



# Dental-aspirate presents in Greek and Indo-European

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# Dental-aspirate presents in Greek and Indo-European

A dissertation presented

by

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to

The Department of Linguistics

in partial fulfillment of the requirements

for the degree of

Doctor of Philosophy

in the subject of

Linguistics

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Cambridge, Massachusetts

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## **Dental-aspirate presents in Greek and Indo-European**

### **Abstract**

This work examines the class of Greek presents in  $-\theta\sigma-$  and, by comparison with cognate formations in the other Indo-European daughter languages, attempts to recover the form and function of the dental aspirate suffix in the protolanguage. The investigation is centered around Greek, because this is the language in which  $d^h$ -presents are most abundantly and most clearly attested. Chapter 2 reviews the evidence from Greek and demonstrates that Greek verbs bearing this suffix regularly show full grade of the root and are conspicuous for being active but intransitive, especially in the earliest period. Chapter 3 collects and evaluates the scattered evidence for this present type in Indo-Iranian, Italic, Celtic, Armenian and Tocharian. The situation in these languages matches closely that of Greek and in particular confirms that intransitivity was non-trivially associated with presents of this shape in the protolanguage. Chapter 4 brings to light new facts about the inflectional properties of  $d^h$ -presents using evidence from Baltic, Slavic and Germanic. These languages suggest that  $d^h$ -presents were athematic in the protolanguage, that they inflected using the  $h_2e$ -conjugation endings and that they showed root ablaut. It is furthermore demonstrated that  $d^h$ -presents stood in a special morphological relationship to  $i$ -presents in the protolanguage.

This dissertation constitutes the first comprehensive study of  $d^h$ -presents. For this reason, the collection of primary source data, found here and nowhere else, and the references to relevant scholarly literature on a topic about which little has been written, have an intrinsic value for research on the verbal system of Indo-European. The conclusions that

are ultimately drawn from this collection add to our reconstruction of the protolanguage an entirely new category of *h<sub>2</sub>e*-conjugation present that had until now been overlooked. This has consequences for the historical grammar of the individual daughter languages, for our understanding of the larger architecture of the Indo-European verbal system and for debates about the deeper history of voice morphology in pre-Proto-Indo-European. Finally, this case study on the history of a single morpheme constitutes a contribution to the field of historical morphology more generally, and especially to the study of valency from a diachronic perspective.

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## Symbols and Abbreviations

<i>*xyz</i>	<i>xyz</i> is a reconstructed form
<i>**xyz</i>	<i>xyz</i> is a preform of a reconstructed form
<i>xyz*</i>	<i>xyz</i> is a hypothetical form that likely never existed
<sup>+</sup> <i>xyz</i>	<i>xyz</i> is an editorial emendation
◦	designates a non-morpheme boundary
-	designates a morpheme boundary
+	following a citation indicates that the lexeme occurs in later texts
<i>xyz</i> > <i>abc</i>	<i>xyz</i> gives <i>abc</i> by regular sound change
<i>xyz</i> → <i>abc</i>	<i>xyz</i> becomes <i>abc</i>
<i>C</i>	a consonant
<i>V</i>	a vowel
A	accusative
Abl.	ablative
Aeol.	Aeolic
aor.	aorist
Arm.	Armenian
Att.	Attic
BCS	Bosnian-Croatian-Serbian
Bulg.	Bulgarian
CLuw.	Cuneiform Luwian
CS	Church Slavic
Cz.	Czech
D	dative
Dor.	Doric
du.	dual

Fr.	French
fut.	future
G	genitive
Gaul.	Gaulish
Goth.	Gothic
Grk.	Greek
Hitt.	Hittite
I	instrumental
Ion.	Ionic
Ital.	Italian
iter.	iterative
Latv.	Latvian
Lith.	Lithuanian
Pal.	Palaic
PIE	Proto-Indo-European
PIIr.	Proto-Indo-Iranian
PItal.	Proto-Italic
intens.	intensive
ipv.	imperative
L	locative
Lat.	Latin
m.	masculine
MBreton	Middle Breton
MCorn.	Middle Cornish
MHG	Middle High German
MIc.	Modern Icelandic
mid.	middle
MIr.	Middle Irish

MW	Middle Welsh
Myc.	Mycenean
N	nominative
n.	neuter
OAv.	Old Avestan
OBret.	Old Breton
OCS	Old Church Slavonic
OCz.	Old Czech
OEng.	Old English
OFr.	Old Frisian
OHG	Old High German
OIc.	Old Icelandic
OIr.	Old Irish
OLith.	Old Lithuanian
OPr.	Old Prussian
OS	Old Saxon
OSwed.	Old Swedish
OW	Old Welsh
Osc.	Oscan
Pā.	Pāli
PA	Proto-Anatolian
Pal.	Palaic
PB	Proto-Baltic
PBSl.	Proto-Balto-Slavic
PCelt.	Proto-Celtic
pf.	perfect
PGmc.	Proto-Germanic
PGrk.	Proto-Greek

PIr.	Proto-Iranian
PN	proper noun
PToch	Proto-Tocharian
pr.	present
PSl.	Proto-Slavic
Russ.	Russian
RussCS	Russian Church Slavonic
Slh.	Slovene
Sorb.	Sorbian
s.v.	sub voce
Thess.	Thessalian
TochA	Tocharian A
TochB	Tocharian B
Umbr.	Umbrian
v.a.	verbal adjective
vb.	verb
Ved.	Vedic
v.l.	varia lectio/alternate reading
Vulg. Lat.	Vulgar Latin
YAv.	Young Avestan

## Text Sigla

### Sanskrit

ĀśŚŚ	Āśvalāyanaśrautasūtra
AV	Atharvavedasamhitā, Śaunakīya recension
AVP	Atharvavedasamhitā, Paippalāda recension



Br.	Brāmaṇas
Dhp.	Dhātupāṭha
GDhS	Gautamadharmasūtra
JB	Jaiminīyabrāhmaṇa
KKS	Kaṣiṭhalakaṭhasaṃhitā
KS	Kaṭhasaṃhitā
MS	Maitrāyaṇīyasaṃhitā
Nir.	Nirukta
RV	Ṛgvedasaṃhitā
ŚāŚŚ	Śāṅkhāyanaśrautasūtra
TS	Taittirīyasaṃhitā
VS	Vājasaneyisaṃhitā, Mādhyandina recension
VSK	Vājasaneyisaṃhitā, Kāṇva recension
YV	Yajurvedasaṃhitā (VS, VSK, MS, KS, KKS, TS)

## Old Iranian

N	Nērangestān
V	Vīdēvdād
Y	Yasna
Yt	Yašt

## Greek

Abbreviations designating authors and works follow *LSJ*. In addition to these, the following are used:

CramOx	see Cramer 1835
BoissAn	see Boissade 1832

CIG	see Boeckh et al. 1828
GG	<i>Grammatici Graeci</i> . 1867–1910[1965]
I.Eleusis	see Clinton 2005
IG	<i>Inscriptiones Graecae</i>
<i>Orac.Sib.</i>	<i>Die Oracula Sibyllina</i> ed. Geffcken
SEG	<i>Supplementum Epigraphicum Graecum</i>

## Anatolian

CTH	Catalogue of Hittite Texts/Catalogue des textes hittites
KBo	<i>Keilschrifttexte aus Boghazköi</i>

## Lithuanian

Daukša 1595	Mikalojus Daukša. (1595). <i>Kathechismas, arba Mokslas kiek-wienam krikščionii priwalus</i> .
Haack 1730	Friedrich Wilhelm Haack. (1730). <i>Vocabularium litthuanico-germanicum et germanico-litthuanicum</i> . Halle: Orban.
Klein 1653	Daniel Klein. (1653). <i>Grammatica litvanica</i> . Königsberg: Reusner.
Knyga Nobažnystės 1653	Steponas Jaugelis-Telega. (1653). <i>Knyga nobaznistes krikščionizkos</i> . Kėdainiai: Jurgis.
Nesselmann 1851	G. H. F. Nesselmann. <i>Wörterbuch der litauischen Sprache</i> . Königsberg: Borntträger.
Pietkiewicz 1598	Melchior Pietkiewicz. (1598). <i>Polski z litewskim katechism</i> . Vilnius: Wierzeyski.
Ruhig 1747	Philipp Ruhig. (1747). <i>Littauisch-deutsches und deutsch-littauisches Lexicon</i> . Königsberg.

Sirvydas 1620

Konstantinas Syrvidas. (1620). *Dictionarium trium linguarum.*

Šlapelis 1921

Jurgis Šlapelis. (1921). *Lietuvių ir rusų kalbų žodynas.*  
Vilnius: Zaibo.

Εἰ δὴ τις ἐξ ἀρχῆς τὰ πράγματα φυόμενα βλέψειεν, ὥσπερ ἐν τοῖς ἄλλοις, καὶ ἐν τούτοις κάλλιστ' ἂν οὕτω θεωρήσειεν.

“In this case as in others, if one were to consider how things originally came into being, this would be the most advantageous vantage point.”

—Aristotle, *Politics* 1252a

Ἀκριβεστέρα δ' ἐπιστήμη ἐπιστήμης καὶ προτέρα ἢ τε τοῦ ὅτι καὶ διότι ἢ αὐτή, ἀλλὰ μὴ χωρὶς τοῦ ὅτι τῆς τοῦ διότι.

“The science that addresses both the ‘what’ and the ‘why’ (without omitting the ‘what’) is both more accurate than and superior to that which addresses only the ‘why’.”

—Aristotle, *Posterior Analytics* 87a

# Chapter 1

## Introduction

### 1.1 Scope and purpose

This dissertation takes as its subject the  $d^h$ -presents of Proto-Indo-European, a class continued most conspicuously and most amply in Ancient Greek. In Greek, these take the form of presents in  $-\theta\%-$  of the type  $\pi\lambda\acute{\eta}-\theta\omega$  ‘am full’ and  $\theta\alpha\lambda\acute{\epsilon}-\theta\omega$  ‘bloom’.

Given the close attention that has been paid to the verbal system of Proto-Indo-European over the last two centuries, it is perhaps surprising how little has been written about this category of present.<sup>1</sup> There are several reasons for this lack of attention. The first is that no language other than Greek clearly preserves a productive class of  $d^h$ -presents. This fact has been enough to relegate  $d^h$ -presents to a realm of secondary importance for the reconstruction of Proto-Indo-European and led to their being grouped together with other minor present formants like  $*-d\%-$ ,  $*-\hat{k}^e\%-$  and  $*-t\%-$ . Scholars have likely also been reluctant to approach this problem because of the difficulty inherent in distinguishing original  $*-d^h-$  from  $*-d-$  in some languages. Brugmann (*Grd.*<sup>2</sup> II:3,372ff.), for instance, treats the two morphemes together on these grounds, and his decision to do so has likely shaped attitudes in subsequent scholarship.

---

<sup>1</sup>A thorough discussion of this scholarly literature is undertaken in the following chapters. The most notable study of this verbal class in the secondary literature is (Benveniste 1935:188ff.).

For all of these reasons,  $d^h$ -presents have not been systematically collected and attentively analyzed either individually or as a class. The following study aims to fill this gap in the reconstruction of Proto-Indo-European by attempting to both raise and answer questions related to the distribution, morphology, semantics and history of  $d^h$ -presents. It must further be added that this investigation comes opportunely at a time when our understanding of the verbal system of the protolanguage has made significant advances; in the face of data from the Anatolian languages and from Tocharian, scholars have slowly realized the necessity of relativizing the traditional model of the Indo-European verbal system that was based primarily on Greek, Latin and Sanskrit to accommodate language facts inconveniently incompatible with the same. The resulting advances in scholarship provide a new model, the value of which can only be judged by its ability to better explain these language facts. It is therefore of the utmost importance to turn the lens of this new framework onto old problems and unexplained issues and to see whether the updated reconstructive models fail as well or whether, perhaps, they might help to bring these issues into clearer focus and thereby point towards a definitive solution.

## 1.2 Methodology

The goal of this study is to establish the history of the present formant  $*-d^h-$ , the inflectional properties of presents bearing this formant, and their place within the verbal system of Proto-Indo-European. In order to do this, the most relevant verbal forms are collected and evaluated against both their language context and the comparative evidence.

“Most relevant” is a key methodological point. While this survey aims at inclusivity—inclusivity is important among other things because a comprehensive list of  $d^h$ -presents is not to be found elsewhere—in the material covered, it seeks actively to single out those verbal forms that have well-established etymologies, attest to the suffix  $*-d^h-$  in a direct rather than an indirect way, and consequently can yield the strongest possible evidence and lead to real conclusions. This approach has had the practical consequence

that glosses and dubious forms are regularly relegated to footnotes, while forms that may depend on  $d^h$ -presents but are not  $d^h$ -presents themselves are treated at length only where etymological and systemic considerations suggest that this will lead to concrete results.

In general, nominal forms are not considered unless they depend on a  $d^h$ -verb the existence of which can be independently established. In isolation, they are not taken into account. For example, Batisti (2022) has recently argued that a present  $*k^uém-d^h-ə-$  ‘swallow food’ made to  $*k^uem$  ‘gulp’ (Grk. ἔτεμεν· ἤμελεγεν Hsych. ‘drained’, Ved.  $\acute{a}$ - $cāmati$  ‘drinks’, MlC.  $hvoma$  ‘devour’; cf. Ved.  $camū$  ‘drinking bowl’) ultimately underlies Grk. τένοθος (Ar.+ ‘glutton’, Grk. φάτνη[/ $\pi\acute{\alpha}\theta\upsilon\eta$ ] (Hom.+ ‘manger’ and Lat.  $condiō$  ‘season, preserve’. While the idea is certainly worthy of consideration, the quality of evidence that these forms provide for verbal  $*k^uém-d^h-$  is inferior to the testimony of a reconstructible verbal form, and the possibility of a present  $*k^uém-d^h-$  is therefore not considered here. Such examples can be easily multiplied and indeed would outnumber the attested verbal formations.

Nominal forms with suffixes containing  $*d^h$  may have this phoneme from sources other than the verbal system. One important category of “ $d^h$ -nouns” are compounds of  $*d^heh_1$  ‘put’ of the type Ved.  $śraddhā-$  ‘trust’ [ $\approx$  OAv.  $zrazdā-$  ‘trusting’] <  $*\hat{k}red-d^h h_1-ó-$  beside phrasal Ved.  $śrād dādhāti$  ‘trust’ [= YAv.  $zras-ca dāt$ ].<sup>2</sup> Though a historical connection between the verbal formant  $*-d^h-$  and the root  $*d^heh_1$  ‘put’ cannot be ruled out, the comparative evidence demands the reconstruction of an independent verbal formant  $*-d^h-$  for the protolanguage, and it is this suffix that is under investigation here.<sup>3</sup>

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<sup>2</sup>For a recent study of this word, see (Weiss 2020a:269–280). On the topic of  $d^heh_1$  in compounds and phrasal verbs in general, see especially (Balles 2006:37–39 with footnote 86 et passim) for a survey of the forms and the secondary literature.

<sup>3</sup>A theory that takes the verbal formant  $*-d^h-$  from compounds of  $*d^heh_1$  would have a number of major obstacles to overcome. At the lexical level, there is not significant overlap between  $d^h$ -presents and reconstructible nominal compounds or phrasal verbs with  $d^heh_1$ . In other words, there is no reconstructible  $*méis-d^h-$  ‘change hands’? beside  $*mis-d^h h_1-ó-$  ‘of one who gives in exchange’? (Ved.  $mīdhā-$  n. ‘battle prize’ = OYAv.  $mīzda-$  n. ‘reward’ [= Mitanni  $mīstannu$  ‘reward’], Grk.  $\mu\sigma\theta\acute{o}\varsigma$  ‘pay’, OCS  $mъzda$  ‘ $\mu\sigma\theta\acute{o}\varsigma$ ’, Goth.  $mizdo/n-$  ‘ $\mu\sigma\theta\acute{o}\varsigma$ ’). At the morphological level,  $d^h$ -presents cannot simply be univerbations of phrasal verbs, nor can they be denominal to these in any straightforward way. This is especially true when one takes into account that  $d^h$ -presents were originally athematic, as will be demonstrated in chapter 4. At the semantic level,  $d^h$ -presents are intransitive whereas phrasal verbs with  $*d^heh_1$  might be expected to

In other cases, suffixal  $*-d^{h\circ}$  in nouns can be deemed a Batholomae’s-Law-variant of  $*-t^\circ$ , as in the suffixes  $*-d^hro-$ ,  $*-d^hlo-$  for  $*-tro-$ ,  $*-tlo-$ . It is not justified to reconstruct, for instance, a present  $*stéh_2-d^h-$  ‘stand’? to account for Lat. *\*stabulum* ‘stable’ <  $*sth_2-d^hlo-$  and Grk.  $\sigma\tau\alpha\theta\mu\acute{o}\varsigma$  ‘station’ as does Benveniste (1935:200, 205), though it is likely justified, as will be argued below, to reconstruct such a present on the basis of PGmc.  $*stand^{\circ}/a-$  ‘stand’.<sup>4</sup> And even where a nominal derivative of a  $d^h$ -present can be identified with any confidence, such a form can at best tell us only that a verbal basis in  $*-d^h-$  may have once existed; it by nature cannot convey information about the inflectional properties, ablaut patterns, valency or voice of the underlying verb.

This study also leaves out of consideration roots in final  $*^\circ d^h$  like  $*b^he\gamma d^h$  ‘be alert’,  $*d^he\gamma d^h$  YELLOW and  $*h_1re\gamma d^h$  RED. There is no reason to think that these cannot ultimately have proceeded from  $d^h$ -presents, and in the latter two cases this is positively likely.<sup>5</sup> But such a claim would be purely conjectural in the absence of positive evidence and can only be evaluated against the information gleaned from a careful study of the attributes of known  $d^h$ -presents, which is the goal of this dissertation.

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be factitive. This dissertation intentionally sets aside these much-discussed issues of nominal morphology in order to explore a little-discussed issue of verbal morphology on its own terms.

<sup>4</sup>Against  $\sigma\tau\alpha\theta\mu\acute{o}\varsigma$  and congeners continuing an original  $d^h$ -present, see (Peters 2004:178) in response to (Ruijgh 1992:461<sup>75</sup>).

<sup>5</sup>On the root  $*d^he\gamma d^h$  YELLOW, see especially Schindler (1967), who concludes with others that this depends on a primitive root  $*d^he\gamma$  found in Lat. *fuscus* ‘dark’, Lith. *dùlas* ‘gray’ and OIr. *dub* ‘black’. Clear reflexes of a finite verb  $*d^hé\gamma-d^h-$  ‘be dark’ are lacking, and Schindler ultimately argues that these nouns are rhyming formations based on derivatives of the root  $*h_1re\gamma d^h$  RED. Because relevant verbal forms are lacking, this root is not treated in this dissertation.

