezḡ^hm̥h₁nó-]), and a broader basis of types for the analogical extension of $C_1\bar{e}C_2$ - forms in Indic is desirable, then it is helpful to accept that *sehāná-* directly continues a PIE form.

The complementary distribution of active participle *sāhvāms-* versus middle participle *sehāná-* could then reflect inherited allomorphy: virtual PIE *[sēḡ^huós-] versus *[sezḡ^hm̥h₁nó-].²⁰ If this allomorphy is correctly reconstructed, the application of consonant deletion and compensatory lengthening in the active participle can be taken as the application of a PCR-effect in what would otherwise surface as a triconsonantal cluster in a virtual *[sezḡ^huós-]. Another possibility, helpfully pointed out by a reviewer, is that the difference between *sāhvāms-* and *sehāná-* could be purely chronological: the active participle is an older formation and reflects the application of PCR-driven deletion in PIE or early PIIr., while the middle participle is a more recent formation in later PIIr. or Indic; the phonological constraints driving deletion in both cases would be similar, but the outcome of a compensatorily lengthened vowel (**/e/* in PIE, **/a/* in PIIr.) yields different results. In either case, the similar outcome of *[dēk̄uós-] makes for an attractive parallel to *[sēḡ^huós-].

The evidence for a stem *[sisth₂e/o-] then appears problematic—if triconsonantal sequences trigger PCR violations, why is **[sīth₂e/o-] not found instead? Given that the sequence *[th₂] is not directly reflected in Greek and Latin, one might posit deletion of */h₂/ rather than of */s/ to escape a fatal PCR violation. Byrd (2015) has consistently shown that deletion of laryngeal segments is often a “low-cost” phonological repair in PIE (i.e., MAX-H [“don’t delete underlying laryngeal consonants”] is relatively low-ranked in the phonological grammar of PIE), on which basis the reconstruction of *[siste/o-] ←

19 Neither *sāh-* nor *seh-* is attested in the Family Books, for which reason one cannot securely argue that either *seh-* or *sāh-* is older.

20 As discussed in Sandell 2014 and Sandell 2015b: Ch. 8, *seh-* can reflect a PIIr. *[səz^h-] parallel to perfect weak stems like *pec-* (√*pac* ‘cook’) and *bhej-* (√*bhaj* ‘divide’) < PIIr. *[pə:c-], *[b^hə:j-].

/si-sth₂-e/o-/ could be supported. A direct parallel is to be found in the laryngeal deletion attested in the reduplicated thematic present *[ǵíǵne/o-] ‘generate’ (> Lat. *gignō*, Gk. γίγνομαι); on the so-called “νεογός-Rule”, to which laryngeal deletion in such forms is often attributed, see Balles 2012. The stems *[siste/o-] and *[ǵíǵne/o-] in contrast to the perfect participles *[dēkúós-] and [sēǵhúós-] point to two slightly different repairs (laryngeal deletion versus root C₁-deletion) to the same problem: PCR violations in triconsonantal sequences.

While the full phonological grammar surrounding the PCR-driven consonant deletions proposed for PIE here remains to be worked out, at this juncture the reconstruction of *[dēkúós-] itself may be bolstered through the discovery of a cognate form. In the following section, I will argue that the Homeric adjectival stem ἀδηκός- is best interpreted as meaning ‘oblivious, inattentive, heedless’, and likewise reflects the perfect participle *[dēkúós-].

2 Homeric ἀδηκός- = Vedic *dāśváms*-?

2.1 Homeric ἀδηκός-: formal connection and basic claim

The Indo-European root */deǵ-/ ‘take in, perceive’ that uncontroversially underlies *dāśváms*- is well-represented by numerous verbal formations across the daughter languages, and attests a noteworthy diversity of formations in Greek especially (cf. LIV²:109–112). The basic meaning of the root is fundamentally concerned with mental perception (keeping watch, awaiting, mentally registering information): formations running from a root aorist (Arm. *etes* ‘saw’), to middle participle of a root present (Gk. δέγμενος ‘keeping watch’), to a causative (Gk. δοκεῖ ‘seem’, Lat. *docēre* ‘teach’) establish such a semantics (cf. Tichy 1976). In Greek in particular, a robust derivational paradigm to the lemma δέχομαι ‘receive, take (mentally or physically, of an object)’ is well established in Homer, where a few otherwise-unattested relic formations are found (e.g., the root aorist (ἐ)δέκτο ‘received’).²¹

The adjectival stem ἀδηκός-, of uncertain meaning, limited in Greek to the language of Epic, and without plausible etymology in the literature (see discussion in 2.2 below), bears a passing formal resemblance to */deǵ-/. The form

21 The aspirate [k^h] in the Attic present stem δέχο- must be the result of a back-formation from an aorist or perfect stem, where glottal state contrasts can be neutralized. Other dialects (Ionic, Aeolic, Cretan) still have expected δέχομαι (cf. Montanari et al. 2015: s.v. δέχομαι).

resembles nothing so much as a perfect participle, formed in Greek with the suffix /-ότ-/ , built to a root of the shape ἀδῆ(χ)- or δῆ(χ)- with a prefix ἀ-; the -χ- could belong either to the root or be part of the perfect stem formation. From a purely formal point of view, the following *transponat* reconstructions (modulo reformation of the derivational suffix) might be possible (with either *[k̄] or *[k] throughout):²²

a. *[ḡdēk̄(ṽ)ós-]²³

b. *[h₂dēk̄(ṽ)ós-]

c. Or either [a.] or [b.], substituting *[ē] with the sequence *[eh₁] or *[ah₂]. Options b. and c. leave one without a simple Indo-European root etymology: LIV² records no root of the form */(h₂)deh_{1/2}k̄/k-/. The entire form then presents one of three choices: no Indo-European etymology, a morphologically more complex Indo-European etymology, or a formal connection with */dek̄-/. Taken on its own, an Indo-European perfect participle built to */dek̄-/ with the negative prefix */n-/ could be expected to yield a meaning approximately ‘not perceiving, unaware’ (‘not having mentally taken in one’s immediate external circumstances’). The ultimate conclusion would be that an Indo-European *[ḡdēk̄ṽós-] is a negated perfect participle built to */dek̄-/, with “missing” reduplication and a long vowel due to the same phonological effects discussed under 1.2 above. This hypothesis will be further developed and evaluated in the three subsequent sections. The principle questions are: how does such a hypothesis fare against existing etymological proposals, and does such an interpretation fit passingly with the contextual use of ἀδῆχότ- in the Epic corpus?

22 Note that *[-dekṽós-] cannot readily explain the vowel η of the root. Although loss of *[ṽ] in this context could be expected to result in compensatory lengthening in an East or Central Ionic dialect, the resulting vowel would be [e:] (transmitted orthographically as (ε)), not [ε:].

A reviewer on this point notes the unpublished view of Weiss (2010) that the “third compensatory lengthening” (3rd CL) from loss of *[ṽ] occurred only when the preceding consonant was [+coronal] (Weiss’ notation: {n, r, l, s₂, D}). Weiss’ formulation is compatible with the *positive* evidence for the 3rd CL, but I am not aware of any *negative* evidence that demonstrates that the 3rd CL was necessarily restricted in this way. Moreover, for compensatory lengthening to be restricted by the **place** of articulation of segments involved is unknown in the typology of compensatory lengthening (cf. Kavitskaya 2002, Yun 2013). For this reason, I hold to the formulation of Rix (1976 [1992]: 56), that the 3rd CL occurs simply upon loss of *[ṽ] after any consonant.

23 The *[ṽ] in a. and b. here is given in parentheses because the presence or absence of a *[ṽ] following the dorsal would result in different phonological outcomes in Greek. This issue is bound up with the history of the perfect participle in Greek, and will be discussed under 2.4 below.

2.2 *Homeric ἀδηκός-: attestation, philological remarks, and existing etymologies*

The stem ἀδηκός- is attested a total of six times in Greek: it occurs four times as the NOM.PL ἀδηκότες in Book 10 of the *Iliad* (10.98, 312, 399, 471), once in the *Odyssey* (12.281) as an ACC.PL ἀδηκότας, and once in the *Homeric Hymn to Apollo* (460), again as the NOM.PL ἀδηκότες. In these six attestations, the stem is, moreover, always immediately preceded by the dative καμάτω ‘with toil/weariness’. An established fixed syntagm (or “formula”) καμάτω ἀδηκός- appears to be at hand, and the high degree of collostructional dependency (cf. 1.1 above) between καμάτω and ἀδηκός- suggests a plausible site for the maintenance of a lexical archaism.²⁴ This syntagm is furthermore metrically localized: except at *Il.* 10.312 (and the exact repetition of four lines at *Il.* 10.396–399 = 10.309–312), καμάτω ἀδηκός- consistently begins with the second half of the second foot. In all occurrences, the -ω of καμάτω always scans long (no epic correction, which would result in a tribrach), as does the ἄ- of ἀδηκός- (short ἄ would produce a cretic). Although this syntagm still exhibits some flexibility—ἀδηκός- itself may take different case forms (at least the nom.pl. and acc.pl.), while καμάτω may be conjoined with another dative (ὑπνω ‘with sleep’; *Il.* 10.98, *Od.* 281) or modified by an adjective (αἰνῶ ‘terrible, very bad’; *Il.* 10.312, 399)—the absence of the stem ἀδηκός- outside of the language of Epic supports the notion that a lexical archaism preserved in a fixed expression is at hand. ἀδηκός- is therefore unlikely to be a derivative productively generated from some base within the synchronic young Epic diction, which agrees with Danek’s (1988: 85) detailed analysis of the formula (“es ist absolut unwahrscheinlich, daß der Odysseedichter die Formel für den Zusammenhang von μ 281 original geprägt hat”).

The manuscript tradition of Homer presents some further philological uncertainties concerning the transmission of the form, namely, whether the α-

24 A likelihood ratio test indicates a very high degree of collostructional dependency between κάματος and ἀδηκός- (in that specific form): κάματος occurs 16× in the *Iliad* and *Odyssey*, while ἀδηκός- occurs 5× (all five of which are preceded by κάματος). The dependency of κάματος and ἀδηκός- is highly significant ($p < 0.001$ on d.f. = 1, meaning that the null hypothesis that κάματος and ἀδηκός- occur independently of one another should be rejected). Specifically, $-2 \log(\lambda) = 96.04369$, given two words occurring 16 and 5 times, respectively, and occurring in the sequence Word1 Word2 five times, in a corpus of 199047 words. The value 96.04369 can be interpreted under a χ^2 -distribution to find a p -value. In other words, we can say that the bigram καμάτω-ἀδηκός- is 7.17×10^{20} times more likely to be found under the hypothesis that ἀδηκός- is more likely to follow καμάτω- (and vice-versa) than the base rates of occurrence of the two lexemes would suggest. See also footnote 5 above.

bears a rough or smooth breathing. If this rough breathing is reliable, a reconstruction with simple *[ŋ-] would, in principle, be excluded. In particular, in the the Venetus A manuscript, two of the four occurrences in the *Iliad* (10.98, and 10.399) read ἀδῆκότες, with rough breathing. At 10.312, 10.471 and *Od.* 12.281, all manuscripts read ἀδῆκότε-; with respect to the occurrence in the *Odyssey*, van der Valk (1949) and Tachinoslis (1984) do not even discuss the line in question or index ἀδῆκότας, indicating that the line contains no textual problem. Some other manuscripts of the *Iliad* (B, and E; see West 1998: XI, LIX) of the family closely related to the Venetus A also contain ἀδῆκότες at 10.98, 10.312, and 10.399. Despite this variation in the presence versus of absence of rough breathing, all modern editors of Homer (West [*Iliad* and the *Hymn to Apollo*], Allen, van Thiel, von der Mühl) print ἀδῆκότες and ἀδῆκότας, following the majority of the manuscripts from different lines of descent. The philological consensus is thus that ἀδῆκότες in the text of the *Iliad* is erroneous.²⁵ Arguably, the rough breathing on this form is an error belonging to the family of manuscripts from which the Venetus A descends, introduced on account of a supposed etymological connection with ἄδην ‘to satiety’, which goes back to late antiquity (Apollonius the Sophist (1–2 CE), *Lexicon Homericum*:9, 9–10; see further below).²⁶ In short, ἀδῆκότε-, with smooth breathing, may be safely assumed.

Before examining the usage of ἀδῆκότε- in context, I will review the renderings of the form offered in modern lexica and translations, as well as the existing etymological proposals. By and large, the lexica and translations offer glosses that, when based on context alone, are approximate but reasonable, but when based principally on etymological considerations, are senseless in context.²⁷ Approximative renderings appear in the translations of Murray 1924

25 A notable exception to this consensus appears in the recent edition of the *Odyssey* of West 2017: 237, where ἀδῆκότας, with rough breathing, is printed at 12.281 (Heubeck and Hoekstra (1989: 134) also represent the form with a rough breathing in their commentary on the passage, but do not remark on this issue specifically). Surprisingly, West’s *apparatus criticus* for the line makes no mention of this editorial choice, which is all the more puzzling, because the rough breathing in this passage has no manuscript support whatsoever, at least to judge from the apparatus in van Thiel 1991: 151, which makes clear that only a form with a smooth breathing has direct support here. Moreover, since West prints ἀδῆκότες, with smooth breathing, in his edition of the *Iliad* (1998) and the Homeric Hymns (2003), that West does not justify an apparent change in opinion in the Praefatio of his *Odyssey* (ἀδῆκότε- is mentioned neither there, nor in the Praefatio of his *Iliad*) is frustrating. I would go so far as to wonder whether the rough breathing in question is a printer’s error.

26 See Dickey 2007: 24–25 on *Apollonius Sophista*.

27 Compare the commentary of Leaf (1900) (*ad Il.* 10.98), who says wholly reasonable things: “ἀδῆκότες recurs outside this book (312, 399, 471) only in *Od.* 12.281 (always in the same connexion), with *Od.* 1.134 “ἀδήσειεν”. In the last case the word means ‘feel disgust’, and

(‘worn out’) and Cerri 1996 (‘stremato’ = ‘exhausted’), while the lexica base their glosses on etymologies and thus offer the senseless ‘sated’ (per Liddell et al. 1925–1940), the peculiar ‘weighed down’ (Montanari et al. 2015), or strained ‘voll Unlust’ (Snell 1979).²⁸ The most detailed consideration of the contextual semantics of ἄδηκός- is given by Danek (1988: 84–86), who does not commit to a precise gloss, but remarks that “vom Zusammenhang her ist also kein Unterschied zwischen καμάτω ἀδηκότες und καμάτω δεδμημένον bemerkbar;” on this basis a gloss ‘subdued’ (= δεδμημένον) could be imputed to ἄδηκός-. Murray, Cerri, and Danek are close to the mark, though a more precise reading may be possible.

For the etymology, Chantraine 1968–1980 [2009]: s.v. ἀδηκότες discusses two basic possibilities, both of which are already present in Apollonius the Sophist (*Lexicon Homericum*).²⁹ On the one hand, ἀδηκός- could be regarded as a kappatic perfect participle, thus making the form relatively young, built to an otherwise unattested verb *ἄδέω ‘to satiate, to fill up’, which would supposedly underlie the adverb ἄδην ‘to satiety’ (Epic ἄδην through psilotic East Ionic) and noun ἄδος ‘satiety’.³⁰ The form is either strangely lacking in reduplication (/e-ade:-/ ought to have given [ε:de:-] by contraction in Ionic, if it were contracted at all), or could be regarded as a form from an Aeolic dialect, in which /e-ade:-/ would yield [a:de:-]. Treating ἀδηκός- as an Aeolic form has been argued for most systematically by Peters (1988: 237–238), but there is, however, no independent reason beyond the outcome of vowel contraction to view the form as Aeolic, and as shown below, the long $\bar{\alpha}$ - need not be etymological. The presumed development from an original meaning ‘sated’ to the sensible reading ‘exhausted, overcome, worn out’ has struck some commenta-

we should probably read “ἀηδῆσειεν” with Wackernagel (cf. H.G. p. 25). But this does not explain the present phrase. Nor is any satisfactory sense to be got from “ἄδην” ... It is simpler to say that though the meaning of the word is obvious, its affinities are unknown.”

28 The glosses of ἀδηκός- given in Liddell et al. 1925–1940 and Montanari et al. 2015 relate to the etymological proposals discussed by Chantraine 1968–1980 [2009] discussed below. The gloss offered in Snell 1979 assumes a connection with the perfect stem ἄδηκ- ‘pleased’ (ἄδηκε βουλή ‘the plan was approved’ in Hipponax frag. 132; see West 1971: 110–152), but this perfect certainly belongs to ἀνδάνω ‘please’ (so correctly Liddell et al. 1925–1940).