The case for  $*h_1ré\gamma-d^h-$  ‘be/make(?) red’ (Grk.  $\acute{\epsilon}\rho\epsilon\acute{\upsilon}\theta\omega$  ‘redden [esp. with blood] (tr/intr)’ = OIc. *rjóða* ‘redden [with blood] (tr)’) is somewhat better. Persson (1891:48, 123<sup>2</sup>, 237–8) argues that  $*h_1re\gamma d^h$  RED is an “extended” form of a primitive root  $*h_1re\gamma$  that can be seen in Lat. *rū-tilus* ‘red’, Ved. *rav-í-* ‘sun’ [= Arm. *arew* ‘id.’] and Ved. *aru-ṛá-* ‘reddish’ and further in Ved. *aru-ṣa-* ‘id.’ [= YAv. *a<sup>u</sup>rušā-* ‘white, shining’] (see further *WP* 359–60; *AiG* I:10; II:2,486; *EWAla* I:113). As has long been recognized (*WP* II:359), these forms, with their initial vowels, are better taken together with the adjective PGmc.  $*elwa-$  ‘yellowish’ known only from OHG *elo* ‘*fulvus*’ (Heidermanns 1993:173–4). Though the word for ‘sun’ in Sanskrit and Armenian need not necessarily derive from a color word, Lat. *rūtilus* ‘red’ is highly suggestive and it remains a strong possibility that  $*h_1re\gamma d^h$  ultimately depends on a present  $*h_1ré\gamma-d^h-$  ‘be red’.



### 1.3 “Active deponency,” unaccusativity and $d^h$ -presents

The term “deponent” refers to verbs that are non-active in their outer morphology but function syntactically and semantically as actives.<sup>6</sup> So in Latin, a language with clear oppositional voice morphology, verbs like *sequor* ‘follow’ and *vēnor* ‘hunt’ surprise by showing exclusively non-active inflection but nevertheless taking an agent as their grammatical subject and a direct object marked for accusative case, as in examples (1) and (2):

- (1) *sequamur* *enim* *potissimum* *Polybium* *nostrum*, *quo*  
follow.PASS.1PL indeed chiefly Polybius.ACC.SG our who.ABL.SG  
*nemo fuit in exquirendis temporibus diligentior.*  
no.one was in investigating times more.diligent  
“Let us chiefly follow our Polybius in this, for no one is more diligent than he is in establishing timelines.” (Cic.*Rep.*2.27)

- (2) *sed* *vespae* *muscas* *grandiores* *venantur* *amputatoque* *iis*  
but wasps.NOM.PL flies.ACC.PL larger hunt.PASS.3PL amputated them  
*capite reliquum corpus auferunt.*  
head remaining body carry.away.ACT.3PL  
“But wasps hunt flies (that are) larger (than them) and, after cutting off their heads, carry away the body.” (Plin.11.72)

Deponent verbs exist across languages and are robustly attested, suggesting that they should be seen rather as a natural class in human language than as historically-conditioned lexical quirks that can only be explained on an individual basis.

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<sup>6</sup>In traditional grammar, no distinction is made between “media tantum,” the larger group of verbs that exclusively use non-active morphology, and deponents, which in contemporary linguistic literature are generally considered to be the subset of “media tantum” for which form and meaning appear to stand at odds. But in addition to employing the term “deponent” in a restricted sense to refer to verbal voice phenomena, some language theorists also use it in a general sense to describe other phenomena where morphology and semantics clash in the grammar of a given language. In the present work, the word “deponent” is used in its most restricted sense to describe discrepancies between morphological voice marking and syntactic and semantic function. For a summary of theoretical approaches to deponency, see especially the survey articles (Müller 2013; Grestenberger 2019) with references. The debate over how to interpret the phenomenon of deponency can be seen as part of the larger debate on how best to model morphological and syntactic splits of various kinds, including split ergativity, verbal periphrasis, heteroclisis and suppletion (Corbett 2022). On the ancient grammarians’ conception of deponency and the history of the term see (LaMacchia 1961; Flobert 1975).

In the context both of traditional grammar and of contemporary language theory, deponents are eye-catching because they palpably exemplify marked (non-active) morphology being used in place of unmarked (active) morphology in a way that seems syntactically and semantically incongruous. But the concept of deponency, as defined above, carries with it the enticing suggestion of its more subtle contra-positive, namely the possibility of a parallel mismatch between active morphology and what might be called “non-active syntax and semantics” (Table 1.1). To describe these verbs, I coin the term “active deponent.”

**Table 1.1:** *Hypothetical types of voice alignment*

	active morphology	“active semantics”
canonical active verb	+	+
canonical non-active verb	–	–
deponent verb	–	+
“active deponent” verb	+	–

The fact that a manipulation of binary voice features suggests the possibility of a class of “active deponents” in no way guarantees that such a class exists or that it plays a meaningful role in natural language. But the observation furnishes a testable hypothesis. If “active deponents” do exist, they will be an identifiable class of verbs in a given language that employ exclusively active inflectional morphology (“activa tantum”) and that take patient-oriented subjects rather than agents in the nominative case.<sup>7</sup> Weisser (2010, 2014) has attractively proposed that a class of verbs that meets these criteria not only exists, but has even been the subject of much research and discussion in the context of syntax and semantics. The verbs in question are unaccusatives.<sup>8</sup>

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<sup>7</sup>Just as many canonical deponents are transitive, we might expect that many “active deponents” would be intransitive, but this is in no way a requirement in either category of deponents. A transitive active deponent simply implies an underlyingly ditransitive verb with raising of the first object to subject position. A likely example of a ditransitive “active deponent” in Greek is the copula εἰμί ‘am’, which is strictly actively inflecting in the present and preterit. On the copular construction and predicate raising see especially (Moro 1997).

<sup>8</sup>Foundational to the theory of unaccusativity are (Perlmutter 1978; Levin and Rappaport Hovav 1995). See further (Alexiadou 2004).

Unaccusative verbs are verbs that take a non-agent as their grammatical subject. This can readily be seen in alternations like those in (3) below. The behaviour of *break* in these sentences can be contrasted with the syntactic treatment of the unergative verb *eat* in (4), which takes an agent as its subject:

- (3) a. The boy broke the window.  
b. The window broke.
- (4) a. The boy ate the apple.  
b. The boy ate.

English examples of this kind can easily be multiplied. The intuition that follows from such minimal pairs is that the verb *broke* in (3b) is the same morphologically marked lexical item as the *broke* in (3a) and that the patient *the window* is generated under the same syntactic head in both sentences. If this hypothesis is accepted, it follows that *the window* in (3b) has been raised from a position below the verb to serve as a grammatical subject in place of the omitted agent *the boy* in (3a).

There is good reason to think that many non-labile, intransitive verbs show the same syntactic and semantic behaviour as does English “break” when used as an anticausative. This can most clearly be seen in languages that have overt morphosyntactic markers for unaccusativity. Consider the following minimal pair from German based on (3a) and (3b):

- (5) a. *Der Junge hat das Fenster gebrochen.*  
the boy has the window broken  
“The boy broke the window.”
- b. *Das Fenster ist gebrochen.*  
the window is broken  
“The window broke.”
- c. \* *Das Fenster hat gebrochen.*  
the window has broken  
Intended: “The window broke.”

In German (as well as in other European languages), the use of the auxiliary verb ‘be’ as opposed to ‘have’ in the perfect tense construction is required when the patient is expressed as subject as in (5b). This suggests that the use of the auxiliary ‘be’ rather than ‘have’ can be used as a diagnostic to test whether intransitive verbs are unaccusative.<sup>9</sup> Consider the following minimal pairs:

- (6) a. *Der Apfel ist gefallen.*  
the apple is fallen  
“The apple fell.”
- b. \**Der Apfel hat gefallen.*  
the apple has fallen  
Intended: “The apple fell.”
- (7) a. \**Der Junge ist geschummelt.*  
the boy is cheated  
Intended: “The boy cheated.”
- b. *Der Junge hat geschummelt.*  
the boy has cheated  
“The boy cheated.”

The exact morphosyntactic match between (5b) and (6a) and the morphosyntactic discrepancy between the grammatical sentences (6a) and (7b) suggest that, although neither the German verb *fallen* ‘fall’ nor the German verb *schummeln* ‘cheat’ can be used transitively, the former shares a tangible morphosyntactic and morphosemantic property with the labile verb *brechen* ‘break’ when used with a non-agentive subject. That property is unaccusativity.

In this context, it is finally worth calling attention to the marginal phenomenon of semideponency. Semideponents are verbs that exhibit a split between deponent and non-deponent forms in their averbo. In Latin, for instance, the logically agentive verb

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<sup>9</sup>It should be noted that the verb ‘to be’ is also used in German with verbs of motion that may not be unaccusative, and so cannot be taken as an absolute indication of unaccusativity without other diagnostics.

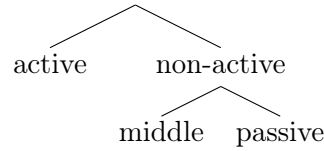
pr. act. *audeō* ‘I dare’ forms a non-active preterit *ausus sum* ‘I dared’ (Cato act. *ausi*). Semideponents verbs are the place where the morphology of deponents and “active deponents” converge; if a binary distinction is to be made between agentive and non-agentive subjects, this means that either the active or the non-active member of a semi-deponent *averbo* must always be the odd one out. In this way, it is possible to think as well of what might be called “semi-active-deponents.” Examples of such forms can perhaps be seen in the non-active futures that are often associated with Greek active deponents, like active pr. *πίπτω* ‘fall’ : aor. *ἔπεσον* ‘fell’ ~ non-active: fut. *πεσοῦμαι* ‘will fall’ and active pr. *εἰμί* ‘am’, ipf. *ἦν* ‘was’ ~ non-active *ἔσομαι* ‘will be’.

Whether or not Weisser’s (2010; 2014) proposal that what here are termed “active deponents” are in fact fully equivalent to unaccusative verbs and whether these form a syntactically meaningful “mirror image,” to use Weisser’s own terminology, of conventional deponency, is a theoretical claim that can only be evaluated through careful, cross-linguistic study. While such a study falls well outside the scope of the current dissertation, a discussion of deponency and “active deponency” in Greek can both contribute to this larger theoretical project and help conceptualize the place of historical *d<sup>h</sup>*-presents in the verbal system of Greek.

The voice system of Greek is traditionally considered to be tripartite, consisting of an active, a middle and a passive.<sup>10</sup> It is, however, clear that these three voices do not stand on equal footing. A strong morphological and semantic distinction separates active from non-active verbs, while the distinction between the two types of non-active—middle and passive—is somewhat tenuous, especially in the oldest period. In the present, middle and passive are not formally distinct in any period, while in the aorist (and starting in Classical Greek in the future), stems formed using the suffix *-(θ)η-* are traditionally termed “passive.” It is, however, rare that verbs show a three-way morphosemantic contrast pr. ~ mid. ~ pass. in the aorist, while “passive” aorists frequently appear to function semantically as middles and middles very occasionally as passives. So for instance the deponent verb

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<sup>10</sup>See especially (Kühner and Gerth *AGGS* II,1:90–129; Schwyzer *Gr.Gr.* II:222–42).



**Figure 1.1:** *Morphological voice hierarchy in Greek*

βούλομαι ‘will, wish, am willing’ forms a well-attested “passive” aorist ἐβουλήθην (S., E., Th.+ ) that is best understood as a middle form, while the Homeric, formally middle aorist βλήτο (Δ 518) ‘was struck’ can only be understood as a passive in the context of its verse. As might be expected, it is not functionally possible and likely not meaningful to attempt to distinguish between an intransitive medial and a passive in most instances. Does ἀλκῆς καὶ σθένεος πλήτο (P 499) mean “filled up with might and strength” or “was filled with might and strength?” Does Διὸς δ’ ἐτελείετο βουλή (A 5) mean “Zeus’ will came to pass” or “Zeus’ will was realized?” The relationship between the three voices is schematized in Figure 1.1.

The ancient grammatical concept of a “middle” voice that stands in between active and passive arises from the use of non-active forms in certain active-like contexts. Non-active (normally middle) morphology can be used in Greek to express actions that are self-benefactive (ζεύγνυμαι ‘yoke for oneself’ beside ζεύγνυμι ‘yoke’), reflexive (κόπτομαι ‘strike myself’ beside κόπτω ‘strike’) and reciprocal (μαχόμεθα ‘we fight each other’). At a deep level, these types have in common that the agent is conceived of simultaneously as a patient of his/her own action, as in an anticausative or a passive. The result is something that looks, not coincidentally, very much like a deponent.

Though middle voice is an Indo-European inheritance and enjoyed a long life in Greek, true middles are in practice significantly rarer than actives and passives. Typical Greek verbs show causative-anticausative voice alternations where semantics logically permit. In these cases, the active is usually transitive and the non-active usually intransitive, as in the examples from Homer in Table 1.2. The centrality of the causative-anticausative voice-morphology dichotomy within the verbal system can be seen in the strong tendency to

**Table 1.2:** *Voice-dependent causative alternation in Homeric Greek*

active	non-active
ἄγνυμι ‘break (tr)’	ἄγνυμαι ‘break (intr)’
διδάσκω ‘teach’	διδάσκομαι ‘learn’
καίω ‘burn (tr)’	καίομαι ‘burn (intr)’
κεύθω ‘hide (tr)’	κεύθομαι ‘hide (intr)’
ῥήγνυμι ‘break (tr)’	ῥήγνυμαι ‘break (intr)’
στρέφω ‘turn (tr)’	στρέφομαι ‘turn (intr)’
τέρπω ‘delight (tr)’	τέρπομαι ‘enjoy myself’

supply intransitive deponent verbs with causative actives at later stages in the development of the language, as for instance ψεύδομαι (Hom.+) ‘lie’ → ψεύδω ‘deceive’ (A.+) and μαίνομαι (Hom.+) ‘am wild’ → (-)μαίνω (Orph.H., E., X.+) ‘enrage (tr)’. A fallout of the marginalization of the middle voice can also likely be seen in the “Greek accusative.” Reinterpretation of phrases like medial self-benefactive λούομαι τοὺς πόδας ‘I wash my feet (for myself)’ as anticausative ‘I bathe with respect to my feet’ led to the development of idiomatic use of accusative case to designate a body part affected. Because semantic middles occupied a rather awkward space in the evolving verbal system of Greek, there was further a tendency for these to take on lexically-determined idiomatic meanings. So, for instance, the verb λύω ‘loose (tr)’ forms a middle λύομαι ‘ransom’, ποιέω ‘make’ forms a middle ποιέομαι ‘deem’, and ἄγω ‘lead’ forms a middle ἄγομαι ‘lead home a wife, get married’.

Deponents are common in all periods of Greek, and the assignment of a given lexeme to this category is largely unpredictable, having resulted from a combination of historical and semantic factors. Identifiable semantic categories include verbs of translational motion (ἔρχομαι ‘go’, ἔπομαι ‘follow’, νέομαι ‘return home’, οἴχομαι ‘go’, χάζομαι ‘withdraw’), stative and fientive verbs (κεῖμαι ‘lie’, ἦμαι ‘sit’, τέλομαι ‘am’, γίγνομαι ‘become’, σήπομαι ‘rot’), sound emission verbs (πέρδομαι ‘fart’, ἐρεύγομαι ‘belch’, ὀδύρομαι ‘bewail’), affective verbs (ἄχθομαι ‘am grieved’, αἶδομαι ‘am ashamed’, χόομαι ‘am angry’, ἔραμαι ‘love’ [later ἐράω ‘love’], ἦδομαι ‘am happy’ [later ἦδω ‘make happy’], βούλομαι ‘desire’, λίσσομαι

‘entreat’), verbs of thought and perception (σκέπτομαι ‘look at, consider’, αἰσθάνομαι ‘perceive’, ὄσσομαι ‘see’) verbs of acquiring (αἰνῶμαι ‘take’, ἄρνωμαι ‘win, carry off, δέχομαι ‘receive’, κτάομαι ‘obtain’, σίνομαι ‘plunder’), verbs of speaking (μυθέομαι ‘speak’, ψεύδομαι ‘lie’ [later ψεύδω ‘deceive’]), verbs denoting manual labor (πένομαι ‘toil away (at)’, πονέομαι ‘id.’ [later πονέω ‘id.’], ἐργάζομαι ‘work, make’, τεκταίνομαι ‘fit together (wood)’ [later τεκταίνω ‘id.’]) and others.

While the term “deponent” is traditionally used as a morphological designation for all verbs that do not have access to active inflection, a further distinction can be made, as discussed above, between verbs for which non-active voice is semantically suited and verbs for which it is not. The former would be “media tantum,” while the latter are true deponents inasmuch as they demonstrate a genuine mismatch between form and meaning. The crucial distinguisher is, following the model of Weisser, an agentive subject. Though it is not possible to decide in every instance whether the subject of a medium tantum verb is an agent, verbs like κτάομαι ‘obtain’ and ἐργάζομαι ‘make’ would seem to fall more clearly into the latter category than do verbs like ἥδομαι ‘am happy’ and ἐρεύγομαι ‘belch’, the agentive nature of which might reasonably be questioned (cf. Grestenberger 2014:63–7).

Greek similarly possesses a class of “activa tantum” that, I would argue, can be conceptually separated into agentive verbs that lack a middle, and object-oriented “active deponents” that show a genuine mismatch between form and function. To the former group belong verbs like τρώγω ‘gnaw’ and πτύω ‘spit’, both of which can be used either transitively or intransitively. Though these verbs are listed by Schwyzer (*Gr.Gr.* II:226) as “activa tantum,” this rubric is deceptive. Speakers would certainly have been capable of spontaneously producing non-active (\*)τρώγομαι ‘am gnawed’ and πτύομαι ‘am spat’ as shown by isolated pf. mid. διατέτρωκται (Ar.V.164) ‘has been gnawed through’ and by the aorist passive ἐπτύσθη ‘was spit out’, common in medical writers and used also by post-Classical authors. It is clear that the overwhelming use of the active in such verbs is pragmatically motivated and of little theoretical interest. The remaining “activa tantum”



can be considered genuine “active deponents,” and though active deponent status is not provable on a word by word basis, various syntactic and semantic idiosyncrasies of Greek help to make clear the special status of this class.

The verbs πάσχω ‘suffer’, πίπτω ‘fall’, φεύγω ‘flee, go into exile’ and (ἀπο)θνήσκω ‘die’ (*AGGS* II,1:98) are all exceedingly common and yet entirely lack reliably-attested non-active finite forms. This can hardly be a coincidence. It should be remembered that there is nothing per se suspect about hypothetical non-active φεύγομαι\* ‘flee for my own sake’ or (ἀπο)θνήσκονται\* ‘die for each others’ sake’ and the like in a language where middle usage of non-active voice remained accessible to speakers. Significantly, in addition to sharing this morphological oddity, all of these verbs occur multiple times in the corpus with a marked external agent, as in the examples below:

- (8) ἃ πάσχοντες ὑφ’ ἑτέρων ὀργίζεσθε, ταῦτα τοὺς ἄλλους μὴ ποιεῖτε.  
 which suffering by others become.angry this the others don’t do  
 “Do not do to others that which you would be angry if you suffered by them [= they did to you].” (Isoc.3.61)
- (9) Πολλὰ δὲ καὶ στρατόπεδα ἤδη ἔπεσεν ὑπ’ ἐλασσόνων τῇ ἀπειρίᾳ.  
 many and and armies already fell by lesser the inexperience  
 “And many armies have fallen [= been defeated] by a lesser (force) due to (their) inexperience.” (Th.2.89)
- (10) Ἐν δὲ τῷ χρόνῳ τούτῳ ἠγγέλθη τοῖς τῶν Συρακοσίων στρατηγοῖς  
 in and the time this was.announced the the Syracuse generals  
 οἴκοθεν ὅτι φεύγοιεν ὑπὸ τοῦ δήμου.  
 from.home that flee by the people  
 “During this time it was announced to the generals of Syracuse (by a dispatch) from home that they fled [= were banished] by the people.” (X.HG.1.1.27)
- (11) Οὐ μέντοι κατέκαινόν γε οἱ ἐπ’ αὐτῶν ἵππεῖς, οὐδ’ αὐτοὶ γε  
 not however slew indeed the on them knights nor they indeed  
 ἀπέθνησκον ὑπὸ ἱππέων.  
 died by knights  
 “But neither did any of the knights on them (i.e. on camels) kill (any of their adversaries), nor did they die [= were they killed] by (other) knights.” (X.Cyr.7.1.48)

The non-active syntax and semantics of these verb is striking and requires little qualifica-

tion.