29 Frisk (1960) adopts the original meaning ‘gesättigt’ and a connection with ἄδην, in a much more cursory entry than Chantraine’s. Beekes (2009) adds nothing further to the discussion, simply referring the reader back to Chantraine 1968–1980 [2009], but declines to give a gloss.

30 ἄδην has a semantically plausible root etymology in */seh₂-/ ‘satiare’, to which formations built with /-ti-/ are attested in Italic (Lat. *satis* ‘enough’), Germanic (Goth. *saps* ‘satiated’), and Baltic (Lith. *sótis* ‘satiety’). The Greek forms would evidently reflect a zero-grade of the root, but are otherwise of unclear derivation.

tors as prohibitively strained (so Leaf 1900). That ἀδικότ- is construed with a dative καμάτῳ rather than a genitive (from which the reading ‘sated with tiredness’ could be extracted) is also peculiar, given that ἄω ‘sate’ and the adverb ἄδην in Epic are regularly construed with genitives (e.g., *Il.* 19.402 ἔωμεν πολέμοιο ‘(when) we have had our fill of war’). While the base ἄδη- is formally acceptable for etymologizing ἀδικότ-, the semantics are dubious, and the necessarily young date of the formation for which a kappatic perfect would speak is out of sync with fact that the form is known exclusively in a seemingly established syntagm.

The second option presented by Chantraine is a connection to a form ἀαδεῖν (Hsch. α 10 Latte), glossed by ὀχλεῖν ‘disturb, importune’, and possibly related to ἀηδής ‘distasteful, unpleasant’. The uncontracted sequence αα- in ἀαδεῖν would point to an original *αφαδε-, in which case Chantraine finds the contraction to ᾱ- in Homer surprising.³¹ Yet as Chantraine (s.v. ἀαδα) notes, ἀαδεῖν may have been invented outright to provide an explanation for ἀδικότες. Both etymological proposals found in Chantraine thus present considerable problems, and so room for alternative proposals is open.

Under the view that ἀδικότες contains the negative prefix *[n̥-], two considerations are important: 1) word-formation concerning *[n̥-] and participles; 2) the consistent scansion of the first syllable as long. On the one hand, the occurrence of privative ἀ- on forms belonging to the verbal system in Ancient Greek is unusual. On the other hand, credible examples are not unknown, e.g., ἀπειθέω ‘disobey’ (largely attested as the sigmatic aorist ἀπίθησε in Epic; but see Peters 2007 for a different analysis), ἀτίει ‘dishonor’, ἀέκοντες ‘unwilling’. The view of Wackernagel (2009: 759 = 1928: 287) was that the negation of participles with ἀ- rather than οὐκ was an archaism: “the old practice of negating the true participle with the privative prefix gradually declined, at the earliest date in Greek.” While no other perfect participles containing privative ἀ- are known in Homer (cf. Risch 1974: 341–348), at least two Ṛgvedic perfect participles with privative *a-* are attested: *ájaghnusī-* ‘not striking’ (8.67.15c) and *ásaścusī-* ‘not drying up’ (9.86.18c).³² The combination of Wackernagel’s discussion and the Vedic examples suggests that the perfect participle with privative suffix *[n̥-] might have been possible in PIE, and thus that the presence of negative ἀ- is compatible with the interpretation of ἀδικότες as an archaism (see further 2.4

31 Here, Chantraine notes, the form ἀδήσειεν (*Od.* 1.134) ‘be disgusted by’, whose connection to ἀδικότ- is proposed by Apollonius, could be a corresponding aorist. The formal problem with a connection to ἀδήσειεν is that the form might better be read as ἀηδήσειεν, on account of the meter; cf. fn. 27 above.

32 Thanks to a reviewer for reminding me of these Vedic comparanda.

below). ἀέκοντες ‘unwilling’, as the negated form of an old participle ἔκων ‘willing’ that synchronically lacks a base of derivation, suggests a further possibility for explaining the negation of ἀδηκότ-: an unattested *δηκότ- ‘aware, perceptive’ was divorced from the paradigm of δέχομαι (to which only a perfect middle participle exists in 1st Millennium Greek), and thus regarded as a simple adjective; in this case, negation with ἀ- would be a trivial further formation. Regardless, the question of negation strategies for participles in older Indo-European languages remains a topic that requires closer investigation on a broader basis of evidence.

The fact that the ἀ- of ἀδηκότ- is always treated as long metrically poses as relatively minor issue. Of course, the phrase καμάτῳ ἀδηκότες, if scanned as ∪ ∪ — ∪ — ∪ ∪, would not fit the hexameter, having one short syllable trapped between two longs (a cretic sequence). Thus, the ἀ- must be treated as long, giving a scansion ∪ ∪ — — — ∪ ∪.³³ Taken on its own, the form ἀδηκότες or ἀδηκότας, having the shape ∪ — ∪ ∪ can be fit into a hexameter unproblematically after a sequence — ∪. It is, however, well-known that especially an underlying short /ǎ/, especially in the first syllable of a word, may be subject to metrical lengthening, whether to repair a tribrach sequence (e.g., in ἀθάνατοι ‘immortals’ or ἀκάματος ‘tireless’) or a short that would be trapped between two longs when the preceding word ends in a long or two shorts (Ἀπολλωνι, forms of αἰείδω ‘sing’); cf. Chantraine 1958: 97–98. Clear instances of the latter, directly or roughly comparable to καμάτῳ ἀδηκότες, in which a word-initial /ǎ-/ scans long, are can be illustrated with the following lines:

- Μουσάων θ’ αἶ αἰείδον ἀμειβόμεναι ὅπι καλῆ (Il. 1.604).
- δοιαὶ μὲν Μενελάῳ ἀρηγόνες εἰσὶ θεάων (Il. 4.7; compare especially Il. 10.98 reproduced at 2.3.1 below).
- εὐχετο δ’ Ἀπόλλωνι Λυκηγενεῖ κλυτοτόξῳ (Il. 4.119).
- ὄφρα Διὶ Κρονίδῃ ἀρησόμεθ’, αἴ κ’ ἐλέησῃ (Il. 9.172).
- καρδίῃ ἄληκτον πολεμίζειν ἠδὲ μάχεσθαι (Il. 11.12 = 14.152).

Examples of this sort can easily be multiplied. Note in particular that the form ἄληκτον ‘unceasing’ exhibits lengthening of an etymological privative prefix, just as would be supposed for ἀδηκότες. In sum, the lengthening of /ǎ/ within Epic diction to avoid the trapping of a short between two longs is philologically well-established.

Two other relevant observations may be made in connection with the metrics of καμάτῳ ἀδηκότες. One is that καμάτῳ in Homer is robustly localized in

33 A reviewer raises the question of whether the absence of epic correption here has any import for the chronology of this formula. Based on the recent work of Garner (2011) on correption (see especially pp. 133–140), who has shown that there are not significant dif-

the second half of the second foot (10/14 instances, including 4/5 instances of *καμάτῳ ἀδηκότες*). Besides *ἀδηκότες*, the other attested options for filling the third and fourth foot following *καμάτῳ* are *δὲ καὶ ἰδρῶ* (*Il.* 17.385), *τε καὶ ἰδρῶ* (*Il.* 17.745), *τε καὶ ἄλλεσι* (*Od.* 9.75, 10.143), *ἀρημένος* (*Od.* 6.2), *δεδμημένον* (*Od.* 14.318), and *θῦμαλγεί* (*Od.* 20.118). This leads to the second observation, namely, that the two perfect (middle) participles *ἀρημένος* ‘distressed’, *βεβλαμμένος* ‘δεδμημένον ‘subdued’ attested after *καμάτῳ* are of the metrical shape — — ∪ ∪. Taken together, *καμάτῳ ἀδηκότες*, *καμάτῳ ἀρημένος*, and *καμάτῳ δεδμημένον* may point to a general formulaic template (or *Construction* in the sense of Bozzone 2014) *καμάτῳ* [— — ∪ ∪]_{PERF.PART.} in the Epic language; the lengthening of /ä/ in *ἀδηκότες* would be necessary to satisfy this template.