As will be noted again and again throughout the dissertation,  $d^h$ -presents are regularly active intransitives in Greek and were likely understood by speakers to be “active deponents” much like the verbs in the examples above. One of the clearer examples of a  $d^h$ -present in Greek that exhibits properties of an “active deponent” is the exclusively actively inflecting verb πλήθω ‘am full’.<sup>11</sup> This verb serves as the anticausative to πίμπλημι ‘fill (tr)’, taking the place of expected, non-active (\*)πίμπλαμαι. The relationship between active πίμπλημι ‘fill (tr)’ and active πλήθω ‘am full’ mirrors other functional causative-anticausative pairs like κτείνω ‘kill’ : (ἀπο)θνήσκω ‘die’ (for κτείνομαι) and διώκω ‘banish’ : φεύγω ‘go into exile’ (for διώκομαι). The active present of this verb also stands in tension with the corresponding non-active aorist πλήθητο (Hom.) ‘filled (intr)’; unlike the reverse constellation, an active present beside a non-active aorist is not a typical deponency pattern in Greek.<sup>12</sup> When πλήθω takes an object, this appears as a morphologically marked (partitive) genitive (“full of”) and never as an accusative. This fact serves to further underscore the basic intransitive nature of this “activum tantum” verb.

Finally, a discussion of “active deponency” in Greek must mention the “passive” aorist in -(θη)η-. The nature and history of this formation is discussed at length in Appendix I. Despite functioning in an obvious way as a non-active voice-tense within the verbal system of Greek, “passive” aorists conspicuously employ only the active secondary endings -ν, -ς, -Ø, -μεν, -τε, -ν to the stem in -(θη)η-. Speakers had likely come to see -(θη)ην, -(θη)ης, -(θη)η . . . -(θη)εν as an independent series of non-active aorist endings by the historic period, but before this could happen, there was necessarily a time when the morphology of this formation was perceived as overtly active. It is noteworthy that speakers never felt the need to update these endings to reflect the intransitive and often anticausative role that the “passive” aorist regularly plays. In this way, the morphosemantic relationship between

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<sup>11</sup>Non-active πλήθηοντο in Homeric imitators is an artificial form, likely founded on the participle πλήθηοντ- and bolstered by the non-active aorist Homeric πλήθητο.

<sup>12</sup>Cf. the  $d^h$ -present pr. βρέθω ‘am heavy’ : aor. ἐβρέσα ‘pressed upon’.

a pair like active ἐπλήσῃα ‘filled (tr)’ and historically-active ἐπλήσθη-ν ‘filled (intr)’ is directly comparable to that between active πίμπλημι ‘fill (tr) and active πλήθω ‘am full’.

The above considerations provide a useful framework within which Greek presents in -θη- can be understood, both in their historical development and as a synchronic phenomenon within the language to which they belong. Anticipating the conclusions of this dissertation, Greek received a class of presents that were formed with the non-thematic intransitive derivational suffix  $*-d^h-$  and that inflected using the  $h_2e$ -conjugation endings ( $*-h_2e$ ,  $*-th_2e$ ,  $*-e$ ). In the early history of Greek, these came to be thematized via the third person singular to produce a new verbal stem-forming suffix PGrk.  $*-t^h\text{-}$ . These verbs were originally active *for purely formal reasons*, that is to say the third person singular injunctive in  $*-d^h-e[t]$  was reinterpreted as active thematic  $*-d^h-e-t$ , whence present  $*-d^h-e-ti$  and a full active thematic paradigm  $*-t^h\bar{o}$ ,  $*-t^he^h_i[s]$ ,  $*-t^he_i$  ...  $*-t^h\text{-}ont_i$ . As Greek came to develop a more robust opposition between transitive actives and intransitive non-actives, these verbs stood in danger of being remade to non-actives, as indeed several of them were (πύθουμαι ‘rot’, αἴθουμαι ‘blaze’). But the majority of -θη- presents appear to have joined the grammatical class of “active deponents” and maintained active inflection into the historic period. The particulars of this process will be explored in greater detail in the body of this dissertation.

## 1.4 Notes on orthography and presentation

The present work is primarily concerned with broad comparative linguistic problems and the reconstruction of Proto-Indo-European. It therefore generally follows established conventions, where these exist, belonging to the field of Indo-European studies over those of the philological schools of the individual languages or of linguistic theorists. For an explanation of symbols used throughout this dissertation, see the list on page xi.

The traditional transcription of Indo-European phonemes is used with the understanding that these are not phonetic or phonemic IPA renderings of the sounds they represent,

but rather semi-abstract tokens standing for phonemes that they approximately represent. Consequently, no stance is taken on the actual place and mode of articulation of the stops, which is not directly relevant to the current study. In general, IPA transcription is avoided where specific phonetic issues are not at stake.

A notational distinction is consistently made between root and stem. The stem, which receives endings, is followed by a hyphen while the abstract root is not. So for instance *\*g<sup>uh</sup>en* signifies the verbal root meaning ‘strike’ while *\*g<sup>uh</sup>en-* (> Ved. *hán-ti*) is its present stem. Furthermore, no consistent terminological distinction is made between the augmented preterit and the injunctive where this is not relevant to the argumentation.

Square brackets are used in two different ways, their meaning in each being contextually clear. Where a long list of forms would distract from the larger argument, one key form is given followed by additional cognate or near-cognate forms in brackets, as e.g. Gaul. *Katouualos* [= OIr. *Cathal*, OW *Catqual*]. When square brackets are used within a word, they indicate that the element they contain does not belong to the undisturbed phonological development of that word’s preform, as e.g. OCS *ja-[xa-]ti* ‘go by vehicle’ for expected *ja-ti\**.

For reasons of clarity, glosses and translations are generally given in English. But in some instances a foreign-language gloss is necessary for precision. So for instance on p. 36, the meaning of YAv. *graməntəm* is given as ‘ergrimmend; becoming angry’. Here, the German is taken from (Bartholomae 1904:529) and the English is my translation. Because of the tenuous nature of our understanding of the text, based as it is on a combination of etymological considerations and the later Pahlavi tradition, and because Bartholomae’s dictionary is a standard reference work, the specialist will wish to see this scholar’s interpretation first hand. Where a word that is the object of study is translated from a known source, the language of the original is given in keeping with the standard practice. So on p. 26, Goth. *fūls [ist]* is glossed as ‘ὄζει; smells bad’.

The conventions of Indo-European linguistics have frequently been allowed to supersede the conventions of the individual philologies of the daughter languages. This is especially

the case where adopting philological conventions would have led to a lack of notational clarity without adding significantly to the argument at hand. So, for instance, careful terminological distinctions are not generally made between stages in the development of the Slavic languages, and the term “Proto-Slavic” is used generically for the reconstructed Slavic language and not implicitly contrasted with “Common Slavic.” Similarly, no distinction is in general made between attested and unattested case forms in corpus languages; the word that Germanicists would normally cite as Goth. m. *gredus*\* ‘λῡός; hunger’, which is attested only as Dsg. *gredau* (2 Cor. 11:27) and the masculine gender of which is assumed on the basis of its cognate OIc. *gráðr* ‘hunger, greed’, might be cited here without qualification as Goth. m. *gredus* ‘hunger’.

Italics are reserved for words and phrases that are the object of linguistic inquiry. In the case of Greek, however, the use of the Greek alphabet adequately signals the use of a foreign language and italics are not employed. Greek words are never transcribed, in keeping with the long-standing conventions of both Indo-European linguistics and Classical philology. Most readers familiar with Greek will find it far easier to read and understand words written in the Greek alphabet than in transcription, while those who are wholly unfamiliar with Greek will doubtless follow the arguments advanced regardless.

In the section dealing with Tocharian, the practice has been adopted of giving a verbal stem followed by a superscript ending. So for instance rather than writing TochB *nätk* (VI/V/I) ‘push away’, I cite the present stem TochB *natk-na<sup>m</sup>*, thereby making evident the characterizing suffix of the present and the fact that it takes active inflection. This approach is meant to bring clarity to the argumentation and render the discussions of Tocharian more accessible to non-specialists.

## Chapter 2

# The morpheme $-\vartheta^{\varepsilon}/\omicron-$ in Greek

In Greek, the morpheme  $-\vartheta^{\varepsilon}/\omicron-$  ( $< *-\mathit{d}^h(\varepsilon/\omicron)-$ ) appears principally in the present (e.g.  $\pi\lambda\acute{\eta}-\vartheta\omega$  ‘am full’) but in some few instances also in the aorist (e.g.  $\xi\sigma\chi\epsilon-\vartheta\omicron\nu$  ‘held’) as well as in the perfect, where  $\vartheta$  is generally treated as part of the stem (e.g.  $\beta\acute{\epsilon}\beta\omicron\tau(-)\vartheta-\alpha$  ‘am heavy’ beside pr.  $\beta\acute{\omicron}\tau-\vartheta\omega$  ‘id.’).<sup>1</sup> Whereas the perfect in  $-\vartheta-\alpha$  can be deemed secondary on comparative grounds, the present and the aorist in  $-\vartheta^{\varepsilon}/\omicron-$  pose numerous synchronic and historical problems of interpretation, both at the individual lexical level and at the larger level of the Greek verbal system.

It will be the task of the present chapter to investigate these derived verbal classes within Greek so that the conclusions, drawn primarily from internal reconstruction, can serve as a point of departure for the analysis of the cognate suffixes in the other daughter languages. As the number of lexemes that employ the morpheme  $-\vartheta^{\varepsilon}/\omicron-$  is not large and the role that these play within the synchronic grammar of Greek is not immediately obvious or commonly agreed upon, it will be necessary to review each of these words in turn before drawing general conclusions.

This chapter begins with an examination of present stems in  $-\vartheta^{\varepsilon}/\omicron-$  (2.1). This section is divided into three subsections. The first (2.1.1) deals with those deradical presents that both internal reconstruction and the comparative method show to be the oldest

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<sup>1</sup>On the  $\vartheta\eta$ -aorist, see Appendix I.

derivational subtype. The following subsection (2.1.2) treats later, analogical deverbal formations. Subsection 2.1.3 reviews the limited evidence for denominal formations and subsection 2.1.4 deals with verbs that have the outward appearance of  $\vartheta\%$ -presents but do not historically belong to this morphological category.

The next section (2.2) reviews possible extra-presential  $\vartheta$ -formations. The first subsection (2.2.1) examines evidence for aorist formations in  $-\vartheta\%$ . These are far less numerous than their presential counterparts, are more common in poetry than in prose and do not have clear parallels outside of Greek. They therefore give the overall impression of being late and secondary. The exhaustive survey will shore up this cursory analysis with details pertaining to the individual lexemes and proposals for how this class came into existence. Perfects in  $-\vartheta-$  (2.2.2) comprise only a small group of forms. These are either nonce-formations of the epic poets or else are revealed by their attestational record to be late-formed perfects to presents in  $-\vartheta\%$  of which the  $-\vartheta-$  came to be understood as part of the root. They are therefore of little interest for the deeper history of the formant.

The survey concludes with an analysis of the findings for Greek (2.3), findings which will provide the basis for the continued examination of the same morpheme in other Indo-European languages in the following chapters. I argue that the formant  $-\vartheta\%$  was originally proper to the present, that it took full grade of the root and that it was non-trivially associated with intransitivity and with active-voice morphology.

## 2.1 Presents in $-\vartheta\%$

The morpheme  $-\vartheta\%$  is found far more frequently in the present-imperfect system than in any other tense of Greek. This is also the place where the comparative evidence suggests that the morpheme was originally at home, as will become evident in the following chapters.

## 2.1.1 Deradical presents

### 2.1.1.1 °θ- forms part of the synchronic root in Greek

In a particularly archaic group of °θ%-presents, the suffix has been fully incorporated into the synchronic verbal root, either within the late protolanguage or in the history of Greek. These verbs tend to employ active thematic inflectional morphology, function as intransitives and regularly show full-grade of the root. They often form only a present system or have an aorist that is late or poetic, possible indications that these verbs were originally confined to the present in use.<sup>2</sup>

αἴθω The verb αἴθω (Hom.+), ‘blaze (tr/intr)’ [= Ved. *édha-te* ‘thrives’, Arm. *ayrem* ‘burn’] provides a good starting point, because it can be used to illustrate all of these features. This verb is entirely confined in usage to the present system in all periods despite the fact that an aorist could easily have been supplied using productive morphology (cf. Kölligan 2007:430). The active, which is chiefly poetic, is normally transitive, but intransitive uses are found in the writings of both Pindar and Sophocles.<sup>3</sup> The intransitive use of the active is the morphosemantic “lectio difficilior” as it goes against the synchronic tendency of Greek voice morphology (i.e. transitive active : intransitive medio-passive). It hence could reflect a usage from an older stage in the language.

Additional considerations show this conjecture to be correct. The active morphology of the frozen participle αἴθουσα ‘veranda’ ← \*‘bright (room)’ (Rau 2009:154–5) and the proper names Αἴθουσα<sup>4</sup> and Διαίθουσα<sup>5</sup> ‘the bright one’ evidently reflect this earlier intransitive usage of the active voice, ossified in lexemes that were no longer felt to

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<sup>2</sup>For a detailed discussion of defective presents in Greek, see (Kölligan 2007:405–530).

<sup>3</sup>*i. O.7,48* καὶ τοὶ γὰρ αἰθόισας ἔχοντες σπέρμ’ ἀνέβαν φλογὸς οὗ “And they ascended, though they did not have with them the seeds of blazing fire.” *S. Aj.285-6* ἤνιχ’ ἔσπεροι / λαμπτήρες οὐκέτ’ ἦθον “when the evening watch-fires were no longer burning.”

<sup>4</sup>Αἴθουσα is the name of an island off the coast of Sicily (Ptol. *Geog.4.3.12*) and of a small island hard by Myndus (Plin. *HN.291*) in Caria. It is also the name of the daughter of Poseidon and the Pleiad Alcyone (Apollod.3.10) who bore a son Eleuther to Apollo (Paus.9.20.1).

<sup>5</sup>Pliny (*HN.4.74*) tells of a deserted island with the name *Diaethusa* off the Chersonese.



belong to the finite verb. This suggests that the active-inflecting transitive was created oppositionally to the innovative middle αἴθομα ‘burn (intr)’, which predominates in prose authors.<sup>6</sup> The generation of such oppositional actives is a well-paralleled process in Greek.<sup>7</sup>

That -θ%/- is historically a derivational morpheme in this word and not part of the root is revealed by the comparative evidence. The Hittite verb 3sg. *a-a-ri* ‘is warm’ [3pl. *a-a-an-ta*] can be seen by comparison with the associated causative *inu-zi* ‘cook’ with initial *i* to go back to something like PA *\*a<sub>1</sub>or[i]*. This is usually taken to be a root present made to an *a*-timbre root *\*h<sub>1</sub>a<sub>1</sub>i* (cf. Melchert 1984a:41–2; Melchert 1994:27–8; Melchert 2022:198), which served as the starting point for Grk. αἴθω ‘shine’ and its Vedic cognate *édha-te* ‘thrive’. We are therefore in a position to reconstruct a characterized present PGrk. *\*a<sub>1</sub>-t<sup>h</sup>e-ti* ‘shines’ < *\*h<sub>1</sub>a<sub>1</sub>-d<sup>h</sup>-*.

A similar profile is presented by the verb λήθω (Hom.+) ‘lie hidden, escape notice λήθω of’. This verb finds a dental-less cognate in OCS / RussCS *lajg*, *lajati* ‘lie in wait for’ < *\*leh<sub>2</sub>-i-* (cf. OCz. *lá-k-ati* ‘id.’) and in Lat. *lāteō* ‘am hidden’, built to the verbal adjective *\*lh<sub>2</sub>-tó-*.<sup>8</sup> The root *\*leh<sub>2</sub>* ‘hide’ also appears in nominal derivatives in Germanic, where we find the abstract substantive OIc. *lómr* ‘meanness’ < *\*loh<sub>2</sub>-mo-* (cf. *lóm-bragð* ‘trick’, *lóm-geðr* ‘cunning’, *lóm-hugaðr* ‘vile’), the agent noun OIc. *lómr*/*lémingr* ‘loon’<sup>9</sup> and the instrument noun OHG *luoder* ‘bait’.<sup>10</sup>

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<sup>6</sup>Middle: Hdt.4.61, Hp. *Mul*.2.171 αἴθετα; X. *An*.6.3.19, *Cyr*.5.1.16 αἴθεσθα; Luc. *Peregr*.7 αἰθόμενος. Active: Hdt.4.145 αἴθοισεν; X. *An*.4.7.20 αἴθειν.

<sup>7</sup>So for instance ψεύδομα (Hom.+) ‘lie’ gave rise to a transitive ψεύδω ‘deceive’, first attested in the tragedians, and μαίνομα (Hom.+) ‘am wild’ give rise to (-)μαίνω (Orph.H., E., X.+) ‘enrage (tr)’.

<sup>8</sup>The derivational morphology of Lat. *lateō* can be compared with *fateor* ‘admit’ [= Osc. *fatíum*] ← *\*b<sup>h</sup>h<sub>2</sub>-tó-*, *nīteō* ‘sparkle’ ← *\*nī-tó-* and *pūteō* ‘rot, stink’ ← *\*puH-tó-* (Osthoff 1895:299). For a discussion of this morphological type with literature, see (Hocquard 1976:121f).

<sup>9</sup>Literally ‘the hider’, referring to this bird’s ability to dive underwater for minutes at a time.

<sup>10</sup>Osthoff (1895:311–12) traces this word back to *\*léh<sub>2</sub>-tro-*, drawing attention to Nikolaus von Jeroschin’s use of the word to mean ‘ambush’ (Kronike von Pruzinlant 25,951 *und sprengeten ûz dem lûdere* ‘and they jumped out of their place of ambush’) and to the substantive *walt-luoder* (Wolfdietrich D VII 35), said of a forest giant, which Osthoff takes to mean ‘der im Walde sein Versteck habende’.