In short, there is no strong reason to prefer an etymology of *ἀδηκότ-* in which the long [ā-] is original. The combined features of Epic diction treated here show that the assumption of metrical lengthening is relatively unburdensome. I would contend that a metrical lengthening is small price to pay for a plausible morphological and etymological understanding of *ἀδηκότες*.

2.3 *Homeric ἀδηκότ-: contextual interpretation*

In this section, I will examine five of the six occurrences of the stem *ἀδηκότ-* in context (the passage at *Il.* 10.396–399 exactly repeats *Il.* 10.309–312 and therefore will not be examined separately). In each case, I believe that the context virtually speaks for itself: a rendering of *ἀδηκότ-* as ‘inattentive, unaware, heedless’ (← ‘not having mentally taken in one’s external circumstances’) fits each passage not just unproblematically, but indeed well. Consistently translating *ἀδηκότ-* in this way also makes much better sense of the formulaic expression *καμάτῳ ἀδηκότ-*, where many freer translations (e.g., Lattimore 1951 of the *Iliad* and McCrorie 2004 of the *Odyssey*) essentially only pick up on the meaning of the known element, *κάματος* ‘weary’, or produce a more or less redundant expression (like the “stremato dalla stanchezza” = “exhausted by tiredness” of Cerri (1996)). Under the reading ‘having become inattentive/heedless due to weariness’, the form *ἀδηκότ-* makes a genuine, non-trivial semantic contribution to the passages in which it appears.

In the subsequent sections, each passage is given with English translation; translations from *Il.* 10 are based on Murray 1924; *Od.* 12.279–285 is based on Murray 1919; verses 456–461 of the *Hymn to Apollo* are adapted from Càsola 1975 [1994] and West 2003. The particular translation given to the phrase

ferences in rates of corruption across Homer or between Homer and later epic poetry, I do not think that corruption can be used to shed light on the formula’s chronology.

καμάτῳ ἀδηκότ- is bolded in the English in each case. The Greek text reproduced is that of Allen 1931 (*Iliad*), von der Mühl 1962 (*Odyssey*), and Allen et al. 1936 (*Hymn to Apollo*).³⁴

2.3.1 *Il.* 10.98

The context: *Il.* 10.96–99: Agamemnon, taken with insomnia and worry, has just come to find Nestor, to consult with him about sending spies into the Trojan camp.

ἀλλ' εἴ τι δραίνεις, ἐπεὶ οὐδὲ σέ γ' ὕπνος ἰκάνει,
 δεῦρ' ἐς τοὺς φύλακας καταβήσομεν, ὄφρα ἴδωμεν,
 μὴ τοὶ μὲν καμάτῳ ἀδηκότες ἤδὲ καὶ ὕπνῳ
 κοιμήσωνται, ἀτὰρ φυλακῆς ἐπὶ πάγχυ λάθωνται.

But if you wish to do something, since sleep does not come to you either, let us go down to look on the sentinels, in case, **having become inattentive on account of weariness and sleepiness**, they have gone to sleep, and entirely forgotten their watch.

Here Agamemnon, before making any decisions, wants to check that the nighttime sentinels (τοὺς φύλακας) of the Achaeans are in condition needed to carry out their principal duty (i.e., watch for intruders or danger). One may infer that ἀδηκότες here would seem to indicate precisely opposite of the mental state that is desirable for a sentinel, that is, sharpness and attentiveness.

2.3.2 *Il.* 10.305–312

The context: Just after the leaders of the Achaeans have met, and girded Diomedes and Odysseus to go out on a raid in the Trojan camp, the narrative shifts to the Trojans, where Hector, like Agamemnon at 10.98, is awake, and is attempting to rouse a volunteer to spy amongst the Achaeans.

δώσω γὰρ δίφρον τε δῦω τ' ἐριαύχενας ἵππους
 οἳ κεν ἄριστοι ἔωσι θοῆς ἐπὶ νηυσὶν Ἀχαιῶν
 ὅς τις κε τλαίη, οἷ τ' αὐτῷ κύδος ἄροιτο,

34 The text of precisely these editions is reproduced because they are available through the *Thesaurus Linguae Graecae*, and thus easily accessible to many readers. I have noted no differences in other editions of these texts that are relevant to the present discussion, apart from the breathing on ἀδηκότες already discussed above.

νηῶν ὠκυπόρων σχεδὸν ἐλθέμεν, ἔκ τε πυθέσθαι
 ἦε φυλάσσονται νῆες θοαὶ ὡς τὸ πάρος περ,
 ἦ ἤδη χεῖρεςσιν ὕφ’ ἡμετέρησι δαμέντες
 φύξιν βουλεύουσι μετὰ σφίσιν, οὐδ’ ἐθέλουσι
 νύκτα φυλασσόμεναι, καμάτῳ ἀδηκότες αἰνῶ.

For I will give him a chariot and two horses with high-arched necks, those that are best at the swift ships of the Achaeans, to the man who will dare—and for himself win glory—to go close to the swift-faring ships, and spy out whether the swift ships are guarded as before, or whether now, beaten at our hands, they [the Achaeans] are planning flight among themselves, and are not minded to keep watch through the night, **being inattentive on account of terrible weariness.**

Just as in 10.96–99, the focus here lies with the watchfulness of the military component. Likewise, just as ‘guards’ and the ‘watch’ made an appearance in the preceding passage, here two forms of φυλάσσω occur: once with respect to the ships, which ought to be subject to an attentive watch, and once with respect to the guard that should be kept through the night. Indeed, the phrase οὐδ’ ἐθέλουσι νύκτα φυλασσόμεναι ‘are not minded/willing to keep watch through the night’ suggests that the act of φυλάσσω ‘keeping watch’ requires some deliberate mental concentration and effort. One may once again infer that it is the state of being ἀδηκότ- that would precisely inhibit one’s capacity to keep watch effectively.

2.3.3 *Il.* 10.469–473

The context: Diomedes has just slain the unlucky Trojan spy Dolon, who, before his death, revealed to Diomedes and Odysseus where the camp of the Thracians would be found. The two Greeks have taken spoils from Dolon, hidden them, and continue through the Trojan camp, where they come upon the group of sleeping Thracians.

τῷ δὲ βάτην προτέρω διὰ τ’ ἔντεα καὶ μέλαν αἶμα,
 αἶψα δ’ ἐπὶ Θρηκῶν ἀνδρῶν τέλος ἶξον ἰόντες.
 οἳ δ’ εὐδον καμάτῳ ἀδηκότες, ἔντεα δὲ σφιν
 καλὰ παρ’ αὐτοῖσι χθονὶ κέκλιτο εὖ κατὰ κόσμον
 τριστοιχί· παρὰ δὲ σφιν ἐκάστῳ δίζυγες ἵπποι.

But they went forward through the weapons and the dark blood, and swiftly came in their course to the company of Thracian warriors. They

were sleeping, **inattentive out of weariness**, and their fair battle gear lay by them on the ground, all in good order, in three rows. And by each one was his yoke of horses.

Here the Thracians are simply asleep, obviously unable to take account of immediate dangers in their environment. Such inattentiveness, brought on by weariness and promoting sleep, then precisely allows Diomedes and Odysseus to come among the Thracians without meeting any resistance and slay twelve of the company, and for Odysseus to release their horses, before receiving any response.

2.3.4 *Od.* 12.279–285

The context: Odysseus recounts that his ship and rowers have just, with great difficulty, come past Charybdis and Scylla. They are now approaching the island containing the flocks of cattle of Helios, which Teiresias and Circe have warned Odysseus away from. Odysseus tells his crew to row away from the island; they respond:

σχέτλιός εἰς, Ὀδυσσεῦ, περί τοι μένος, οὐδέ τι γυῖα
 κάμνεις· ἦ ῥά νυ σοί γε σιδήρεα πάντα τέτυκται,
 ὅς ῥ' ἐτάρους καμάτῳ ἀδηκότας ἠδὲ καὶ ὕπνω
 οὐκ ἑάσας γαίης ἐπιβήμεναι, ἔνθα κεν αὖτε
 νήσῳ ἐν ἀμφιρῦτῃ λαρόν τετυκοίμεθα δόρπον,
 ἀλλ' αὐτῶς διὰ νύκτα θοὴν ἀλάλησθαι ἄνωγας,
 νήσου ἀποπλαγχθέντας, ἐν ἡεροιδαίῃ πόντῳ.