The dental suffix, which is not found outside of Greek, was incorporated into the root early enough for it to pervade the verbal paradigm (aor. ἔλαθον Hom.+ , pf. λέληθα Semon., Sol., Pi.) as well as nominal derivatives (cf. ἀ-ληθής ‘true’, λάθρα ‘in secret’, λαῖτι-κρηδής ‘making woes escape ones notice’, ἀλαστος ‘unforgettable, unpardonable’) in the best-attested dialects. But beside the thematic aorist, the record of an older root aorist, lacking -θ-, is preserved in the gloss λαῖτι· ἐπελάθετο (Hsch.). Given the  $\dot{\lambda}^{\circ}$ -present of Slavic and the structure of the root, the ι subscript in λαῖτι likely depends on a former *i*-present PGrk. \*la/i/ḷ<sup>o</sup>- (like δαίωμα ‘distribute’ < \*da/i/ḷ<sup>o</sup>-, see Jasanoff *HIEV* 105). On this may also depend the compound λαίθ-αργος ‘deceitful’ (← \*‘idle in forgetfulness’?), a variant of λήθαργος ‘id.’, perhaps implying a variant \*léh<sub>2</sub>-i-d<sup>h</sup>- of the present. Nominal derivatives of a root \*lā are also preserved in the Hesychius glosses ἀ-λα-νές· ἀληθές (“Laconian for ‘true’”) and ἀ-λλα-νής· ἀσφαλής. Λάκωνες (“Laconian for ‘sure’”), both presumably with Doric long ā.<sup>11</sup> We can therefore reconstruct an original present \*léh<sub>2</sub>-d<sup>h</sup>-/\*léh<sub>2</sub>-i-d<sup>h</sup>- for Greek.

γῆθω/γῆθέω

A morphologically more complex situation is presented by the four synonymous verbs γῆθέω (poet., Hom.+ ) ‘rejoice’, γῆθω ‘id.’ (v.l. Hom.+), γαίω (Hom.) ‘id.’ and γάνυται (Hom.+ ) ‘id.’. It is highly likely, given their similarity in form and meaning, that these verbs are related to each other. Surprisingly, the etymological dictionaries tend either to reconstruct two roots, \*ḡeh<sub>2</sub>u and \*ḡeh<sub>2</sub>d<sup>h</sup> (*LIV*<sup>2</sup> 184; Beekes 2009:260–1, 270) or else unite the Greek verbs and extra-Greek comparanda under a single, indefensible rubric \*gāu (*IEW* 353; *GEW* I:289, 303–4). In order to justify an interpretation of γῆθω and its derivatives as a historic d<sup>h</sup>-present, it will therefore be necessary to make a small digression on their broader, derivational family.

The existence of γῆθ-, without labial glide, suggests that γάνυται (Hom.+ , cf. Γανυμήδης) depends not on a root \*ḡeh<sub>2</sub>u, but on a *u*-stem property-concept adjective \*ḡeh<sub>2</sub>-u-/\*gh<sub>2</sub>-éu- ‘joyful’. Though absent in its simple form, this adjective is continued in Greek by

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<sup>11</sup>Perhaps also the name of the Titan goddess Λητώ (Dor. Λᾱτώ whence Lat. *Lātōna*), if a hypocoristic for a name in \*lā-τι- or \*lā-το- (cf. Osthoff 1895:307–310).

ἄ-γα-ῶ-ρο-ς (Hes.+) ‘exulting’ (unprefixed γαῶρος Archil.+ ‘id.’).<sup>12</sup> The same formation may underlie Mlr. *gúaire* ‘úasal; noble’ which is borne as a proper name by various personages and which can be retrojected to a preform *\*géh<sub>2</sub>-u-r-iǵo-*. The derivation of a nasal-infix present of this type from a *u*-stem adjective was a regular morphological process in the protolanguage.<sup>13</sup>

The same *u*-stem adjective *\*géh<sub>2</sub>u-/\*gh<sub>2</sub>-éu-* ‘joyful’ also underlies Lat. *gaudium* ‘joy’, which is built to an adjective *\*gau(i)dus* and bears the same morphological relationship to this that *lepidium* ‘pepperwort’ does to *lepidus* ‘pleasant’. The verb *gaudeō* ‘enjoy’, which was made to the same lost adjective, reveals by its past participle *gāvīsus* that this adjective had the shape *\*gāu-idus*, consisting of the *u*-stem adjective and the Latin suffix *-idus* (Nussbaum 1999). Crucially, the *d* in *gaudeō* is not at all likely to be etymologically related to the *ð* in γηθέω as has often been assumed.<sup>14</sup>

Homeric γάω ‘rejoice’ occurs only in the phrase κύδει γάων (A 405, E 906, Θ 51, Λ 81; Hsch. γάεσχον· ἔχαρον) ‘exulting in splendor’. This verb is generally taken to continue a present *\*gǎu-ǵ%-* (Beekes 2009:261; *GEW* I:289). But given the evidence laid out above that “*\*gǎu*” was not a root but a *u*-stem adjective *\*gǎ-u-*, this analysis loses some of its appeal. Though there was a denominal verbal suffix *\*-ǵ%-*, there is no evidence to suggest that this was ever used to make deadjectival verbs in *\*-u-ǵ%-* either

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<sup>12</sup>The composite suffix and root structure of ἄγαῶρος ‘joyful’ can be compared with those of ἀμαυρός ‘weak’ < *\*n<sub>2</sub>-meh<sub>2</sub>-u-ró-* ‘not big’ (see Nikolaev 2014). Cf. further ἀφάυρος (Hom.+) ‘feeble’ (of unknown etymology). The accentuation of ἄγαῶρος (as opposed to *\*-γαυρός*) is surprising, and indeed Herodian (*GG* iii.ii, 167) prescribes ἄγαυρός with final accent.

<sup>13</sup>E.g. Hitt. *tēpu-* ‘small’ [≈ Ved. *á-dbh<sub>u</sub>-ta-* ‘marvelous’ ← *\*‘not diminished’*] → *tepnu<sup>-zi</sup>* ‘make small, belittle’ [= Ved. *dabhnóti* ‘deceive’, OAv. *dabənao<sup>-ti</sup>* ‘id.’] (cf. Koch 1980; Narten 1988).

<sup>13</sup>For the syncope, cf. *claudus* ‘lame’ < *\*kloy-iðo-* (cf. Ved. *śro-ṛí-* ‘id.’).

<sup>14</sup>Schwyzler (*Gr.Gr.* I:703) and Pokorny (*IEW* 353) assume contraction of putative *\*γαῶ-εθέω* to attested γηθέω. In addition to not representing a known morphological type, *\*γαῶ-εθέω* would likely have resulted in at least some instances of vowel hiatus (γηεθέω\*) in the epics, as emphasized by Kretschmer (1913:324), but no evidence for an uncontracted form exists. A good point of comparison is offered by Homeric ἦ(Ϝ)έλιος ‘sun’, which appears over 100 times in its uncontracted form but only once (θ 271) in its Attic form as ἥλιος.

in Proto-Indo-European or in Greek.<sup>15</sup> It is therefore perhaps better to posit an *i*-present *\*ǵéh<sub>2</sub>-ǵ-*, comparable in structure to δαίω ‘distribute’ < *\*deh<sub>2</sub>-ǵ-* (Jasanoff *HIEV* 105). This verb should have given Grk. γήω\* < *\*ǵéh<sub>2</sub>-ǵ-* but instead was remade to *\*ga[i]-ǵ%-* (like *\*da[i]-ǵ%-*) in Greek.<sup>16,17</sup>

Given that there are no obstacles to positing a root *\*ǵeh<sub>2</sub>* ‘rejoice’, it is attractive to see in both non-standard γήθω ‘rejoice’ and TochAB *kāt/k/* ‘id.’ the continuation of a *d<sup>h</sup>*-present *\*ǵeh<sub>2</sub>-d<sup>h</sup>-* to this root.<sup>18</sup> The Greek verb first appears as a *varia lectio* in Homer (Ξ 140 γήθει/γηθεῖ) and recurs in other literary authors (Orph.*H.*16.10 γήθοντι, S.E.*M.*11.107 γήθουσι; Q.S.14.92, AP 6.261 γήθόμενος; γήθειν· χαίρειν ‘rejoice’ Hsch.+). It is likely that this present had currency in one or more non-literary dialects. Non-Attic Ionic γάθω appears on a funerary epigram found near Ilium dating to the 1<sup>st</sup> or 2<sup>nd</sup> century CE (CIG 3632 [=IMT Skam/NebTäler 322; *App.Anth.*2.482]).<sup>19</sup>

Despite the fact that γήθω is not well-attested in literary Greek, an indication of its antiquity can be seen in the presential-perfect γέγηθα (Hom.+)<sup>20</sup> ‘rejoice’, which must depend on the inherited dental present. This perfect fully supplanted the synonymous

<sup>15</sup>Both Greek and the parent language had other mechanisms in place for making verbs to *u*-stem adjectives. The norm in Proto-Indo-European were deadjectival nasal-infix presents, which in the current instance was in fact exploited and led to the creation of Grk. γάνυμαι ‘rejoice’, discussed above. In Greek we further find deadjectival presents with a historically problematic suffix *-νι%-* of the type βαρύς ‘heavy’ : βαρύνω ‘make heavy’ (: βαρύνομαι ‘become heavy’) (*Gr.Gr.* I:728).

<sup>16</sup>It is at least conceivable that *\*ǵéh<sub>2</sub>-ǵ-* ‘rejoice’ is etymologically identical to *\*ǵeh<sub>2</sub>-ǵ-* ‘sing’ (Ved. *gā-y-a-ti* ‘sings’, ORuss. *ga-j-u* ‘croak, lament’).

<sup>17</sup>Another possibility is that γάων is not a verb at all, but rather continues a comparative *\*ǵéh<sub>2</sub>-ǵōs* ‘more joyful’ to *\*ǵeh<sub>2</sub>-u-* ‘joyful’ like ἡδύς ‘sweet’ : ἡδίω ‘rather sweet, sweeter’ < *\*sueh<sub>2</sub>-d-u-* : *\*sueh<sub>2</sub>-ǵōs*. In this case, the phrase κούδει γάων would originally have meant ‘the happier for/in his glory.’ Speaking against this is the gloss γάεισκον· ἔχαρον (Hsch., EM), which, however, could easily depend on a later author’s reinterpretation of Homer’s γάων.

<sup>18</sup>On TochAB *kāt* ‘rejoice’, see p. 94 below.

<sup>19</sup>Ἀπατρία γάθοντα κατέσχε με Ἰλιάς α[ἰ]α / ἄλκην ἐλλαδιὰ[ν] κευθομένα λαγ[ό]σιν. “The land of Ilium, might of Greece, has taken hold of me, who (now) enjoy a fatherland that is not my own, hiding me in her flanks.” It is unfortunate, in the present context, that we do not know precisely where the writer was from, but his use of *ā* for *η* (excepting epicizing/Ionic ἀπατρία) shows clearly enough that he was not a native speaker of Attic or Ionic.

<sup>20</sup>Pl.*Lg.*671b, *Phdr.*251d γέγηθεν; Pl.*Phdr.*258b, D.18.291, 323, Luc.*Herc.*3, *Somn.*14, *Merc.Cond.*12, *DMar.*15.3 γεγηθώς.

present γήθω in Attic. The innovative poetic present γηθέω (whence aor. ἐγήθησα and fut. γηθήσω), is either denominative to γῆθος ‘joy’ or, more likely, was generated by analogy with ‘Caland’ verbs of the type ῥίγέω ‘am cold, shudder’ : ἐρρίγησα (Hom.+): ἔρρηγα (Hom.+): τὸ ῥίγος Hom.+ ‘cold’) via the perfect (cf. pf. τέθηλα Hom.+ ‘bloom’ (: θάλος Hom. ‘scion’) → θηλέω Hom.+ ‘bloom’ beside θάλλω ‘id.’)

There is therefore every reason to reconstruct a present  $*\acute{g}éh_2-d^h$ - ‘rejoice’ that stands behind Grk. γήθω ‘rejoice’ and the innovative perfect pf. γέγηθα ‘rejoice’. As far as can be determined based on limited attestations, γήθω was exclusively active and intransitive. Because aor. ἐγήθησα and pf. γέγηθα are both demonstrably innovative, there is also some reason to think that γήθω was originally confined to the present system. Finally, the possible existence of an *i*-present  $*\acute{g}éh_2-\acute{i}$ - beside  $*\acute{g}éh_2-d^h$ - recalls the pairing of  $*léh_2-\acute{i}$ - (Grk. λήθω ‘am hidden’) and  $*léh_2-d^h$ - (OCS *lajǫ* ‘lie in wait for’) to which attention was called above.

The verb πύθω (poet.,<sup>21</sup> mid. Hom.+), act. Hes. *Op.*626, A.R.4.1530) ‘rot’ continues a πύθομαι present  $*púH-d^h$ -. This verb differs from the other  $\vartheta$ %-presents discussed in this section in showing zero grade of the root rather than full grade. This is a reflection of the fact that within Greek, the root πύ ROTTEN was not capable of ablaut. The zero grade also characterizes all nominal derivatives. These include πύον ‘pus’, τὸ πύος<sup>22</sup> ‘id.’, ὁ πύος ‘colostrum’, πύαρ ‘id.’ (<  $*púH-(u)r$ ) and πυετία/πυτία ‘rennet’. The verbal adjective  $*pú-tó$ -, once associated with πύθω, is preserved as a neuter substantive in the gloss πυτά· Λάκωνες τὰ ἐρυθρὰ ἱμάτια (Hsch.) (“Laconian for ‘red cloths’”) and may have served as the basis for (ἀπο-)πυτίζω ‘spurt forth’ (of blood in Ar. *Lys.*205).

Failure to show ablaut appears to have been a feature of this root in the protolanguage,

<sup>21</sup>Pausanias (10.6.5) deems the verb unfamiliar enough to merit explanation: τὸν ὑπὸ τοῦ Ἄπολλωνος τοξευθέντα σήπεσθαί φησιν ἐνταῦθα, καὶ διὰ τοῦτο ὄνομα τῆ πόλει γενέσθαι Πυθώ· πύθεσθαι γὰρ δὴ τὰ σηπόμενα οἱ τότε ἔλεγον. “They say that he who was shot by Apollo rotted there, and for this reason the name of the city became Pytho, for the people of that time said ‘πύθεσθαι’ for rotting.”

<sup>22</sup>Both πύος and πύος are attested. A  $\bar{u}$  is assured by Ar. *Fr.*3, and must owe its length to πύθω and other forms where it was regular, as inherited  $*púH-es$ - would have given πύος via  $*pυμῶς$  (cf. Ved. *pivas*-AVP IV 14.3).

as was also the case for the rhyming root  $*b^huH$  (Jasanoff cf. 1997:173<sup>2</sup>; Vine 2022:444–5). Verbal cognates outside of Greek include Ved.  $p\acute{u}-ya-ti$  ‘stink, rot’ [= YAv. *puiieti-ca* ‘id.’], Lith.  $p\acute{u}ti$ ,  $p\bar{u}n\grave{u}/p\gamma v\grave{u}$  ‘rot’ (with causative  $p\acute{u}dyti$  as though  $*puHd^h-\acute{e}\acute{\chi}\%o-$ ) and OIc.  $f\acute{u}inn$  ‘rotten’, apparently the past participle of a lost verb PGmc.  $*f\bar{u}anq$  ‘rot’ (type: Goth. *galūkan* ‘lock’). In the nominal domain, we find among others Ved.  $p\acute{u}-y(-)a-$  ‘stinking discharge’,  $p\acute{u}-ti-$  ‘stinking’ = YAv.  $p\bar{u}ti-$  ‘decay’, Lat.  $p\bar{u}s$  ‘pus’, OIc.  $f\acute{u}i$  ‘putrefaction’ and Goth.  $f\bar{u}ls$  [*ist*] ‘ὄζει; stinks’, all of which go back to a zero-grade  $*puH-$  with various derivational suffixes added (see *IEW* 848–9).<sup>23</sup> The best evidence for non-zero grade comes from OIc.  $feyja$  ‘make rot’ <  $*fawjanq$  together with the derived noun  $faukr$  ‘a rotten log’ and from Lith.  $pi\acute{a}ulas/pia\tilde{u}las$  ‘id.’. In light of the strong evidence for constant zero-grade, these are likely innovations.<sup>24</sup>

Greek  $\pi\acute{\upsilon}\theta\omega$  is in general confined in its use to the present system. The productively-formed sigmatic aorist  $\acute{\epsilon}\pi\bar{\upsilon}\sigma\epsilon$  ‘made rot’ (h.Ap.371, 374) must be viewed with suspicion because of the passage in which it occurs:

h.Ap.371–374 τὴν δ’ αὐτοῦ κατέπυσ’ ἱερὸν μένος Ἥελίοιο·

ἔξ οὗ νῦν Πυθῶ κικλήσκειται, οἱ δὲ ἄνακτα

Πύθειον καλέουσιν ἐπώνυμον οὖνεκα κεῖθι

αὐτοῦ πῦσε πέλωρ μένος ὄξεός Ἥελίοιο.

“The divine power of the sun made her rot, for which reason (that region) is now called Pytho, and they call the lord by the name “Pythius”, because in that very place the power of the piercing sun made the monster rot.”

The aorist ( $\kappa\alpha\tau\acute{\epsilon}\pi\bar{\upsilon}\sigma\epsilon$  ‘caused to rot’, twice repeated, plays off of the words  $\Pi\bar{\upsilon}\theta\acute{\omega}$  and  $\Pi\acute{\upsilon}\theta\epsilon\iota\omicron\nu$  in an obvious way and may have been coined for these verses. The aorist  $\pi\acute{\upsilon}\sigma\epsilon$  later

<sup>23</sup>There can be no doubt that the root ended in a laryngeal in the protolanguage; the short vowel of Lat. *pūter* ‘putrid’, Mlr. *othrach* ‘sick, wounded’ resulted from loss of laryngeal by the weather rule ( $*putr-o/i-$  <  $*puH-tr-o/i-$ , see Neri 2017).

<sup>24</sup>In Germanic, ablaut would first have been introduced in the preterit  $*faw$  ‘rotted’. This would then have supplied the basis for causative  $*fau-ja-$ . Lith.  $pi\acute{a}ulas$  ‘rotten log’ suggests a verb  $pi\acute{a}uti$ \* of the productive type  $kri\acute{a}uti$  ‘pile up’ (beside zero grade OCS  $kryti$  ‘cover, hide’) and can have been made on productive models. On Baltic causatives with root-vocalism  $*(i)\acute{a}u$  see (Villanueva Svensson 2011b).

also appears in a half-line of Callimachus reported by the Suda (ε-3708; Cal. *Fr.*236[313]), which is shown to be innovative by the unetymological short vowel of its root.<sup>25</sup>

As to the medial inflection of intransitive πύθεται ‘rots’, comparison with the other θ%-presents suggests that this is a secondary feature of this verb. Unlike in the case of αἶθω ‘burn’, however, it cannot be positively demonstrated that πύθω ‘rot (intr)’ was replaced by πύθομαι, thence generating the rarely used active πύθω ‘rot (tr)’. The synonymous verb σήπομαι ‘rot (intr)’ could well have influenced the voice morphology of πύθομαι ‘rot (intr)’; Homer knows only intransitive σήπομαι, ἐσάπη, σέσηπα, which is likely the original paradigm, to which later authors supplied transitive pr. act. σήπω (Hp., A., Pl.+ ) and fut. σήψω (A.).

The verb act. ἐρέχθων (ε 83) ‘tear (tr?)’<sup>26</sup> mid. ἐρέχθομενος (Ψ 317, h. *Ap.*358)<sup>27</sup> ‘torn, ἐρέχθων buffeted’ appears only as a participle and only in the writings of Homer and Homeric imitators. We later find also the derived nouns ἐρέγματα (Thphr., Erot.) ‘bruised corn’, ἐρεγμός (Pap., Gal., Erot.) ‘id.’, ἐρέγμιος (Dsc., Orib.) ‘made of bruised beans’, ἐρέκτης (Orion 54.8) ‘bean splitter’<sup>28</sup> and ἐρεχθίτις (Ps.-Dsc.) ‘groundsel’?. A connection with OYAv. *raš* ‘to damage’ (in YAv. *rāšaiiente* ‘they damage’, inf. *rāšaiieǰhe*, OAv. *rašah-* ‘damage’ [= Ved. *rákṣas-* ‘damage’]) was suggested by Bartholomae (1886:57) and is

<sup>25</sup>The short vowel in πύσε likely owes its existence to leveling from πύον ‘pus’ or some other form in which the short vowel was regular.

<sup>26</sup>Transitive semantics are generally assumed for ε 83 δάκρυσι καὶ στοναχῆσι καὶ ἄλγεσι θυμὸν ἐρέχθων, but strictly speaking an accusative of a body part affected is not probative for transitivity in Greek (i.e. “distracted at heart” is syntactically acceptable with a non-transitive verb).

<sup>27</sup>Proclus knows finite ἐρίχθουμαι (*H.*7.38), which is the reading of all manuscripts. The same ι-vocalism is reflected in the variant ἐρίχθων in the scholia for ε 83 (von Wilamowitz-Moellendorff 1907:174<sup>1</sup>). The substitution of ι for etymological ε likely resulted from confusion surrounding the name of the hero Ἐριχθόνιος, the hypocoristic of which Ἐριχθεύς is attested in the Parian Chronicle (IG XII,5 444). Folk-etymology remade Ἐριχθεύς to Ἐρεχθεύς ‘the render’ (von Wilamowitz-Moellendorff 1893:128f.), while the ι of Ἐριχθεύς found its way into ἐρίχθων in part of the Homeric tradition. These contaminations were facilitated by the fact that the verb “ἐρέχθω” had long fallen out of use and was only known from Homer. Proclus himself may well have assumed that the derivational basis of “ἐρίχθω” was ἐρείχω ‘tear’.

<sup>28</sup>Frisk (*GEW* I:551f.) incorrectly lists these under ἐρείχω, noting that the origin of the ε remains unexplained. But it is rather the poorly-attested variants ἐρίγματα (Hp.) ‘bruised beans’ and ἐρίγμα (Sch. *Ar. Ra.*) ‘id.’ that are in need of explanation, and it may well be that these do owe their ι to contamination with ἐρείχω ‘pound’, a verb common in the the Attic playwrights and found occasionally in Attic prose and in Hippocrates.

accepted by most authorities. Bartholomae’s etymology is attractive on semantic grounds and, if correct, implies a reconstruction  $*h_1r\acute{e}k\hat{s}-d^h-$  for  $\acute{\epsilon}\rho\acute{\epsilon}\chi\theta\omega$ . As the root-final obstruent cluster is peculiar from an Indo-European standpoint,<sup>29</sup> it is likely that the root originally ended in  $*\acute{o}\hat{k}$ , and that Indo-Iranian continues a present  $*h_1r\acute{e}k\hat{s}(\%)-$ . Greek  $\acute{\epsilon}\rho\acute{\epsilon}\chi\theta\omega$  itself can continue either  $*h_1r\acute{e}k\hat{s}-d^h-$  or  $*h_1r\acute{e}k\hat{s}-d^h-$ .

The basic root is likely  $*h_1er\hat{k}$  ‘cut’, which lies behind Hitt.  $\bar{a}rki$  ‘cuts’ and Lat.  $[h]erc\bar{i}sc\bar{o}$  ‘divide the inheritance’ (Neri apud Lipp 2009:297f.), the Schwebeablaut exhibited by  $*h_1r\acute{e}k\hat{s}$  being a regular feature of  $s$ -presents, cf.  $*h_2\acute{e}ug-$  (Goth. *aukan* ‘grow’, Lit. *áugu* ‘id.’) :  $*h_2u\acute{e}k-s-$  (Grk.  $\acute{\alpha}\acute{\epsilon}\xi\omicron\mu\alpha$  ‘grow’, OHG *wahsan* ‘id.’).<sup>30</sup> The evaluation of  $\acute{\epsilon}\rho\acute{\epsilon}\chi\theta\omega$  as a  $\vartheta\%$ -present also finds support in the fact that no extra-presential forms are attested.

### 2.1.1.2 $-\vartheta\%$ is a synchronically segmentable primary morpheme within the verbal system of Greek

In a second, clearly old, set of verbs, the element  $-\vartheta\%$  functions as a segmentable morpheme within the verbal system of Greek. The line dividing the verbs in this section from those in the previous section is often tenuous. Like the previous group, these tend to use active inflection, be intransitive and show full grade of the root. Many are confined to the present system.

$\pi\lambda\acute{\eta}\theta\omega$  The verb  $\pi\lambda\acute{\eta}\theta\omega$  ‘am full’ <  $*pl\acute{e}h_1-d^h-$  functions as the anti-causative to  $\pi\acute{\iota}[\mu]\pi\lambda\eta\mu$  ‘fill’ (tr). This Greek  $\vartheta\%$ -present is noteworthy for possessing an exact cognate in OAv. act. 3sg. *frādat* ‘furthers’, mid. 3pl. *frādəntē* ‘prosper’, which will be further discussed in the subsequent chapter. The Avestan verb differs from its Greek counterpart in possessing a transitive active and an intransitive middle, while the Greek verb is actively

<sup>29</sup>See (Schindler 1972:5–6).

<sup>30</sup>An original  $s$ -present may also stand behind EPEXΣΕΣ / $\acute{\epsilon}\rho\acute{\epsilon}\xi\acute{\eta}\varsigma$ / on a red figure Attic vase (Munich 2345), though  $\sigma$  for  $\vartheta$  is perhaps more likely a Doricism (artisans from other parts of the Greek-speaking world came to work in Athens and so it is no wonder that non-Attic forms appear not infrequently on Attic vases, see Kretschmer 1894:74, 77).



inflecting<sup>31</sup> and always intransitive. While the voice usage in Avestan is in line with productive diathetic tendencies of the language, the active deponent verb of Greek runs contrary to dominant morphosemantic patterns and neatly fits the description of an “active deponent” laid out in section 1.3. The perfect πέπληθη (Pherecr., A.R., Herod., Theoc.) ‘is full’ is shown to be an innovation of Greek by its Indo-Iranian cognates OAv. *pafrē* ‘filled (intr)’ and Ved. *paprāu/paprā* ‘filled (tr)’.

The verb τελέθω (poet., Hom.+) ‘am, become’<sup>32</sup> beside τέλος ‘end’, τέλομαι/πέλομαι τελέθω (Hom.+) ‘am, become’ was doubtless understood by speakers as bearing the segmentable suffix -έθω (see next section). Historically seen, however, this verb bears the inherited suffix \*-θ<sup>s</sup>- that has been added to a root in final laryngeal. The root of this verb had both a *set* variant *\*k<sup>s</sup>elh<sub>1</sub>* and an *aniṭ* variant *\*k<sup>s</sup>el*. Forms that show root-final laryngeal are πλῆ-μνη ‘nave of a wheel’ < *\*k<sup>s</sup>lh<sub>1</sub>-mn-eh<sub>2</sub>*, πάλι[ν] adv. ‘back’ < *\*k<sup>s</sup>lh<sub>1</sub>-i-*, Lat. *coluī* ‘cultivated’ and Ved. *carī-tra-* ‘foot, behaviour’, aor. *acāriṣam* ‘went’, inf. *cāritave*, intens. *carcūryámāṇa-*. This laryngeal fails to appear, however, in thematic aorist ἔπλε[ν]/(ἔπλετο) < *\*k<sup>s</sup>l-e-t* ‘became, was’, which finds an exact formal cognate in Arm. *etew* ‘id.’ < *\*k<sup>s</sup>l-e-to* (Klingenschmitt 1982:280–1) and in OAlb. /kle/ < *\*k<sup>s</sup>l-e-t* (Schumacher and Matzinger 2013:175–6, 973).

Rix (1994:23f.) has suggested that the laryngeal-less form was generalized from the substantive *\*k<sup>s</sup>é-k<sup>s</sup>lh<sub>1</sub>-o-* ‘wheel’, in which the laryngeal was lost by the “νεογνός rule.” It is doubtful, however, whether a single nominal form would have exerted such a profound

<sup>31</sup>Medial forms do rarely occur: πλῆθεται (Thphr.*Fr.*174 apud Photius, Q.S., AP); πλῆθοντο (A.R., Q.S.). The latter is a poetic coinage imitating the shape of the participle πλῆθοντ- (Hom.+).

<sup>32</sup>The additional definition ‘come into being’ given by *LSJ* s.v. τελέθω and by Frisk (*GEW* II:870f.) on the authority of Chantraine (1958 I:327 with reference to Chantraine 1925) and repeated in (*LIV*<sup>2</sup> 386) is not clearly justified by the attestations. Chantraine constructs his argument around the verse H 282 = 293:

νύξ δ’ ἤδη τελέθει· ἀγαθὸν καὶ νυκτὶ πιθέσθαι.

“La nuit déjà est venue, et il est bon d’obéir à la nuit.” (tr. Chantraine 1925:100)

There is no obstacle to translating “it is already night,” or even “night is already rolling in” with reference to the heavens spinning on the cosmic axis. The meaning ‘is’ is contextually evident elsewhere in Homer (I 441, τ 328) and persists into later Greek. The difficult Odyssey passage δ 85 ἵνα τ’ ἄρνες ἄφαρ κεραιοὶ τελέθουσιν, ‘(Libya), where the sheep are/become [at once/very much](?) horned at birth’ does little to shed light on the issue.

influence on the verbal paradigm. It is more likely that the failure of the laryngeal to appear in the thematic aorist of Greek, Armenian and Albanian can be attributed to application of the νεογνός rule in the augmented verbal form itself ( $*h_1é-k^u\bar{h}_1-e > *h_1é-k^u l-e$ ); a similar outcome can be seen in the disyllabic thematic aorist Ved. *á-hvat* (RV) ‘called (<  $*h_1e-g^h\bar{h}_1-e-t$ ) to the root  $h\bar{u}$  ‘call’ (cf. further Grk. *ἔγεντο* ‘became’ <  $*h_1é-g^hnh_1-to$  for regular *ἐ-γένε-το*, see Beekes 1969:242ff.; Peters 1980:27f.).

It is therefore most natural to reconstruct a single root  $*k^uelh_1$  with final laryngeal for the protolanguage and to derive *τελέθω* directly from this *set* root ( $*k^uelh_1-d^h$  ‘rotates’ → ‘is’).<sup>33</sup> The verb in question, like other  $\vartheta\%$ -presents, shows full grade of the root and is an active<sup>34</sup> intransitive without extra-presential forms.

*πελάθω* The verb *πελάθω* ‘draw near (intr)’ is likewise only used in the active. It is structurally similar to *τελέθω* and is referable to a root  $*pelh_2$  in final laryngeal. The *set* character of this root can be seen in aor. *πλήτο* <  $*plh_2-tó$  (Hom., Hes.) ‘approached’, v.a. *ἄ-πλητος*/*ἄ-πλᾶτος* ‘unapproachable’,<sup>35</sup> the adverb *πέλας* ‘nearby’ and the adjective *πλησίος* ‘near’. The Greek *averbo* appears originally to have opposed a nasal present  $*p_{\alpha}l-n\acute{a}-mi$  ‘make approach’ (> Hes. *Op.* 510 *πλνῖ*,<sup>36</sup> Hom.+ *πίλναμαι* ‘draw near’) found also in Avestan (YAv. *pərəne* ‘I approach’) to a  $\vartheta\%$ -present  $*pela-t^he-$ , recalling the morphological relationship between OAv. 2sg. ipv. *pərənā* (Y 28.10) ‘fill’ [ $\approx$  Ved. *prṇā-ti*] and *frāda-ti* ‘further’ [= Grk. *πλήθω*]. The aorists *ἐπέλασα* (Hom.+ ) and *πλήτο* (Hom., Hes.) as well as the perfect *πεπλημένος* (Hom.+ ) can likely best be referred to *πίλναμαι* rather than to *πελάθω* on account of their voice morphology. Already in Homer the

<sup>33</sup>This semantic development is likely quite old, as it is reflected also in Arm. *etew* ‘became’ and Alb. /kle/ ‘id.’. The same semantic development can be seen in Ved. *vārtate* ‘turns; is’.

<sup>34</sup>Medial Ps.-Phoc.104 *τελέθονται* and *Orac.Sib.* 3.264 *τελέθοντο* are late innovations; the author of the Sibylline Oracles uses *τελέθει* (3.263) transitively to mean ‘produce’ in the previous line, showing that *τελέθοντο* is a genuine form and that Herwerden’s emendation of *τελέθοντο τε* to  $^+τελέθοντος$  is not to be accepted.

<sup>35</sup>Though evidently proper to some dialect other than Attic-Ionic, *ἄπλᾶτος* is used in Attic poetry and thereby found its way into the koine.

<sup>36</sup>*πλνῖ* is the thematic replacement of *πίλνησι* (cf. Hackstein 2002:92ff.).

most common present is  $\pi\epsilon\lambda\acute{\alpha}\zeta\omega$  (Hom.+), which reflects productive morphology and was back-formed from the aorist  $\acute{\epsilon}\pi\acute{\epsilon}\lambda\alpha\sigma\alpha$  (Hom.+) (cf. Schwyzer 1950–1953:734). The same is likely true of the rare poetic variant  $\pi\epsilon\lambda\acute{\alpha}\omega$  (h.Hom.+) following the pattern of  $\acute{\epsilon}\gamma\acute{\epsilon}\lambda\check{\alpha}\sigma\alpha$  :  $\gamma\epsilon\lambda\acute{\alpha}\omega$ ;  $\eta\gamma\tau\acute{\iota}\check{\alpha}\sigma\alpha$  :  $\acute{\alpha}\nu\tau\acute{\iota}\acute{\alpha}\omega$ . Finally  $\pi\lambda\acute{\alpha}\theta\omega$ , which appears in tragic choral lyric and may be either a genuine Doric form or a hyper-doricism, shows trivial levelling of the root vocalism of aor.  $*\pi\lambda\acute{\alpha}\tau\omega$ , v.a. adj.  $\check{\alpha}\text{-}\pi\lambda\bar{\alpha}\tau\omicron\varsigma$ ,<sup>37</sup> pf.  $(*)\pi\epsilon\pi\lambda\bar{\alpha}\mu\acute{\epsilon}\nu\omicron\varsigma$  and the attested Doric aor. pass.  $\acute{\epsilon}\pi\lambda\acute{\alpha}\theta\eta\gamma\nu$  to the present. It is unlikely to continue an inherited zero grade.

The active deponent verb  $\theta\alpha\lambda\acute{\epsilon}\theta\omega$  (poet., Hom.+) ‘bloom, flourish’ suggests a root  $\theta\alpha\lambda\acute{\epsilon}\theta\omega$  in final laryngeal. Independent confirmation for this laryngeal comes from the stem-final vowel of Arm. *dala-r* (Bible+) ‘green’, which forms an exact word equation with Grk.  $\theta\alpha\lambda\epsilon\text{-}\rho\acute{\omicron}\varsigma$  ‘blooming’ (Mayrhofer 1986:127<sup>118</sup>).<sup>38</sup>

The  $d^h$ -present stands beside synonymous  $\theta\acute{\alpha}\lambda\lambda\omega$  (h.Hom., Hes.+), which is more common in all periods and used in both poetry and prose.<sup>39</sup> This could potentially continue either a thematized nasal-infix present  $*d^h\text{al-}n\acute{\epsilon}h_1\text{-}$  (so *LIV*<sup>2</sup> 132; perhaps rather  $h_2e$ -conjugation  $*d^h\text{ }l\text{-}n\text{-}h_1\text{-}e?$ )<sup>40</sup> or else a  $\check{\alpha}\text{-}$ present  $*d^h\text{al}h_1\text{-}\check{\alpha}\text{-}$  with loss of laryngeal

<sup>37</sup>Cf. the replacement in the present of  $*\delta\acute{\epsilon}\lambda\lambda\omega$  ‘throw’ (Arc.  $\zeta\acute{\epsilon}\lambda\lambda\omega$ ) with  $\beta\acute{\alpha}\lambda\lambda\omega$  under the influence of aor.  $\check{\epsilon}\beta\alpha\lambda\omicron\nu$ .

<sup>38</sup>The root of the root  $*d^h\text{el}h_1/*d^h\text{al}h_1$  notoriously poses problems for comparative reconstruction (see Nikolaev 2022a:280<sup>23–4</sup> with references). In Greek, all verbal and nominal forms point to a root with  $a$ -character, with the exception of the gloss Hsch.  $\theta\acute{\upsilon}\lambda\lambda\alpha$   $\kappa\lambda\acute{\alpha}\delta\omicron\upsilon\varsigma$ ,  $\eta\eta$   $\varphi\acute{\upsilon}\lambda\lambda\alpha$ . ‘branches or leaves’ (Vine 1999:567), which may rather owe its  $\upsilon$  to contamination  $\theta\alpha\lambda\lambda\acute{\omicron}\varsigma$  ‘branch’ (or a related word) with  $\varphi\acute{\upsilon}\lambda\lambda\omicron\nu$  ‘leaf’. Outside of Greek, however, clear evidence for a root  $*d^h\text{el}h_1$  can be seen in  $e$ -grade Arm. *det* ‘medicinal herb’, Alb. *djalë* ‘young man’ and  $o$ -grade OIr. *duilne* ‘foliage’. If the Greek  $a$ -timbre is secondary, it can only have arisen within the dialectal period at a time when the zero grade  $*d^h\text{ }l\text{ }h_1$  would have been realized as Attic-Ionic  $*t^h\text{ }l\bar{a} \sim *t^h\text{ }al$  (aor.  $\check{\epsilon}\text{-}\theta\alpha\lambda\text{-}\omicron\nu < *d^h\text{ }l\text{ }h_1\text{-}\text{-}\text{-}$ , pr.  $\theta\alpha\lambda\lambda\omega < *d^h\text{ }l\text{-}n\text{-}h_1\text{-}e\text{[-}t\text{]}$  [an  $h_2e$ -conjugation nasal-infix present?]). But further difficulties arise from the striking congruence of Grk.  $\theta\alpha\lambda\epsilon\rho\acute{\omicron}\varsigma$  ‘blooming’ and Arm. *dalar* ‘green’, both of which point to a preform  $*d^h\text{al}h_1\text{-}r\acute{\omicron}\text{-}$  that cannot easily be explained as a zero-grade formation.