You are stubborn, Odysseus; neither your mind nor your limbs ever grow weary. Indeed, you are wholly made of iron, as you do not allow your comrades, **rendered inattentive with weariness and sleepiness**, to go ashore, where on this land surrounded by water we could prepare once again a savory supper; instead you order us to wander on through the swift night, driven away from the island, over the misty sea.

Odysseus' rowers at this point must be suffering from attentional exhaustion: they are telling Odysseus that, in their present mental condition, and given the night and mist that would make the task of navigation more challenging, they cannot make productive progress, but will merely 'wander' (ἀλάλησθαι) if compelled to continue. The state and capacities of the crew are explicitly contrasted with those of Odysseus, whose limbs and mind both are said not to suffer from exhaustion. This contrast implies that ἀδηκότ- involves more than just the physical tiredness implied by κάματος.

2.3.5 *Hymn to Apollo* 456–461

The context: Phoibos Apollo addresses men on a ship arriving to Crisa, which he has diverted there from its original destination, Pylos, so that the men will be compelled to serve as his priests. This long and stressful journey is recounted in verses 413–439.

τίφθ' οὕτως ἦσθον τετιηότες, οὐδ' ἐπὶ γαίαν
 ἔκβητ', οὐδὲ καθ' ὄπλα μελαίνης νηὸς ἔθεσθε;
 αὕτη μὲν γε δίκη πέλει ἀνδρῶν ἀλφηστάων
 ὀππότεαν ἐκ πόντοιο ποτὶ χθονὶ νηὶ μελαίνῃ
 ἔλθωσιν καμάτῳ ἀδηκότες, αὐτίκα δέ σφεας
 σίτοιο γλυκεροῖο περὶ φρένας ἴμερος αἰρεῖ.

Why do you sit so afflicted with sadness, without going out onto the land, or putting away the ship's equipment? That is the custom of civilized men, when they reach land in their dark ship, **rendered heedless by weariness**, and their hearts are at once seized with appetite for sweet food.

The point of interest here is that ἀδηκότ- characterizes the state of sailors following a long (unwanted) sea journey; the usage here is precisely parallel to the preceding passage at *Od.* 12.279–285. In this particular case, the description ‘rendered heedless by weariness’ may resonate well with the condition of the specific sailors, who were compelled to endure a more difficult journey than anticipated, without, moreover, knowing the goal.

2.4 ἀδηκότ- as archaism

The passages from the Epic Greek corpus give relatively clear indications that ἀδηκότ- describes a state of mind precisely opposite to the state of mind that would be desirable for activities where alertness and careful attention is warranted (e.g., keeping watch, steering a ship). The instances from *Iliad* 10 and *Odyssey* 12 support the reading of ἀδηκότ- as ‘inattentive, heedless, unaware’ nicely, while the instance in the *Hymn to Apollo* is entirely compatible with this interpretation, even if such a sense appears somewhat bleached in context.

Overall, this connection with attention and mental focus is entirely apposite to a derivation from the root */deḱ-/; ἀδηκότ- then may be seen as the negated form *[ṽdeḱuós-] ‘inattentive’ of the perfect participle *[deḱuós-] ‘attentive’ built to */deḱ-/. In 1st Millennium Greek, the likely paradigmatic isolation of ἀδηκότ- (in antiquity, any presumed relationship to the verb δέχομαι had evidently been lost, given that the earliest etymologies conceived [cf. under 2.1 above] fail to draw such a connection) and relative fixity in the formula καμάτῳ

ἀδηκός- point unambiguously to an archaism, just as the characteristics of *dāśvāms-* in Vedic discussed above were likewise argued to be suggestive of an archaism.

The very fact that, morphophonologically speaking, ἀδηκός- cannot be derived in from /dek-/ in 1st Millennium Greek also speaks in favor of an archaism. The systematic investigation into Greek reduplication in Zukoff 2017b shows that the generally preferred repairs to potential PCR problems (which virtual candidate *[dedkṓs-] would have encountered) in reduplicated forms in Greek were either “Attic” reduplication (in the case of roots with an initial */HC-/ sequence) or omission of the consonant of the reduplicant (assuming that zero-grade ablaut would still have applied). A productively rebuilt perfect active participle with zero grade of the root in Greek might have resulted in a *ἐκτότ-, with “non-copying” reduplication (cf. perfects ἔκτονα [χτείνω ‘kill’], ἔσταλλα [στέλλω ‘prepare’]) and thorn-cluster treatment of *[dk̑]; with full grade of the root, simply *δεδεκός- (cf. the Homeric middle participle δεεγμένος). Since δέχομαι/δέχομαι is synchronically a *medium tantum* in 1st Millennium Greek, any other perfect active participle is unattested. This fact, too, would likewise mean that ἀδηκός-, if connected to 1E */dek-/ , is likely a relative archaism.

Nevertheless, ἀδηκός-, unlike Vedic *dāśvāms-*, cannot simply be a direct inheritance of a form built in PIE, simply run through the expected sound changes. Namely, the fact that the perfect participle suffix has been reformed or replaced in the history of Greek, and that the sequence *[k̑] would be expected to yield [p] in 1st Millennium Greek (falling together with inherited labiovelars), excludes the scenario of mechanical inheritance. Specifically, had an Indo-European nominative plural form *[ṛdēkṓses] been directly inherited into 1st Millennium Ionic Greek, a form *ἀδηπόες (or contracted to *ἀδηποός) might have been expected.³⁵ Before the situation attested in 1st Millennium Attic–Ionic Greek, in which perfect participles are productively derived with a suffix /-ός-, the only point of reference later than PIE itself is formed by a handful of neuter plural forms in Mycenaean, *a-ra-ru-wo-a* [ara:rwóha] ‘fitted’ and *te-tu-ko-wo-a₂* [tetuk^hwóha] ‘produced, built’ (see the discussion in Szemerényi 1967), which continue the full grade of the Indo-European suffix */-kṓs-/. Since no forms in 1st Millennium Greek preserve the Indo-European full-grade */-kṓs-/, that ἀδηκός-, has, in one way or another,

35 A simplex [p] rather than geminate [p:] as in ἵππος < */h₁k̑mo-/ is expected, since the vowel preceding the *[k̑] sequence is long (cf. Kostopoulos 2014: 186–198). Thanks to a reviewer for raising this issue and for the relevant reference.

been given the productive suffix */-ót-/* requires no special explanation. Historically, as Szemerényi (1967: 23–24) observed, if the nom.sg. is taken as the base of inflection for the paradigm of the participle (here understanding “base” in the sense of Albright 2002), the high type frequency of the alternation NOM.SG. [*-V:s*] : elsewhere [*-Vt-V*] could lead to the systematic introduction of [t] into the inflectional paradigm. This development implies the existence of an participial suffix **/-wót-/* at some point between Mycenaean and Homer, even though there is no direct evidence in the 1st Millennium for a [w] in the suffix, nor any secure indirect evidence.³⁶ The assumption of a perfect participle suffix **/-wót-/* in the latter part of the 2nd Millennium and early 1st Millennium, although entirely credible, is without certain proof; IE **/-wós-/* might have been directly replaced by the historically attested suffix */-ót-/*. Other credible scenarios by which ἀδικότ- rather than *ἀδικότ- might have survived are also available, while still assuming a suffix **/-wót-/*. Perhaps early lenition of **[w] > Ø* intervocalically created the suffix */-ót-/ < */-wót-/* on vowel-final stems, and then systematically ousted **/-wót-/* prior to change of **[kw] > [p]*. In the event that a stem **[adē:pót-]* did arise among masculine and neuter forms, the expected feminine **[adē:kuīā]* (< **[ṽdēkuiāh₂]*) would have preserved the dorsal, which could have been imported into the masculine and neuter forms by paradigmatic leveling. Many branching paths could lead from PIE **[ṽdēkuiós-]* to the attested ἀδικότ-.