<sup>39</sup>The quasi-participle  $\tau\eta\lambda\epsilon\theta\acute{\alpha}\omega\nu$  (epic, Hom.+) ‘flourishing’, which is obviously to be connected with  $\theta\acute{\alpha}\lambda\lambda\omega$  and  $\theta\alpha\lambda\acute{\epsilon}\theta\omega$ , is a known crux in Homeric scholarship (Chantraine 1958:359; Risch 1974:322). This form can perhaps be explained as a recasting of  $\theta\eta\lambda\text{-}\epsilon\tau\bar{\alpha}\text{-}\text{-}$ , an iterative-intensive in  $\text{-}\epsilon\tau\bar{\alpha}\text{-}\text{-}$  (e.g.  $\lambda\alpha\mu\pi\text{-}\epsilon\tau\acute{\omicron}\omega\nu\tau\iota$ , on which see Vine 1998:44ff.). A Hauchumsprung  $\theta\eta\lambda\epsilon\tau\acute{\alpha}\omega\nu \rightarrow \tau\eta\lambda\epsilon\theta\acute{\alpha}\omega\nu$  (cf. Ion.  $\acute{\epsilon}\nu\theta\alpha\upsilon\tau\alpha \rightarrow$  Att.  $\acute{\epsilon}\nu\tau\alpha\upsilon\theta\alpha$ ) produced the Homeric form, conceivably helped along by a folk-etymological connection with  $\tau\eta\lambda\epsilon\text{-}$  ‘in the distance’ (e.g.  $\tau\eta\lambda\epsilon\text{-}\varphi\alpha\nu\eta\varsigma$  ‘visible from afar’).

<sup>40</sup>Such a preform would better explain the intransitive semantics of  $\theta\acute{\alpha}\lambda\lambda\omega$  from a historical perspective (cf. Gorbachov 2007).

by Pinault’s Law. Either way, the existence of  $*d^h alh_1-ǵ^e/o-$  beside  $*d^h álh_1-d^h-$  recalls the relationship of Ved.  $pú-ya-ti$  ‘stink’ to Grk.  $πύθω$ , while that of  $*d^h al-néh_1-$  to  $*d^h álh_1-d^h-$  recalls the relationship of OAv.  $pəṛəṇā$  ‘fill’ to  $frāda-ti$  ‘id.’ [= Grk.  $πλήθω$ ] or  $πίλναμαι$  ‘draw near’ to  $πελάθω$  ‘id.’.

**Ἄρέθουσα** The spring name, personal name, and place name  $Ἄρέθουσα$  (Hom.+, Myc. Gsg.  $a-re-to-to /aret^h ontos/$  PY Sa 1265, see Nakassis 2013:211) appears to continue the active participle of the grammarians’ verb  $ἄρέθω$  from a characterized present  $*h_2érh_1-d^h-$ .<sup>41</sup> The verb  $(*)ἄρέθω$  has been most convincingly compared with the verb  $ἄρέσκω$  (Hdt.+, aor.  $ἄρέ-σαι$  Hom.+) ‘conciliate’ (see *GEW* I:135 with references to earlier literature). The meaning of  $Ἄρέθουσα$  [ $κρήνη/πήγη$ ] (cf. Choeril. *Fr.*3[:318]  $περὶ δὲ κρήνας ἄρεθούσας$ ) would then be ‘the pleasant [spring]’.<sup>42</sup> As a personal name,  $Ἄρέθουσα$  finds a counterpart in the names  $Ἄρέσκων$  and  $Ἄρέσκουσα$ , both of which are common in inscriptions.<sup>43</sup> The morphological relationship between  $(*)ἄρέθω$  and  $ἄρέσκω$  recalls the pair YAv.  $auua-η^v habda-$  ‘sleep’ <  $*-suep-d^h e-$  :  $x^v afsa-$  ‘id.’ <  $*suep-skē-$ ), which will be discussed in the following chapter.

An alternative etymology has recently been proposed by Schaffner (2010). This scholar argues that the traditional connection of  $(*)ἄρέθω$  with  $ἄρέσκω$  :  $ἄρεσα$  is impossible, because the meaning ‘please’ (as opposed to Homer’s  $ἄρέσαι$  ‘conciliate, satisfy’) first appears in Herodotus. But the difference in meaning between ‘please’ and ‘satisfy’ is rather too slight to draw any strong conclusions from, and there is in any case no reason to think that  $ἄρέθω$  had exactly the same meaning (or valency) as  $ἄρέσκω$ . Schaffner goes on to argue for an etymological connection of  $Ἄρέθουσα$  with OCS  $roditi$  ‘give birth to’ and Hitt.  $hardu-$  ‘scion’. While an etymological connection between the Slavic verb and the Anatolian substantive proposed by Schaffner is potentially attractive and certainly

<sup>41</sup>On this word, see especially (Schaffner 2010) with a thorough review of attestations, references to earlier literature, and a proposed etymology.

<sup>42</sup>This is, of course, a semantically well-paralleled toponym, cf. Belacqua, Schönbrunn etc.

<sup>43</sup>The female name  $Ἄρέσκουσα$  occurs inscriptionally 47 times in the Packard Humanities Institute’s Searchable Greek Inscriptions.

worthy of consideration, it is not at all clear that ‘the one who comes into being’ is a better name for a spring than ‘the pleasant/satisfying one’.

If the connection of Ἄρε-θουσα with ἄρε-σχω is correct, we have in this verb yet another example of an active deponent, likely with intransitive semantics and without extra-presential forms. It is a matter of secondary concern that the root *\*h<sub>2</sub>erh<sub>1</sub>* does not have clear cognates outside of Greek.<sup>44</sup>

A further possible case is the verb ἐμέθω, a by-form of ἐμέω ‘vomit’ found only in grammarians (Hdn. *GG* iii.i 440; iii.ii 782; CramOx I 87,6). This verb is not particularly likely to be a creation of the grammarians, as it does not serve to “explain” any features of the verb ἐμέω or related forms within their theoretical framework. If a present ἐμέθω did exist at some point, it may be that it was created by any one of various analogies, such as τέλεσμα : τελέω : τελέθω :: ἔμεσμα : ἐμέω : *x* where *x* was resolved as ἐμέθω. But it is also conceivable that a preform *\*μέmh<sub>1</sub>-d<sup>h</sup>* stands behind this present. The *set* character of the root is revealed by Ved. *vámi-ti* ‘vomit’, the acute intonation of Lith. *vém-ti* ‘id.’, the *u* in the preterit of Lat. *vomuī* and in Greek itself by the aor. ἔμεσα (Hom.+) and fut. ἐμέσω (Hp.+).

The verb ἄχθομαι (Hom.+) ‘am heavy, am vexed’ beside ἄχομαι ‘am grieved’ is also a possible candidate for being a  $\vartheta(-\%)$ -present, despite the fact that future ἀχθέσομαι (Hp., Ar., Pl.) and passive aorist ἤχθέσθην (A., Hdt., Thuc., Isoc.) as well as the old iterative ὀχθέω (epic, Hom.+) ‘am vexed’ set this verb apart morphologically from other  $\vartheta(-\%)$ -presents.

Risch (1964:78) has proposed a connection of the Greek verb with Hitt. *h<sub>2</sub>atk<sup>-i</sup>* ‘close’, *h<sub>2</sub>atku-* ‘tight, pressed’, implying a root of the shape *\*h<sub>2</sub>ed<sup>h</sup>g<sup>h</sup>*. This reconstruction is appealing because of the similarity in meaning and form between the Greek verb and the Hittite adjective, and it leads to the correct outcomes in both languages by regular

<sup>44</sup>Within Greek, the verb ἄρεσχω has traditionally been connected with ἀρείων ‘better’ (Myc. *a-ro<sub>2</sub>-a/ar<sup>i</sup>r<sup>i</sup>o<sup>h</sup>a/* KN Ld 571+ ‘better’), ἄριστος ‘best’ and ἄρος· ὄφελος (Hsch.) ‘advantage’ at least since (Boisacq 1916:76). Though such an etymological connection is phonologically unproblematic, the latter forms are perhaps better taken for semantic reasons to derive from the *aniṭ* root of ἄρχω ‘am first’ < *\*h<sub>2</sub>er-sk%* (Nikolaev 2022b:555).

phonology; in Hittite a *u*-stem adjective  $*h_2éd^h\acute{g}^h-u-/*h_2d^h\acute{g}^h-éu-$  would have given *hatku-*, while Grk.  $\acute{\alpha}\chi\theta\omicron\mu\alpha$  would continue a thematic present  $*h_2éd^h\acute{g}^h-é\omicron-$ . But the shape of the putative root  $*h_2ed^h\acute{g}^h$ , which ends in two obstruents, is highly suspect; “thorn” clusters such as this are usually demonstrably secondary in origin as stressed by Lipp (2009:159). The only verbal root known to contain such a cluster is  $*tet\acute{k}$  ‘fashion’, which was abstracted from a reduplicated form of  $*te\acute{k}$  ‘beget’.<sup>45</sup>

The case that  $\acute{\alpha}\chi\theta\omicron\mu\alpha$  is a  $\theta\omicron-$ present is at least as strong, though certainly not conclusive. The stative semantics of this verb (‘am vexed’) lend themselves to this morphological analysis. More importantly, the basic root  $\acute{\alpha}\chi$  ( $< *h_2eg^h$ ) would underlie the thematic present  $\acute{\alpha}\chi\omicron\mu\alpha$  (Hom.) ‘am troubled’ [= Goth. *un-agands* ‘ἀφόβως; unfearing’, cf. OIr. *ad-ágar* ‘fear, dread’], an *s*-stem abstract  $\acute{\alpha}\chi\omicron\varsigma$  (Hom.+) ‘sorrow’  $< *h_2ég^h-es-$ , a *u*-stem adjective  $*h_2ég^h-u-/*h_2g^h-éu-$  ‘sorrowing’, a factitive verb  $*h_2g^h-néu-$  ‘cause sorrow’ ( $\acute{\alpha}\chi\nu\mu\alpha$  ‘am troubled’ beside which also  $\acute{\alpha}\chi\epsilon(\acute{\upsilon})\omega$  Hom., A.R., Q.S. ‘suffer’) and an *i*-stem compound first member  $\acute{\alpha}\chi\iota-[\lambda\lambda\epsilon\acute{\upsilon}\varsigma]$ .<sup>46</sup> A present  $*h_2ég^h-d^h-$  ‘is sorrowful’ would necessarily have been in place early enough to give rise to  $\acute{\alpha}\chi\theta\acute{\epsilon}\omega$  ‘am vexed’  $< *h_2og^h(-)d^h-é\acute{\iota}e-$ . Analogy with the pair  $\acute{\alpha}\chi\omicron\mu\alpha : \acute{\alpha}\chi\omicron\varsigma$  would then have given rise to innovative  $\acute{\alpha}\chi\theta\omicron\varsigma$  (Hom.+) ‘suffering, burden’. But ultimately, the etymology of  $\acute{\alpha}\chi\theta\omicron\mu\alpha$  is not well-enough established for it to feature further in the current study.

### 2.1.2 Deverbal

Because deradical formations with the suffix  $-\theta\omicron-$  often stood beside related verbal and nominal forms where the suffix was absent, the suffix could be reanalyzed by learners as a secondary derivational morpheme and used to create new verbs from other derivational bases. Although both deverbal and denominal pathways could have been exploited,

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<sup>45</sup>Melchert (1984b:168) etymologizes Hitt. *hatku-* as consisting of a prefix *ha-* and the root PIE  $*(s)teg$  ‘close, cover’ (*LIV*<sup>2</sup> 589), which analysis has clear semantic appeal, but encounters morphological difficulties.

<sup>46</sup>Nikolaev (2010:279) suggests that Grk.  $\acute{\alpha}\chi\omicron\varsigma$  and family could reflect a contamination of the two roots  $*h_2eg^h$  ‘fear’ and  $*h_2em\acute{g}^h$  ‘constrict, oppress’, which would have fallen together in the zero grade.

ϑ%-presents were evidently felt to be derived within the averbo, which resulted in deverbal and not denominal derivation being the norm.

These presents fall into four morphological subtypes: verbs extended in -έθω, verbs extended in -άθω, verbs in °ή-θω and verbs in °ύ-θω. Each of these categories has its own distinctive characteristics. Verbs in secondary -έθω are confined to the poetic language, often appearing only in participial form as quasi-adjectives. Those which are in common usage are treated in 2.1.2.1, while those which can be judged to be nonce formations of the poets (usually 3pl. mid. -θοντο) are treated in 2.1.2.4. Deverbal formations in -άθω are also strictly poetic, but these are largely confined to the preterit for unclear reasons. These are therefore treated in 2.2.1 as aorist formations, though their morphological adherence to the present system cannot be doubted. The verbs in °ήθω, in contrast to the other extended subgroups, are regular in prose authors and in every case constitute renewals of earlier contract verbs. These are treated in 2.1.2.2. The verbs φθινύ-θω ‘wane’ and μινύ-θω ‘decrease’, constitute a class unto themselves and are discussed in 2.1.2.3.

Despite being secondary formations, these verbs show largely the same characteristics as do the older, deradical ϑ%-presents. Most are active deponents that are intransitive and confined to the present system.

### 2.1.2.1 Deverbal in -έθω

Three verbs so far discussed could have served as sources for the suffix -έθω. These are τελέθω ‘turn, am’, θαλέθω ‘am in bloom’ and (\*)ἀρέθω ‘am pleasing.’ There may once have been other deradical verbs in °ε-θω (< \*h<sub>1</sub>-d<sup>h</sup>%-) that played a role in this process but that are now lost to us. The morphological reanalysis that led to the abstraction of this suffix would have taken place via pairs like τέλομαι ‘be(come)’ : τελέθω ‘be(come)’, but lies in a period before the time of our earliest texts. The innovative suffix -έθω offered the distinct practical advantages that it avoided awkward consonant clusters and at the same time furnished metrically convenient and flexible forms, especially for hexameter.

φλεγέθω The verb φλεγ-έθω (Hom., Hes., trag.) ‘burn (tr<sup>47</sup> /intr)’ is essentially an extended version of φλέγω ‘burn (tr/intr).’ Its anapestic structure and heavy onset (enabling the easy formation of a choriamb) make it particularly apt for dactylic hexameter. It is used in conjunction with πῦρ (Φ 358 πυρὶ φλεγέθοντι) in the meaning ‘blazing fire’, whence by univerbation the name of the river Πυρι-φλεγέθων (x 513+) in the later epic. But whereas φλέγω is both transitive and intransitive and inflects as both an active and as a passive, φλεγέθω is normally intransitive (see fn. 47) and active in keeping with the larger profile of θ%-presents.

χρεμέθω It is unclear whether the sound-emission verb χρεμέθω ‘whinny’ (A.R., Opp., Hdn., Q.S., Nonn., AP+) is to be understood as a primary present χρεμέ-θω to a root in final laryngeal or as deverbal to a lost present \*χρέμω. This root has exponents in several Indo-European daughter languages, none of which is probative for determining whether or not the root ended in a laryngeal (*IEW* 458–9; *LIV*<sup>2</sup>; see especially Janda 2014:131–142). It likely formed a “*molō*-present” \**g<sup>h</sup>róm(h<sub>1</sub>)-eǵ* : \**g<sup>h</sup>rém(h<sub>1</sub>)-nti* ‘roar’ that is continued in Lith. *gramù* ‘fall with a loud noise’, Latv. *gremju* ‘mumble’ (inf. *gremt*), YAv *gramənt-* ‘ergrimmend; becoming angry’,<sup>48</sup> beside which Balto-Slavic also possessed a formal “stative” that is continued in Lith. *grumiù*, *grumėti* ‘thunder’ = OCS *grъmjъ*, *grъměti* ‘id.’. A nasal

<sup>47</sup>The evidence for transitive usage of φλεγέθω is weak. *LSJ* cites only two instances:

P 738 ὄσσοσσοσσοσσο τὸ τ' ἐπεσσύμενον πόλιν ἀνδρῶν  
 ὄρμενον ἐξαίφνης φλεγέθει, μινύθουσι δὲ οἴκοι  
 “And it (the fire), rushing upon the city of men, suddenly blazes up, and the houses are reduced.”

Ψ 197 ὄσσο ὄφρα τάχιστα πυρὶ φλεγεθόιατο νεκροί  
 “in order that the dead might quickly be burned by the fire.”

Neither of these is probative. In P 738, accusative πόλιν is already governed by ἐπεσσύμενον in the same line (cf. M 143–4 αὐτὰρ ἐπεὶ δὴ τεῖχος ἐπεσσυμένους ἐνόησαν / Τρωῶας) and need not depend on φλεγέθει in the next line. In Ψ 197, medio-passive φλεγεθόιατο by no means guarantees transitive active φλεγέθω.

<sup>48</sup>It is tempting to see in Grk. χρέμπτωμα ‘clear my throat’ the reflex of \**g<sup>h</sup>rém(h<sub>1</sub>)-ǵ%*-, a form comparable to Latv. *gremju* ‘mumble’. Most scholars tentatively posit that \**my* gave \**ny* as seen in βαίνω ‘go’ < \**g<sup>m</sup>ḡm-ǵ%*-, and κοινός ‘communal’ < \**kom-ǵ%*- (so e.g. Schwyzler *Gr.Gr.* I 309). But βαίνω reflects the outcome of syllabic \**ḡ* and is not fully comparable to the case at hand, which leaves only κοινός as a comparandum. A development \**mǵ* > \**m/p|t* could be compared with the regular development of non-nasal \**p<sup>(h)</sup>ǵ* to \**pt* (e.g. σκέπτομαι < \**skēp-ǵ%*-, cf. Ved. *pás-ya-ti*). If χρέμπτωμα (< \**g<sup>h</sup>rém(h<sub>1</sub>)-ǵ%*-) is the reflex of the inherited verb and there was no \*χρέμω, this would suggest that χρεμέθω reflects deradical \**g<sup>h</sup>rémh<sub>1</sub>-d<sup>h</sup>*-.



present to the same root stands behind PGmc. *grimmaną* ‘rage, yell’ (OEng. *grimman* ‘rage, roar’, OHG *crimman* ‘*furit*; rage’, OS *grimman* ‘rage’, see Kroonen 2013:190). A thematic substantive *\*g<sup>h</sup>róm-o-* ‘thunder, rage’ appears in OCS *gromъ* ‘βροντή; thunder’ and is reflected in the glosses Grk. χρόμοις· χρεμετισμοῖς (Hsch.) ‘whinnying’ and χρόμος· ψύχος· ψόφος ποιός· οἱ δὲ χρεμετισμός (Hsch.) “cold”; a kind of noise; whinnying, according to some.” The associated adjective *\*g<sup>h</sup>rom-ó-* is attested in PGmc. *\*grama-* ‘wroth’ (OIc. *gramr* ‘wroth’, OEng. *gram* ‘id.’, OHG *gram* ‘id.’, see Heidermanns 1993:253–4), beside which the adjective *\*grimma-* (OIc. *grimmr*, OEng. *grim(m-)* etc., see Heidermanns 1993:258–9) likely continues *\*g<sup>h</sup>rem-mo-* or *\*g<sup>h</sup>rem-no-* (cf. YAv. *gran-ta-* ‘enraged’).<sup>49</sup>

Within Greek itself, evidence for a lost *\*χρέμω* can perhaps be seen in the verb <sup>(\*)</sup>χρεμίζω, implied by the hapax χρέμισαν (Hes.*Sc.*348, v.l. χρέμιζον EM) ‘whinnied’. For the extension of a simple thematic present to a present in -ίζω without change in meaning, the pairs ἀλέγω : ἀλεγ-ίζω (Hom.+), γέμω : γεμίζω (A.+), ἐρέθω : ἐρεθίζω (Hom.+) can be compared (Schwyzer *Gr.Gr.* I:736). Likewise deverbal is the adjective *\*χρεμετό-* ‘resounding’ that is implied by the verb χρεμετ-ίζω (Hom.+) ‘whinny’, the river name ὁ Χρεμέτης (Arist.*Mete.*350b, Nonn.*D.*13.374, 380) ‘the resounder’ and the gloss χρεμετῶ· ἦχεῖ (Hsch.)<sup>50</sup> ‘resounds’. It is, however, unclear whether *\*χρεμετό-* is to be understood as a *to*-adjective *\*χρεμε-τό-* to a root in final *\*h<sub>1</sub>* (cf. ἐρα-τός ‘beloved’ : ἐρατίζω h.Merc. ‘long after’; *\*pūtó-* ‘rotten’) or as an *etó*-adjective of the type ἔρω ‘slither’ : ἐρπ-ετόν ‘reptile’, εὔχομαι ‘pray’ : πολυ-εύχ-ετος ‘much-prayed-for’, ῥέω ‘flow’ : ὁ Πειτός [sc. ποταμός]<sup>51</sup> (< *\*ρέε-ετό-*) (Vine 1998). But even if no definitive conclusion about the historical morphophonology of χρεμέθω can be reached, this active-inflecting, intransitive, present-only verb shows all of the usual characteristics of a *d<sup>h</sup>*-present.

<sup>49</sup>I do not accept the idea of a resonant “Verschärfung” (*\*VRHV* > *\*VRRV*) for which Lühr (1976) has argued. If *\*g<sup>h</sup>rem(h<sub>1</sub>)* did end in a laryngeal and this did cause gemination, it is difficult to see why the non-geminate *\*m* should have been introduced to PGmc. *\*grama-* ‘wroth’ but not elsewhere (cf. Jasanoff 1978a).

<sup>50</sup>On the suffix *\*-etāǵ%-* in Greek, see the discussion in (Vine 1998:44ff.) with references.

<sup>51</sup>The name of a river in Eleusis, known from the 5th century BC inscription I.Eleusis 41 = IG I<sup>3</sup> 79, which decrees the building of a bridge over the river, and from literary sources.

βρεμέθω      The verb βρεμ-έθω ‘roar’ to βρέμω ‘id.’ was known to Herodian (*GG* iii.i 440,9; iii.ii 427,14) and should likely be restored in an inscriptionally attested Hymn to Isis discovered on Andros and dating to the reign of Augustus. The line reads (*IG* XII,5 739) φλοῖσβο[ν ἐριβ]ρεμέθοντα, ποτὶ κροχάλαισιν ἀράσσως.<sup>52</sup> The word later appears in the fourth-century *Metaphrasis Psalmorum* (×3) of Apollinaris of Laodicea<sup>53</sup> and in the sixth-century poet-grammarians John of Gaza’s Ἐκφρασις τοῦ κοσμικοῦ πίνακος (2.145). It is probable that all of these are drawing on a lost ancient source. The verb βρεμέθω was likely formed by analogy with semantically similar (\*χρέμω :) χρεμέθω ‘whinny’, described above.

φάεθων      The poetic verbal adjective φάεθων (Hom.+, φάεθει· καίει, λάμπει, φαίνει Hsych.) ‘shining’ is used by Homer as an epithet of ἠέλιος ‘sun’ (Λ 735: ε 479, λ 16, τ 441, χ 388) and as a proper name (ψ 246). It appears to be built to the stem of the hapax 3sg. φάε (ξ 502) ‘shone forth’ (cf. φασί-μβροτος Ω 785, κ 138+).<sup>54</sup> That the hiatus reflects a lost digamma is suggested by πιφάουσχω (Hom.+) ‘make manifest’ and other derived forms (see *GEW* II:989ff.). This verb originally made a present \*p<sup>h</sup>ā-mi (φάντα· λάμποντα Hsch.), reflected in Ved. bhā-ti ‘shines’ [= YAv. -uuā<sup>ti</sup> ‘id.’].

Though the stem-final \*<sup>o</sup>u- of φά(φ)-ε could in principle reflect an inherited presential suffix \*-u- as suggested by Specht (1931:58), there is no supporting evidence for such a present outside of Greek.<sup>55</sup> This \*<sup>o</sup>u- is rather more likely to be of nominal origin. Greek inherited a denominal adjective b<sup>h</sup>eh<sub>2</sub>-uont-/-b<sup>h</sup>eh<sub>2</sub>-uent- that is continued in YAv. viiuuant- ‘effulgent’ < \*vi-bhā-uant- (cf. Ved. bhā[nu]mānt- ‘id.’ and bhā[s]-vant- ‘id.’) made to the root noun \*b<sup>h</sup>éh<sub>2</sub>-. This adjective is found in mythical proper names:

<sup>52</sup>The restoration, which is commonly accepted, goes back to Sauppe.

<sup>53</sup>This work is generally assumed to be spurious, though Faulkner (2020) has recently argued for the authenticity of its authorship.

<sup>54</sup>Cf. \*φουσι-, attested in Cypriot *pa-u-si-ti-mo-se*, *pa-u-si-ka-ri-se*, *pa-u-si-ka-se* and *pa-u-sa-to-ro* as well as Pindar’s φασίμβροτος, in the Homeric patronymic Φαυσιάδης (son of Φαυσι-X) and in the Boeotian hypochoresitic Φαυσίων (see Heubeck 1987).

<sup>55</sup>Most reconstructible *u*-presents are made to roots in final °*R(H)*, such as \*t(é)rh<sub>2</sub>-u- ‘overcome’, \*t(é)n-u- ‘stretch’, \*u(e)l-u- ‘turn’, \*s(é)nh<sub>2</sub>-u- ‘attain’, \*s(é)r-u- ‘watch over’, \*sp(é)nH-u- ‘spin’ and \*d<sup>h</sup>(é)nH-u- ‘rush’ (but \*g<sup>u</sup>í(é)h<sub>3</sub>-u- ‘live’ and \*r(é)ít-u- ‘mix’, see *LIV*<sup>2</sup> s.v.v.). It is unclear whether putative \*b<sup>h</sup>(é)h<sub>2</sub>-u- would have been well-formed.

Εὐρυφάεσσα (h.Hom.), Πασιφάεσσα (Arist.*Mir.*), Τηλεφάεσσα (Mosch.) and the adjective πλησιφάεσσα (Doroth.) ‘full of light.’<sup>56</sup>

The adjective *\*p<sup>h</sup>a-μont-* was resegmented as *\*p<sup>h</sup>am-ont-*, which could be understood as a participle, giving rise to the new and marginally attested verb φάε (pr. <sup>(\*)</sup>φά(φ)ω : aor. \*ἔφαυσα [cf. φαυσί-μβροτος]) of which only traces survive, as well as to a new *s*-stem substantive φά(φ)ος.<sup>57</sup> Given the existence of finite 3sg. φάε, it is possible that <sup>(\*)</sup>φάέθω was formed analogically to the finite verbal paradigm, but it is perhaps more straightforward to posit instead the analogical remodeling by the poets of the inherited adjective *\*φά(φ)ων* to metrically convenient φα(φ)έθων via an analogy of the type φλέγων ‘burning’ : φλεγέθων ‘burning’ :: *\*φά(φ)ων* ‘shining’ : *x*, *x* = φα(φ)έθων ‘shining’.<sup>58</sup> The verb in question inflects actively, is intransitive and forms only a present system.<sup>59</sup>

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<sup>56</sup>The theonym Περσόφαττα, a variant of Περσεφόνη, does not belong to this group notwithstanding the spelling Φερσεφάεσσα in an epigram cited by Aristotle (*Mir.* 843b), which imitates the genuine -φάεσσα of these other names. The name Περσεφόνη/Περσεφάεσσα/Περσεφόνεια ultimately goes back to a compound of *\*perso-* ‘sheaf’ (Ved. *parśá-* ‘sheaf’, YAv. *parša-* ‘id.’) and the root *\*g<sup>uh</sup>en* ‘strike’ (see Wachter 2007; Nussbaum 2021a).

<sup>57</sup>Newly made φάος likely replaced the inherited *s*-stem *\*φᾱσ-*, which, as Peters (1993:104<sup>83</sup>) points out, would be the phonologically regular outcome of *\*b<sup>h</sup>eh<sub>2</sub>os-* (rather than φωσ-*\**). For a survey of the case forms of φάος see (Fraenkel 1910:199).

<sup>58</sup>Beside the *\*-μont-*stem, the protolanguage also possessed a more archaic substantive *\*b<sup>h</sup>(é)h<sub>2</sub>-μt̄-/-μén-* that is preserved in Ved. *vi-bhā-van-/var-ī-* ‘shining.’ To this substantive was built the denominative adjective Grk. φαεινός < *\*p<sup>h</sup>a-μen-ιό-* ‘shining.’ Peters (1993:106ff.) argues that the *nt*-stem is a secondary remodeling of the *μén*-stem within Greek (for which he compares ἄκοντ- : ἄκαινα, δράκοντ- : δράκαινα, θεράποντ- : θεράπεινα, λέοντ- : λέαινα), but the existence of the *nt*-stem in Avestan and the lack of a feminine form *-φαινα\** (for attested *-φάεσσα*) suggest that same *μent*-stem belonged already to the protolanguage.

<sup>59</sup>Two other possible εθω-presents might be mentioned. Hesychius gives the gloss καταβλέθει. καταπίνει καταβλέθει ‘swallow’, a verb evidently synonymous with καβλέει. καταπίνει ‘swallow’. These are traditionally connected with βλέτους· αἱ βδέλλα (Hsch.) ‘leeches’ (*DELG* 180; *GEW* I:243) and referred to a quasi-root “βλε” ‘suck.’ βλε is historically ill-formed because it does not end in a consonant. No definite conclusions can be reached concerning this form, which is unlikely to represent an εθω-present.

Tsakonian δάισου is said to continue *\*δαίθω* ← δάω ‘distribute’, see (Brady 1886:100). If such a verb ever existed, it was likely backformed from inscriptionally attested Doric δαυθμός ‘distribution’ (IG IX,1<sup>2</sup> 3:609; IG XII,5 50; IG XIV 352; SEG 47:1427; SEG 47:1427[1]) like κλαύθονται from κλαυθμός (p. 50 fn. 85).

### 2.1.2.2 Deverbal in -ήθω

The contract verbs νῶ ‘spin’, σῶ ‘sift’, κνῶ ‘grate’ and ἄλῶ ‘grind’ were renewed as νήθω, σήθω, κνήθω and ἄλήθω within the historic period. It is immediately obvious that these verbs fit a semantic and morphological profile that differs from that of the other θ<sup>ε</sup>-presents; all are transitive action words related to household economy and all but ἄλῶ were monosyllabic.

The impulse to renew these verbs evidently stemmed from speakers’ discomfort with what was perceived to be a deficient root structure; when the terminations -έω (> -ῶ) and -άω (> -ῶ) etc. of the present were segmented, this left only ν-, σ- and κν- respectively as the stem.<sup>60</sup> For precisely the same reason, σμῶ (inf. σμῆν) ‘wipe’ and ψῶ (inf. ψῆν) ‘wipe’ were renewed as σμήχω and ψήχω/ψώχω on the model of νέω (Hom.*Il.*+) : νήχω (*Od.*+).

νήθω The verb \*νήω ‘spin’ (pr. νεῖ[/*νῆ*] Hes.*Op.*777, νῶσι Ael.*NA.*7.12, Poll.7.32, 10.125 νῶντα· νήθοντα Hsch., ipf. ἔννη Sapph. vel Alc.*Frag.*17 [and gram.], νήθειν Pl.*Plt.*289c+; aor. (ἐπι-)νήσαι Hom+; νένησμαι Ps.-Luc.*Philopatr.*14+; pass. aor. νηθέντα Pl.*Plt.*282e)<sup>61</sup> constitutes a likely starting point for this class. The present stem continues an *i*-present \**snéh<sub>2</sub>-i-* (OIr. *snúid* ‘twists (tr), contends, vexes’, MW *nyðu*<sup>62</sup> ‘spin, twist’, OHG *nāen* ‘sew’, Lat. *nēre*, *nēvī* ‘id.’) : \**snéh<sub>2</sub>-i-* (Latv. *snāju* ‘spin’, cf. OIr. *snáth* ‘thread’) with acrostatic Narten ablaut (Jasanoff *HIEV* 110), the reflexes of which are still found in the writings of Hesiod and the Lesbian poets. By the time of literary Attic, νήθω had become

<sup>60</sup>Similar concerns led to the creation of the pseudo-stem σχε- of σχέ-σις ‘state’, σχέ-μα ‘form’ etc. with -ε- from the thematic vowel of the aorist in place of etymologically correct σχ-.

<sup>61</sup>The “Attic” infinitive \*νῆν, given without asterisk inter alia by Schwyzler (*Gr.Gr.* I:675) and *GEW* (II:311), does not actually occur in any text. It seems that this error goes back to (Cobet 1873:40), who points out that the gloss νεῖν· νήθειν is situated between νημερτής and νηνεμία in the lexica of both Hesychius and Photius, suggesting that this is a corruption of \*νῆν. But Cobet seems to have overlooked the fact that νεῖν also occurs previously in its correct alphabetical ordering in both authors. Cobet has also overlooked the fragment of the 5th-century comic poet Cratinus (Fr.97 = *Μαλθακοί* 4) Ἄμοργόν ἔνδον βρυτίνην νήθειν τινά, which assures (on metrical grounds) that νήθειν was in use at this period and that, pace Cobet, our editions of Plato do not need to correct νήθειν to <sup>+</sup>νῆν.

<sup>62</sup>MW *nyðu* ‘spin’ cannot continue \**snéh<sub>2</sub>-d<sup>h</sup>-*, as this would have given *nīð-\**. It must instead depend on a stem \**snīi-* > *nyð-* as in \**prīi-* > MW *rhyð* ‘free’.

the regular form.<sup>63</sup>

Because  $\nu\eta\theta\omega$  has little in common, beyond its suffix, with the historic class of  $\theta\%$ -presents, it is likely that it came about through a formal analogy. The point of departure may have been the semantically similar verb  $\kappa\lambda\acute{\omega}\theta\omega$  ‘spin’ (cf. Hom. *Od.* 7.196–7  $\kappa\lambda\acute{\omega}\theta\epsilon\varsigma\dots\nu\eta\sigma\alpha\nu\tau\omicron$  ‘the fates spun’). The analogy would have depended on the extra-presential forms: aor.  $\acute{\epsilon}\kappa\lambda\omega\sigma\alpha$  ( $\acute{\epsilon}\pi\iota$ - Hom.+) : pr.  $\kappa\lambda\acute{\omega}\theta\omega$  (Hdt.+) ::  $\acute{\epsilon}\nu\eta\eta\sigma\alpha$  ( $\acute{\epsilon}\pi\iota$ - Hom.+) :  $x$  where  $x$  was solved as  $\nu\eta\theta\omega$  (so *LIV*<sup>2</sup> 572). The secondary character of  $\nu\eta\theta\omega$  beside earlier  $\nu\eta\gamma$ - is clear from the attestations. Renewed  $\nu\eta\theta\omega$  had the further advantage of distinguishing this verb from  $\nu\acute{\epsilon}\omega$  ‘heap up’ and  $\nu\acute{\epsilon}\omega$  ‘swim’.

The verb (-) $\kappa\nu\alpha$ ( $i$ )/- $\kappa\nu\tilde{\omega}$  ‘scratch’ (pr.  $\acute{\epsilon}\pi\iota\kappa\nu\tilde{\omega}$  Ar. *Av.* 1582,  $\acute{\epsilon}\pi\iota\kappa\nu\tilde{\eta}\varsigma$  Ar. *Av.* 1586,  $\acute{\epsilon}\pi\iota$ -  $\kappa\nu\tilde{\omega}\sigma\iota\nu$  Ar. *Av.* 553,  $\kappa\nu\tilde{\alpha}$  Plut. *Moralia.* 61e,  $\kappa\nu\tilde{\eta}\tau\alpha\iota$  Hp. *Fract.* 21,  $\kappa\nu\tilde{\alpha}\tau\alpha\iota$  Plut. *Pomp.* 48.7, Gal. [ed. Kühn] 10.979.17, *Hippiatr.* 93.19+) ipf.  $\kappa\nu\eta$  Hom. *Il.* 11.639, inf.  $\acute{\epsilon}\chi$ - $\kappa\nu\tilde{\alpha}\nu$  Hdt. 7.239,  $\kappa\nu\tilde{\eta}\nu$  *Com. Adesp.* 722, gram.,  $\kappa\nu\tilde{\eta}\sigma\theta\alpha\iota$  Pl. *Grg.* 494c, Galen (ed. Kühn) 4.181.15,  $\pi\rho\omicron\sigma\kappa\nu\tilde{\eta}\sigma\theta\alpha\iota$  X. *Mem.* 1.2.30,  $\kappa\nu\tilde{\alpha}\sigma\theta\alpha\iota$  Plut. *Moralia.* 89e, 1091e, ptcp.  $\kappa\nu\tilde{\omega}\mu\epsilon\nu\omicron\iota$  Arist. *HA.* 611b,  $\kappa\nu\tilde{\omega}\sigma\alpha\iota$  Plut. *Moralia.* 786c,  $\kappa\nu\tilde{\omega}\nu\tau\epsilon\varsigma$  Babr. 94; pr.  $\kappa\nu\eta\theta\omega$  *Trag. Adesp.* 383, Arist. *HA.* 609a, *Pr.* 957b, Melamp. *Περὶ Πάλμῶν.* 21, *AP* 12.238.8) has the same morphological profile as  $\nu\eta\theta\omega$ . This verb likewise goes back to an  $i$ -present  $*knéh_2-i$ - (OHG *nuoen* ‘plane’, Lith. *knóju*, *knóti* ‘peel’, OIr. *.cná* ‘gnaw’)<sup>64</sup> in Proto-Indo-European (Jasanoff *HIEV* 111). The renewed present  $\kappa\nu\eta\theta\omega$  is less robustly and somewhat later attested than is the case for  $\nu\eta\theta\omega$ , suggesting that it followed the latter. Here also the extra-presential forms, chiefly aor.  $\acute{\epsilon}\kappa\nu\eta\sigma\alpha$  (Hp., Pl.+), formed the basis for analogy.

The more sparsely attested verb  $\sigma\acute{\alpha}\omega$  (pr.  $\sigma\tilde{\omega}\sigma\iota$  Hdt. 1.200, EM  $\tau\tilde{\omega}$ , gramm.;  $\delta\iota\alpha$ - $\tau\tau\acute{\alpha}\omega$   $\sigma\eta\theta\omega$  Hp. *Ulc.* 21, Pl. *Sph.* 226b+) ‘sift’ evidently contained the sequence  $*K_2^\circ$  or  $*T_2^\circ$  in its onset. Since Puhvel (1984–2013:4,179–82), the Greek verb has standardly and plausibly been derived from a root  $*k_2^\circ eh_2$  that also stands behind Hitt. *kinæ*-<sup>zi</sup> ‘sort’. The present variant ( $\acute{\alpha}\pi\omicron$ -) $\sigma\eta\theta\omega$  is found only in medical authors and beginning in the 5<sup>th</sup> century (Herodicus

<sup>63</sup>Aelian’s 3pl.  $\nu\tilde{\omega}\sigma\iota\nu$  is likely archaizing.