Finally, there is also a possible textual objection against viewing ἀδικότ- as a relative archaism in Greek, namely, the fact that the collocation within which it exclusively occurs appears principally in the tenth book of the *Iliad*, which has long been regarded as a later interpolation into the text of the *Iliad* (see generally Danek 1988, Danek 2012). This type of objection, however, rests on the problematic assumption that archaisms should necessarily be first attested in older textual layers (see especially Hackstein 2002: 80–87 on this point with special reference to Homer). Without a complete accounting of a language at a particular point in time, that some relatively older forms might escape attestation until later is inevitable. In considering the case of the *R̥gveda*, casual use of the LIV² turns up many archaisms that are first attested in Books I and X, but not in the Family Books—not all forms that are first attested later are

36 Perhaps the best possible example of a metrical trace of [w] in Homer is the participle to ἄνδάνω, ἔαδότα ‘pleased’ (*Il.* 9.173 = *Od.* 18.422) < **[hwehwadwóta]*, discussed in Leumann 1955. The long *ā* in the form can easily be the result of metrical lengthening to avoid a sequence of four (!) shorts. Likewise, other forms of the same perfect stem in Epic (e.g., ἔαθεν at Ap. Rhod. *Argonautica* 1.867) also scan with a long *ā* that can only be explained as a metrical lengthening.

themselves perform younger. Although some scholars (of the *Odyssey* in particular) have asserted that *καμάτω ἀδηκότες* in *Iliad* x is dependent upon the occurrence in Book 12 of the *Odyssey* (so Laser 1958: 393–394, Heubeck and Hoekstra 1989: 134), this view is not universally shared: contrast Danek 1988: 85 (quoted under 2.2 above) and Hainsworth 1993: 166 (*re* 10.98: “The similarity of the verse to *Od.* 12.281 has been used as a leading argument for the dependence of this Book on the *Odyssey* ... but could equally be attributed to the random effects of formulaic composition”). *Iliad* 10 in particular also contains mention of one of the most striking material archaisms in the *Iliad*: the description of a boar-tusk helm (*Il.* 10.260–265), a type of object known in the Mycenaean culture of the 2nd Millennium BCE, but absent in 1st Millennium Greece (cf. Andersen and Haug 2012: 9)—the helm’s appearance in a later book does not speak against its antiquity. That the expression *καμάτω ἀδηκότες* does not occur elsewhere in the *Iliad* might be yet another stylistic peculiarity of the poet of the *Doloneia* as against the larger *Iliad*. From the point of view of oral tradition of Greek Epic, it is licit to assume that *καμάτω ἀδηκότες* belonged to the traditional oral-formulaic repertory, and the capacity of the poet of the *Doloneia* to modify the formula (cf. 2.1 above) is more coherent with the assumption that he knew and understood this phrase independent of its occurrence in the *Odyssey*. One might suppose that the formula’s use was dispreferred in the style adopted in much of the *Iliad*; its relatively high frequency in Book 10 may precisely be another instance, if one follows the thesis of Danek (2012: 108–116), in which the poet of the *Doloneia* deliberately constructs verses contrary to the linguistic and stylistic expectations established by the rest of the *Iliad*. At the same time, it may be the case that *καμάτω ἀδηκότες* is thematically inappropriate to much of the *Iliad*, since, to judge by its attestations, it belongs to scenes of nighttime rest (in *Il.* 10) or seafaring (in *Od.* 12 and the *Hymn to Apollo*); neither the sea nor the night (excepting Books 2 and 24, for the latter) make many appearances in the plot of the *Iliad*.

3 Conclusion: ἀδηκότ-, *dāśvāms*-, and the PCR

The first and second sections of this article have argued that Vedic Sanskrit and Homeric Greek each respectively preserve two archaisms: *dāśvāms*- ‘pious man’ and ἀδηκότ- ‘inattentive, heedless, unaware’. When taken as archaisms, each of these forms is most readily explained as the ultimate continuation of an Indo-European “long-vowel” perfect participle built to the root */deǵ-/ , *[dēǵuós-] ‘attentive, having given attention’. If the novel reading of ἀδηκότ- proposed is indeed correct, then the direct equation of two independent archaisms in

Greek and Vedic implies that their last common ancestor possessed the form *[dēk̑úós-]—in short, that at least one such “long-vowel” perfect active participle can be projected back to (Core) Proto-Indo-European with some confidence. Vedic *sāhvāms-* ‘conquering, having conquered’ is another credible such example, though a possible cognate form is as yet unknown.

While the reconstruction of “long-vowel” perfect participle forms to account for *dāśvāms-* and *sāhvāms-* is not new (cf. Schumacher 2005: 640), the further support furnished by Greek ἀδηχότ- makes the rejection of their Indo-European antiquity (as per Jasanoff 2012: 128) harder to accept. Furthermore, given that a well-grounded phonological constraint (the NO POORLY-CUED REPETITIONS Constraint of Zukoff 2017a) can motivate and predict the occurrence of such “long-vowel” perfect stems (see discussion under 1.2 above), I believe that one may justifiably view the occurrence of apparent long-vowel forms under morphological conditions where reduplication would otherwise be expected as a consequence of the phonology of Proto-Indo-European. Further details on the precise domain of application for a PCR constraint in PIE remain to be systematically investigated, but at least for now, the comparison of *dāśvāms-* and (ἀ)δηχότ- admits of the tentative conclusion that the PCR was active when the second of two identical stops was part of a triconsonantal sequence.

Given then, that the PIE underlying form /RED-dek̑-úós-/ surfaced as *[dēk̑úós-], at least in the last common ancestor of Greek and Indo-Iranian, I propose the following tentative reconstruction of PCR Effects in reduplication along the Indo-Iranian to Indic line of descent:

- In PIE: PCR drives consonant deletion (and compensatory lengthening) in triconsonantal sequences (*[dēk̑úós-] ← */RED-dek̑-úós-/, *[g̑ígne/o-] ← */RED-genh₁-e/o-/), likely in cases where sonorant + stop sequences would arise (*[RED-leḡ-/ → *[lēḡ-] >> Lat. perfect stem *lēg-* ‘gathered’, but not in [s] + stop sequences (*[siste/o-] ← */RED/-steh₂-e/o-/), or, of course in stop + sonorant sequences.
- In Proto-Indo-Iranian: some PIE formations such as *[dēk̑úós-] are lexicalized, giving PIr. *[dāc̑úás-]. Stricter licensing requirements on C~Ø contrasts result in the synchronic production of desiderative stems like *[dik̑ša-] (> Ved. *dīk̑ša-*, Av. *dix̑ša-*) and the direct forebears of the C₁ēC₂-type of perfect weak stems (Ved. *bhej-* ‘divide’, *pec-* ‘cook’).
- In Sanskrit: yet stricter licensing requirements on C~Ø contrasts result in C₂-copy among roots with [s] + stop clusters and productive expansion of the C₁ēC₂-type among perfect weak stems (see detailed accounts in Sandell 2015b: Ch. 8 and Zukoff 2017a: Ch. 5).

The larger question concerning the morphology of PIE and its daughters then becomes how the category of “long-vowel” preterites (Cowgill 1957, Schu-

macher 2005, Jasanoff 2012) is to be handled. Can all such forms be ultimately explained as perfects of particular root-shapes and later innovations of the daughter languages? This question awaits a more thoroughgoing investigation.

Acknowledgments

Many thanks to Chiara Bozzone, Olav Hackstein, Jesse Lundquist, and Tony Yates for helpful and thoughtful comments on earlier drafts, as well as to the *IMoLT* (Indo-European and Modern Linguistic Theory) research group for support and encouragement. Two anonymous reviewers kindly saved me from assorted mistakes, and helped to improve my arguments on various points. Responsibility for remaining errors and infelicities rests with the author.

References

- Albright, Adam. 2002. The Identification of Bases in Morphological Paradigms. Ph.D. diss., University of California, Los Angeles.
- Allen, T.W. (ed.). 1931. *Homeri Illias*. Oxford: Clarendon Press.
- Allen, T.W., W.R. Halliday, and E.E. Sikes (eds.). 1936. *The Homeric Hymns*. Oxford: Clarendon Press.
- Andersen, Øivind, and Dag T.T. Haug. 2012. Introduction. In Øivind Andersen and Dag T.T. Haug (eds.), *Relative Chronology in Early Greek Epic Poetry*, 1–19. Cambridge: Cambridge University Press.
- Baayen, R. Harald. 1989. A Corpus-Based Approach to Morphological Productivity. Statistical Analysis and Psycholinguistic Interpretation. Ph.D. diss., Vrije Universiteit Amsterdam.
- Baayen, R. Harald. 1992. Quantitative Aspects of Morphological Productivity. In Geert E. Booij and J. van Marle (eds.), *Yearbook of Morphology 1991*, 109–149. Dordrecht: Kluwer.
- Balles, Irene. 2012. Zu einigen Fällen von (vermeintlichem) Laryngalschwund im Indogermanischen. In David Stifter and Velizar Sadovski (eds.), *Iranistische und indogermanistische Beiträge in memoriam Jochem Schindler*, 9–30. Wien: Österreichische Akademie der Wissenschaften.
- Beekes, Robert. 2009. *Etymological Dictionary of Greek*. Leiden: Brill.
- von Böhtlingk, Otto, and Rudolph Roth. 1855. *Sanskrit Wörterbuch*, Herausgegeben von der kaiserlichen Akademie der Wissenschaften edn. St. Petersburg: Eggers.
- Bozzone, Chiara. 2014. Constructions: A New Approach to Formularity, Discourse, and Syntax in Homer. Ph.D. diss., University of California, Los Angeles.

- Byrd, Andrew Miles. 2015. *The Indo-European Syllable*. Leiden: Brill.
- Càssola, Filippo. 1975 [1994]. *Inni omerici*. Farigliano: Mondadori.
- Cerri, Giovanni (ed.). 1996. *Omero. Iliade. Introduzione e traduzione di Giovanni Cerri*. Milano: Rizzoli.
- Chantraine, Pierre. 1958. *Grammaire homérique. Tome I. Phonétique et morphologie*, 3rd edn. Paris: Klincksieck.
- Chantraine, Pierre. 1968–1980 [2009]. *Dictionnaire étymologique de la langue grecque*, Nouvelle edn. Paris: Klincksieck.
- Cooper, Adam. 2013. Constraint Indexation, Locality, and Epenthesis in Vedic Sanskrit. In Ken Seda, Claire Moore-Cantwell and Robert Staubs (eds.), *NELS 40: Proceedings of the 40th Annual North East Linguistic Society*, 119–132. Amherst, MA: GLSA.
- Cooper, Adam. 2015. *Reconciling Indo-European Syllabification*. Leiden: Brill.
- Cowgill, Warren. 1957. The Indo-European Long-Vowel Preterites. Ph.D. diss., Yale University.
- Danek, Georg. 1988. *Studien zur Dolonie*. No. 12 in Wiener Studien. Wien: Österreichische Akademie der Wissenschaften.
- Danek, Georg. 2012. The Doloneia Revisited. In Øivind Andersen and Dag T.T. Haug (eds.), *Relative Chronology in Early Greek Epic Poetry*, 106–121. Cambridge: Cambridge University Press.
- Dickey, Eleanor. 2007. *Ancient Greek Scholarship*. Oxford: Oxford University Press.
- Frisk, Hjalmar. 1960. *Griechisches etymologisches Wörterbuch*. Heidelberg: Carl Winter.
- Garner, R. Scott. 2011. *Traditional Elegy: The Interplay of Meter, Tradition, and Context in Early Greek Poetry*. Oxford: Oxford University Press.
- Hackstein, Olav. 2002. *Die Sprachform der homerischen Epen*. Wiesbaden: Reichert.
- Hainsworth, Bryan. 1993. *The Iliad: A Commentary. Volume III: books 9–12*. Cambridge: Cambridge University Press.
- Hay, Jennifer. 2003. *Causes and Consequences of Word Structure*. New York: Taylor & Francis.
- Hay, Jennifer, and R. Harald Baayen. 2003. Phonotactics, Parsing, and Productivity. *Italian Journal of Linguistics* 15, 99–130.
- Heenen, François. 2006. *Le desideratif en védique*. Amsterdam: Rodopi.
- Heubeck, Alfred, and Arie Hoekstra. 1989. *A Commentary on Homer's Odyssey. Volume II. Books IX–XVI*. Oxford: Clarendon Press.
- Inslar, Stanley. 1968. Sankrit *īpsati* and *ūrtsati*. *Indogermanische Forschungen* 73, 57–66.
- Jamison, Stephanie W. 1991. A Cart, an Ox, and the Perfect Participle in Vedic. *Münchener Studien zur Sprachwissenschaft* 52, 77–100.
- Jamison, Stephanie W., and Joel P. Brereton. 2014. *The Rigveda. The Earliest Religious Poetry of India*. Oxford: Oxford University Press.
- Jasanoff, Jay H. 2012. Long-vowel Preterites in Indo-European. In H. Craig Melchert

- (ed.), *The Indo-European Verb. Proceedings of the Conference of the Society for Indo-European Studies, Los Angeles 13–15 September 2010*, 127–135. Wiesbaden: Reichert.
- Kavitskaya, Darya. 2002. *Compensatory Lengthening: Phonetics, Phonology, Diachrony*. New York: Routledge.
- Kellens, Jean. 2005. L'amphipolarité sémantique et la démonisation des daivas. In Günter Schweiger (ed.), *Indogermanica. Festschrift für Gert Klingenschmitt*, 283–288. Regensburg: Taimering.
- Klingenschmitt, Gert. 1982. *Das altarmenische Verbum*. Wiesbaden: Reichert.
- Kortlandt, Frederik. 1982. Greek Numerals and PIE Glottalic Consonants. *Münchener Studien zur Sprachwissenschaft* 42.97–104.
- Kostopoulos, Georgios. 2014. On Two Problems of Greek εὑρον 'I found'. *Die Sprache* 158–236.
- Kümmel, Martin Joachim. 2000. *Das Perfekt im Indoiranischen*. Wiesbaden: Reichert.
- Kümmel, Martin Joachim. 2012. Typology and Reconstruction. The Consonants and Vowels of Proto-Indo-European. In Benedicte Nielsen Whitehead, Thomas Olander, Birgit A. Olsen and Jens Elmegård Rasmussen (eds.), *The Sound of Indo-European. Phonetics, Phonemics, and Morphophonemics*. Copenhagen: Museum Tusulanum.
- Laser, Siegfried. 1958. Über das Verhältnis der Dolonie zur Odyssee. *Hermes* 86.385–425.
- Latte, Kurt (ed.). 1953–1966. *Hesychii Alexandrini lexicon*. Copenhagen: Munksgaard.
- Lattimore, Richard. 1951. *The Iliad of Homer*. Chicago: Chicago University Press.
- Leaf, Walter. 1900. *The Iliad, edited, with apparatus criticus, prolegomena, notes, and appendices*. London: Macmillan.
- Leumann, Manu. 1955. Griech. hom. εἰδώς ἰδυῖα und εἰοικώς εἰκυῖα, ἀρηρῶς ἀραρυῖα. *Celtica* 3.241–248.
- Liddell, Henry George, Robert Scott, and Henry Stuart Jones (eds.). 1925–1940. *A Greek-English Lexicon*. Oxford: Clarendon Press.
- Lubotsky, Alexander. 1994. rv. *ávidhat*. In George Dunkel, Gisela Meyer, Salvatore Scarlata and Christian Sidel (eds.), *Früh-, Mittel-, Spätindogermanisch*. Wiesbaden: Reichert.
- Lubotsky, Alexander. 1998. *A ṚgVedic Word Concordance. American Oriental Series*, vol. 83. New Haven: American Oriental Society.
- Manning, Christopher D., and Hinrich Schütze. 1999. *Foundations of Statistical Natural Language Processing*. Cambridge, MA: MIT Press.
- Mayrhofer, Manfred. 1986–2001. *Etymologisches Wörterbuch des Altindoarischen*. Heidelberg: Carl Winter.
- McCarthy, John, and Alan Prince. 1995. Faithfulness and Reduplicative Identity. In Jill N. Beckman and Susan Urbanczyk (eds.), *Papers in Optimality Theory, University of Massachusetts Occasional Papers in Linguistics*, vol. 18, 249–384. University of Massachusetts, Amherst.
- McCrorie, Edward. 2004. *Homer. The Odyssey*. Baltimore: The John Hopkins University Press.

- Montanari, Franco, Madeleine Goh, and Chad Schroeder. 2015. *The Brill Dictionary of Ancient Greek*. Leiden: Brill.
- von der Mühl, P. (ed.). 1962. *Homeri Odyssea*. Basel: Helbing & Lichtenhahn.
- Murray, A.T. (ed.). 1919. *Odyssey. With an English Translation by A.T. Murray*, Revised by William F. Wyatt edn. Cambridge, MA: Harvard University Press.
- Murray, A.T. (ed.). 1924. *Iliad. With an English Translation by A.T. Murray*, Revised by William F. Wyatt edn. Cambridge, MA: Harvard University Press.
- Ohala, John J. 1981. The Listener as a Source of Sound Change. In Carrie S. Masek, Roberta A. Hendrick and Mary Frances Miller (eds.), *Papers from the Parasession on Language and Behavior of the Chicago Linguistic Society. May 1–2 1981*, 178–203. Chicago: Chicago Linguistic Society.
- Oldenberg, Hermann. 1909–1912. *Ṛgveda. Textkritische und exegetische Noten*. Berlin: Weidmannsche Buchhandlung.
- Parker, Steve. 2002. Quantifying the Sonority Hierarchy. Ph.D. diss., University Of Massachusetts, Amherst.
- Parker, Steve. 2008. Sound Level Protrusions as Physical Correlates of Sonority. *Journal of Phonetics* 36.55–90.
- Peters, Martin. 1988. Indogermanische Chronik 33—G. Altgriechisch. *Die Sprache* 33.230–239.
- Peters, Martin. 2007. οὐκ ἀπίθησε and πιθήσας. In Alan Nussbaum (ed.), *Verba Docenti. Studies in Historical and Indo-European Linguistics Presented to Jay H. Jasanoff by Students, Colleagues, and Friends*, 263–270. Ann Arbor: Beech Stave.
- Rau, Jeremy. 2009. *Indo-European Nominal Morphology: The Decads and the Caland System*. Innsbruck: Innsbrucker Beiträge zur Sprachwissenschaft.
- Ringe, Don. 2006. *A Linguistic History of English Volume 1: From Proto-Indo-European to Proto-Germanic*. Oxford: Oxford University Press.
- Risch, Ernst. 1974. *Wortbildung der Homerischen Sprache*, 2nd edn. Berlin: de Gruyter.
- Rix, Helmut. 1976 [1992]. *Historische Grammatik des Griechischen*, 2nd edn. Darmstadt: Wissenschaftliche Buchgesellschaft.
- Rix, Helmut, Martin Joachim Kümmel, Thomas Zehnder, Reiner Lipp, and Brigitte Schirmer. 2001. *LIV² = Lexikon der indogermanischen Verben: Die Wurzeln und ihre Primärstambildungen*, 2nd edn. Wiesbaden: Reichert.
- Sandell, Ryan. 2014. Compensatory Lengthening in Vedic and the Outcomes of Proto-Indo-Iranian *[az] and *[až]. In Stephanie W. Jamison, H. Craig Melchert and Brent Vine (eds.), *Proceedings of the 25th UCLA Indo-European Conference*, 183–202. Bremen: Hempen.
- Sandell, Ryan. 2015a. Obligatory Contour Principle Effects in Indo-European Phonology: Statistical Evidence and the Morphology-Phonology Interface. In Stephanie W. Jamison, H. Craig Melchert and Brent Vine (eds.), *Proceedings of the 26th Annual UCLA Indo-European Conference*. Bremen: Hempen.
- Sandell, Ryan. 2015b. Productivity in Historical Linguistics: Computational Perspectives

- on Word-Formation in Ancient Greek and Sanskrit. Ph.D. diss., University of California, Los Angeles.
- Sandell, Ryan. 2017. Allomorphy Selection in Vedic Sanskrit Perfects of the Form $C_e:C_f$. In Karen Jesney, Charlie O'Hara, Caitlin Smith and Rachel Walker (eds.), *Proceedings of the 2016 Annual Meeting on Phonology*. Washington, D.C.: Linguistic Society of America.
- Schumacher, Stefan. 2005. 'Langvokalische Perfekta' in indogermanischen Einzelsprachen und ihr grundsprachlicher Hintergrund. In Gerhard Meiser and Olav Hackstein (eds.), *Sprachkontakt und Sprachwandel. Akten der XI. Fachtagung der Indogermanischen Gesellschaft, 17–23. September 2000, Halle an der Salle*, 591–626. Wiesbaden: Reichert.
- Snell, Bruno (ed.). 1979. *Lexicon des frühgriechischen Epos*. vol. 1. Göttingen: Vandenhoeck & Ruprecht.
- Stewanowitsch, Anatol, and Stefan Th. Gries. 2003. Collostructions: Investigating the Interaction of Words and Constructions. *International Journal of Corpus Linguistics* 8.209–243.
- Stump, Gregory T. 2001. *Inflectional Morphology. A Theory of Paradigm Structure*. Cambridge: Cambridge University Press.
- Szemerényi, Oswald. 1967. The Perfect Participle Active in Mycenaean and Indo-European. *Studi Micenei ed Egeo-Anatolici* 2.7–26.
- Tachinoslis, Nikolaos. 1984. *Handschriften und Ausgaben der Odyssee*. Frankfurt am Main: Peter Lang.
- van Thiel, Helmut (ed.). 1991. *Homeri Odyssea*. Hildesheim: Georg Olms.
- Tichy, Eva. 1976. Gk. $\delta\epsilon\iota\delta\acute{\epsilon}\chi\alpha\tau\omicron$ und idg. $*d\acute{e}k\acute{t}i$, $*d\acute{e}k\acute{t}oi$. *Glotta* 54.71–84.
- de Vaan, Michiel. 2013. On the Nasalization of h to ηh in Avestan. In Éric Pirart (ed.), *Le sort des Gâthâs et autres études iraniennes in memoriam Jacques Duchesne-Guillemin*, 49–50. Leuven—Paris: Peeters.
- van der Valk, Marchinus H.A.L.H. 1949. *Textual Criticism of the Odyssey*. Leiden: A.W. Sijthoff's Uitgeversmaatschappij.
- van Nooten, Barend, and Gary Holland (eds.). 1995. *Rig Veda. A Metrically Restored Text*. Cambridge, MA: Harvard University Press.
- Wackernagel, Jacob. 1924. *Vorlesungen über Syntax mit besonderer Berücksichtigung von Griechisch, Lateinisch und Deutsch*. vol. 2. Basel: Emil Birkhäuser & Cie.
- Wackernagel, Jacob. 2009. *Lectures on Syntax with Special Reference to Greek, Latin, and Germanic*. Edited with notes and bibliography by David Langslow. Oxford: Oxford University Press.
- Weiss, Michael. 2010. Outline of the Historical and Comparative Grammar of Greek. Manuscript. Department of Linguistics, Cornell University.
- West, Martin L. (ed.). 1971. *Iambi et elegi Graceci*. vol. 1. Oxford: Clarendon Press.
- West, Martin L. (ed.). 1998. *Homeri Ilias*. Stuttgart & Leipzig: Teubner.

- West, Martin L. (ed.). 2003. *Homeric Hymns. Homeric Apocrypha. Lives of Homer*. Cambridge, MA: Harvard University Press.
- West, Martin L. (ed.). 2017. *Homerus Odyssea*. Berlin: de Gruyter.
- Whitney, William Dwight. 1889 [1960]. *Sanskrit Grammar*. Cambridge: Harvard University Press.
- Whitney, William Dwight. 1905. *Atharva-Veda Sam̐hitā. Translated with a Critical and Exegetical Commentary*. Cambridge, MA: Harvard University Press.
- Yun, Sujeon. 2013. The Typology of Compensatory Lengthening: A Phonetically-Based Optimality Theoretic Approach. In *Proceedings of the 46th Annual Meeting of the Chicago Linguistics Society*, 341–355. University of Chicago.
- Yun, Sujeon. 2016. A Theory of Consonant Cluster Perception and Vowel Epenthesis. Ph.D. diss., Massachusetts Institute of Technology.
- Zukoff, Sam. 2014. On the Origins of Attic Reduplication. In Stephanie W. Jamison, H. Craig Melchert and Brent Vine (eds.), *Proceedings of the 25th UCLA Indo-European Conference*, 257–278. Bremen: Hempen.
- Zukoff, Sam. 2017a. Indo-European Reduplication: Synchrony, Diachrony, and Theory. Ph.D. diss., Massachusetts Institute of Technology.
- Zukoff, Sam. 2017b. The Reduplicative System of Ancient Greek and a New Analysis of Attic Reduplication. *Linguistic Inquiry* 48.459–497.
- Zwicky, Arnold M. 1985. How to Describe Inflection. In *Proceedings of the Berkeley Linguistics Society 1985*, 372–384. Berkeley: Berkeley Linguistics Society.