<sup>64</sup>It is unclear from the attested verbal forms whether this present showed  $e : z$  or  $\bar{e} : e$  ablaut.

apud Ath.13.591c, Zenon Papyri (ed. Edgar) 761.3, 4+; mid. σήθεται Galen). We must assume a similar analogical replacement of σάω by σήθω, likely starting from the poorly-attested aorist ἔσησα (Hp.). The synonymous verbs σήθω ‘sift’ and (denominative?) (-)ηθέω (Hdt.2.86+) ‘sift’ doubtless influenced each other in their development, but the details cannot be recovered.

**ἀλήθω** The verb ἀλήθω (Hp., Aesop., Thphr., LXX., Herod.; μηνὸς Ἀληθιῶνος ‘the milling month’ Iasos, Caria SEG 4, 224) differs from the other ηθω-presents in being the renewal of a polysyllabic verb and in possessing a short-vowel aorist ἤλέ-σα (Hom.+). This aorist suggests a laryngeal-final root *\*h<sub>2</sub>elh<sub>1</sub>* (cf. further ἄλε-τρις ‘woman who grinds’). It was perhaps the common collocation of ἀλέω (Hdt., Hp., Ar.+) ‘grind’ and σήθω ‘sift’ that led the former to be remade to ἀλήθω.

If the above discussion sheds rather a dim and inadequate light on the history of the renewed forms in -ήθω-, for the purpose of the present study even this inconclusive survey adequately shows that these are an idiosyncratic innovation of historic Greek and have little to tell about the deeper history of the formant.

### 2.1.2.3 Deverbal in °ύθω

The verbs φθινύθω ‘waste away, destroy’ and μινύθω ‘diminish’ form a clear morphological and semantic pair, and together with βαρύθω ‘am heavy’ constitute the entire class of °υθω-presents. The verb βαρύθω will be treated below in the section on denominal formations together with βρῖθω (2.1.3). The other two are likely deverbal rather than denominal, but have a complex history that is not clear in all of its details.

**φθινύθω** As there is no evidence whatsoever to support the reconstruction of an adjective \*φθινύ-, the verb φθινύθω (Hom., E., A.R., Opp., Gal.) ‘waste away (Il.+), destroy (Od.+)<sup>65</sup> is best referred to the verb φθίνω (Od.+) ‘waste away’, which is found in both

<sup>65</sup>The transitive usage, not found in the Iliad, could represent a genuine expansion of this verb’s valency effected through the passage of time but, given the apparent archaic nature of this verb, more likely depends on misunderstandings of earlier epic. We find as an Iliadic prototype:

A 490–92 οὐτέ ποτ’ εἰς ἀγορῆν πωλέσκετο κυδιάνειραν



resulted from the thematization of  $h_2e$ -conjugation nasal presents with 3sg.  $*-ny-e(i)$  ( $\rightarrow$   $*-ny-e-ti$ ).<sup>69</sup>

It is impossible to know whether Greek also once had a factitive  $*\varphi\theta\acute{\iota}\nu\mu\iota$  ‘make decrease’, the counterpart of Ved.  $k\check{s}in\acute{a}-ti$  ‘destroy’ or its medial  $*\varphi\theta\acute{\iota}\nu\mu\iota$  ‘decrease’ beside quasi attested  $(*)\varphi\theta\acute{\iota}\nu\omega$ . In principle  $\varphi\theta\acute{\iota}\nu\theta\omega$  can have been made to any of these forms. Importantly, the verb that resulted from the addition of the suffix was an active deponent, in keeping with the profile of  $\vartheta\%$ -presents, and its exclusively intransitive usage in the Iliad is likely a semantic archaism.

$\mu\nu\acute{\nu}\theta\omega$  In the case of  $\mu\nu\acute{\nu}\theta\omega$  (poet., Hom.+, also Hp.) ‘diminish (tr/intr)’, no verb is attested from which the  $\vartheta\%$ -present could have been derived (i.e.  $\acute{\mu}\acute{\iota}\nu\omega*$ ,  $\acute{\mu}\acute{\iota}\nu\mu\iota*$  or  $\acute{\mu}\acute{\iota}\nu\mu\iota*$ ).<sup>70</sup> There is nevertheless good comparative evidence for a nasal-infix present PIE  $*mi-n\acute{e}-y-$ / $*mi-n-u-$ . Such a present is likely continued in Lat. *minuō*, *-ere* ‘make small’ [= Osc. **menvum**].<sup>71</sup> In Sanskrit, the reflex of this verb might have been expected to be  $min\acute{o}-ti$  ‘make small’. Such a form is indeed attested at RV V 45,5, but elsewhere the *no*-present has been remade to  $min\acute{a}-ti$ , likely under the influence of semantically similar  $k\check{s}in\acute{a}-ti$  ‘destroy’ (also  $k\check{s}in\acute{o}-ti$ ). Innovative  $min\acute{a}-ti$  ‘make small’ provided the advantage that it was easy to distinguish from  $min\acute{o}-ti$  ‘establish’.<sup>72</sup> This *nu*-present in turn implies

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“*mi*-conjugation” root aorist and the  $h_2e$ -conjugation root aorist (viz.  $*\acute{\iota}\acute{\epsilon}y\acute{g}-t$  ‘yoked’ [Ved. *yojam* ‘id.’] :  $*\acute{\iota}\acute{o}y\acute{g}-e$  ‘was yoked’ [Ved. *yoji* ‘id.’]).

<sup>69</sup>The usual explanation, that Grk.  $*-ny-$  was extracted from the third person plural (so *LIV*<sup>2</sup> 152<sup>11</sup>) is formally questionable and semantically untenable, especially given this better alternative.

<sup>69</sup>The verb “ $\mu\nu\nu\theta\acute{\epsilon}\omega$  ‘reduce’ given in *LSJ* 1135 is textually doubtful in the present and of course need not be posited to account for the factitive aorist/future stem  $\mu\nu\nu\theta\acute{\eta}-\sigma-$  ‘make diminish.’

<sup>70</sup>A participle  $\mu\nu\acute{\nu}\mu\epsilon\nu\alpha$  ‘attenuated’? in Galen (ed. Kühn 18,2 p. 891) could point to  $*\mu\nu\nu\omega\mu\alpha$ . But this word is more likely a scribal error for  $+\mu\nu\nu\acute{o}\mu\epsilon\nu\alpha$ , and little weight can be placed on it in isolation.

<sup>71</sup>Technically, Lat. *minuō* is formally ambiguous. The case of *sternuō* ‘sneeze’ [ $\approx$  Grk.  $\pi\acute{\tau}\acute{\alpha}\rho\nu\mu\alpha$  ‘id.’] confirms that the expected outcome of an inherited *nu*-presents in Latin is a thematic verb. It is also possible that *minuō* is denominative to a stem  $*minu-$  (in *mini-mus*?) like *statuere* ‘put in place’ to *status* ‘standing, position’ (so Leumann 1977:543).

<sup>72</sup>Wackernagel (1926) has argued that the R̥gvedic sbj. *minavāmā* (V 45,5) is a nonce formation created on the model of *bhavāma* in the preceding pāda. The hapax is done away with in a different way by Geldner (1951) and Thieme (1941:82ff.), who propose emending the line in question *prá ducchúnā minavāmā várīyah* (as witnessed in the manuscript tradition and the *padapāṭha*) to *prá + ducchúnām*



either a verbal root *\*m̥iey* SMALL or an adjective *\*m̥éχ-u-/\*m̥χ-éy-* ‘small’, a reflex of which can be seen in Hitt. *mi-e-wa-aš* ‘four’ (← *\*‘less than (five)’*, see Heubeck 1963:201–2).<sup>73</sup> That the root itself ended in *\*u* is suggested by the fact that this *\*u* appears not to have been substitutively dropped in the comparative Myc. *me-wi-jo* ~ *me-u-jo* / *mei-w-jōs* / ‘less’ (Grk. μείων ‘id.’). An unexpected *u* is also to be found in PGmc. *\*minnizan-* ‘smaller’ (Goth. *minniza* ‘id.’, OIc. *minni* ‘id.’, OHG *minniro* etc., see Heidermanns 1993:412) continuing *\*mi[n]-y-is-on-*,<sup>74</sup> and perhaps in the Latin superlative *\*mini-mus* ‘smallest’ if from *\*mi[n]u-mo-*.<sup>75</sup> It might further be noted that if the basic root was *\*m̥iey* SMALL, the regularly-formed deradical nasal-infix present *\*mi-né-y-ti* ‘make small’ likely then served as the starting point for deadjectival nasal-infix presents in *\*-ney-* of the type *\*d<sup>h</sup>eb<sup>h</sup>-u-* ‘small’ (Hitt. *tēpu-* ‘small’) → *\*d<sup>h</sup><sub>e</sub>b<sup>h</sup>-né-y-ti* ‘make small’ (*tepnū-zi* ‘make small, belittle’, Ved. *dabhnóti* ‘deceive’). Given that a nasal-infix present doubtless existed in Proto-Indo-European and that *ṽ*-presents are generally deradical or deverbal, it is natural to assume that μινύθω is deverbal as well.

But there is also at least a possibility that μινύθω is denominal to an adjective *\*minu-* ‘small’, which could underlie Homeric μίνυν-θα ‘for a short time’ and μινυνθάδιος ‘short-lived’ (unless this is to be segmented μίνυ-νθα with the ending of ξνθα) as well as μινυρός ‘whimpering’ (Hsch. μινυρόν· μικρόν, ὀλίγον ‘small’).<sup>76,77</sup> This *\*minu-*, which goes back to

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<sup>+</sup>*inavāmā vārīyaḥ*. The proposed emendation is not implausible, but it is motivated solely by a desire to eliminate a form that both has a good etymological basis and is later attested in the Naighaṇṭu (and in the *Bhāgavatapurāṇa*), and is therefore not desirable.

<sup>73</sup>On this root and its derivatives see especially (Osthoff 1910:230ff.; Wackernagel 1926:1ff.; Strunk 1967:80ff.; Lamberterie 1990:1,200f.; Eichner 1992:77f.)

<sup>74</sup>A preform *\*meny-is-on-* is equally possible, cf. OIr. *menb* ‘small’.

<sup>75</sup>If this is correct, *\*minu-mo-* would likely have had an important influence on the shape of superlatives in *-imus* < *\*(m̥)mo-* for expected *-mus\**.

<sup>76</sup>Compounding μίνυ- in μίνυ-ώρ(ι)ος (Tryph., Nonn.+) ‘short-lived’, μίνυ-ανθής (Nic.+) ‘blooming for a short time’, and the gloss μινύ-ζήρον· ὀλιγόβιον (Hsch.) (cf. Osthoff 1910:231ff.) is formally ambiguous and can be of either nominal or verbal origin.

<sup>77</sup>A verb μινύω is attested in a Middle Byzantine “schedographic” lexicon (BoissAn p. 392), as though from the grammarians’ adjective μινυός (Hdn., Eust.+).

the protolanguage (PGmc. \**minnizan-* ‘smaller’, OCS *мѣньѣ* ‘id.’), was created under the influence of the nasal-infix present, for which Eichner (1992:77) aptly compares innovative Ved. *dhṛṣṇú-* (beside *dhṛṣṇóti*) for \**dhṛṣ-u-* (> Grk. *θρασύς*).<sup>78</sup>

Because preforms for both the deverbal and the denominal pathway can be securely reconstructed, the determination of which of these is correct must lie in an evaluation of the derivational morphology that would have been employed to create *μινύθω* from these. Here, the deverbal account poses few problems, as the suffix *-θ<sup>ε</sup>%-* was used deverbally in Greek. The denominal pathway is less direct. Given an adjective PGrk. \**minu-*, speakers of Greek might have been more likely to coin a *μινύνω\** ‘make small’ following the pattern of *εὐθύς* ‘straight’ : *εὐθύνω* ‘make straight’, *βαθύς* ‘deep’ : *βαθύνω* ‘deepen’, *παχύς* ‘stout’ : *παχύνω* ‘make stout’. There is also no evidence for a hypothetical compound \**minu-d<sup>h</sup>h<sub>1</sub>-ó-* ‘making small’ or the like from which a thematic verb might eventually have been backformed, as will be argued for *βρῦθω* (and indirectly also *βαρῦθω*) below (2.1.3). For these reasons, a deverbal origin is more likely.

#### 2.1.2.4 Homeric nonce formations

It is by now well established that the bards, for both stylistic and practical reasons, pushed the limits of their language by innovating on patterns from the received tradition. New forms could supply metrically convenient alternatives for oral composition while at the same time recalling prototypes from within the epics. Several nonce formations involve the suffix *-θ<sup>ε</sup>%-*.

The Homeric verbs *ἠγγερέθοντο* ‘gathered’, *ἠερέθοντα* ‘hover’ and *νεμέθοντο* ‘were feeding (intr)’ are clear instances of bardic creations, and the suffix in these appears to have served a purely metrical purpose. These three words share the peculiarities that they are all medial, going against the prevailing diathetic trend for verbs bearing this suffix, and that their attestations are concentrated around the third-person plural. This combination of facts suggests that these may have taken their start in imitating the sound and metrical

<sup>78</sup>Cf. further Ved. *táp-u-* ‘hot’ beside innovative substantive YAv. *taf-nu-* ‘fever’.

shape of active participial formations like φλεγέθοντι (Φ 358) ‘burning’ (beside φλέγω ‘burn’), substituting in 3pl. mid. -οντο in the verse for the ending of the participle. The fact that there is no clear template within the epics that would account specifically for these forms in the contexts in which they occur weakens but does not invalidate this proposal.

The verb Grk. ἡγερέθοντο (×13, ἡγερέθονται Γ 231, ἡγερέθεσθαι Κ 127) ‘gather (intr)’ ἡγερέθοντο bears a clear affinity to Grk. ἀγείρω ‘gather (tr)’. Its status as an invention of the bards can be seen in its augmented present and its near confinement to the third-person plural. Functionally, it served as an extended version of the aorist<sup>79</sup> (-)αγέροντο (Β 94, Σ245, Θ 321, λ 36, υ 277) and was ideal for closing a line of hexameter. The over-representation of 3pl. pret. ἡγερέθοντο suggests that this form was the locus of the innovation and that it did not, as a formulaically-embedded nonce formation, originally belong to a full paradigm. The augmented, line-final infinitive ἡγερέθεσθαι in the Doloneia, a late addition to the epic, is an obvious innovation based on earlier ἡγερέθοντο. So also the line-final augmented present hapax ἡγερέθονται, which has a well-represented *varia lectio* ἡγερέθοντο.<sup>80</sup>

The rhyming verb ἡερέθοντα (Β 448 [v.l. ἡερέθοντο],<sup>81</sup> Γ 108, Φ 12) ‘hover’ appears ἡερέθοντα only at verse end and only in the third-person plural. It bears the same morphological

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<sup>79</sup>ἀγέροντο is generally taken to be an aorist, but the full-grade root would of course be more at home in the present system, while the frozen participle ἀγρ-όμενος shows the zero grade that would be expected of a thematic aorist. It cannot be ruled out that the original paradigm was pr. (\*ἀγέρω (tr), (\*ἀγέρομαι (intr), aor. ἡγείρω [= Myc. *a-ke-ra<sub>2</sub>-te?*], (\*ἡγρόμην (intr), comparable in the active to μένω : ἔμεινα, and that a new present ἀγείρω, based on the aorist (after compensatory lengthening), took the place of (\*ἀγέρω at a late stage in the language. *LIV*<sup>2</sup>’s (276) explanation, namely that these two aorists were “thematisiert von beiden Ablautstufen,” is without clear parallels.

<sup>80</sup>Cf. (Schulze 1892:149). The adoption of the augment into the present system in the poetic language was encouraged by the compounding form found in Grk. νεφελ-ηγερέτᾱ- ‘cloud gatherer’, though as Leukart (1994:291) notes, -ηγερέτᾱ- could also be derived from ἐγείρω ‘rouse’.

<sup>81</sup>Gal. *De placitis Hippocratis et Platonis* (ed. de Lacy) 9.8.7 gives ἡερέθοντο. The Homeric scholiasts knew ἡερέθοντο and the commentator of Venetus A says that Aristonicus preferred this form. Hesychius and the *Etymologicum Magnum* both include glosses of ἡερέθοντο. In addition to this, Apollonius of Rhodes uses ἡερέθοντο five times and always in line-final position, likely depending on Β 448. Wackernagel (1920:1,184–5) has shown that the imperfect here is consistent with the usage of the imperfect in Homer and other Greek authors, though this does not preclude the authenticity of the present in this passage.

relationship to ἀείρομαι ‘float’ as does ἡγερέθοντο to ἀγείρομαι, and the close similarity of the two poetic forms and the persistent augment suggest that presential ἡερέθονται depends on preterital ἡγερέθοντο.

νεμέθοντο The Homeric hapax νεμέθοντο (Λ 635) ‘were feeding (intr)’ stands in precisely the same relationship to (ἀμφ-)ενέμοντο (Π. ×18) as does ἡγερέθοντο to ἀγέροντο. The verse in question reads:

Λ 634–35 – υ υ – δοιαὶ δὲ πελειάδες ἀμφὶς ἕκαστον  
 χρύσειαι νεμέθοντο, | <sup>5.5</sup> δύω δ’ ὑπὸ πυθμένες ἦσαν.

“and around each (handle) two golden doves were feeding, and there were two bases<sup>82</sup> below.”

This line appears to contain an adaptation of a formula that places ἐνέμοντο (υ υ – υ) immediately before the penthemimeral caesura (B 496, 504, 571, 583, 591, 605, 633, 639, 655, 711). The substitution of metrically equivalent but consonant-initial νεμέθοντο allows the verb to stand after a word ending in a vowel while preserving its medial inflection. As a hapax, the word must be suspected of being a nonce formation based on ἡγερέθοντο, though in principle a primary formation νεμέθομαι < \**némh<sub>1</sub>-d<sup>h</sup>* is possible.<sup>83</sup>

ἐν-έπρηθον The Homeric hapax ἐν-έπρηθον (I 589) ‘set in flames’ is a different kind of nonce formation. This imperfect belongs to the larger complex pr. πί(μ)πρημι (A., X.+) ‘blow, inflame’, aor. ἔπρησα (Hom.+) [ἔπρεσε/ἔπρεε Hes. *Th.*856], pf. (ὑπο-)πέπρηκα (Hp., D.C., Alciphhr.), πέπρη(σ)μαι (Hdt.+), aor. ἐπρήσθη (Hp., Hdt., X.+).<sup>84</sup> The line reads:

I 588–89 πρίν γ’ ὅτε δὴ θάλαμος πύκ’ ἐβάλλετο, τοὶ δ’ ἐπὶ πύργων

<sup>82</sup>For a discussion of what part of the cup πυθμένες might refer to see (Hainsworth 1993:292f). Note also the varia lectio ὑποπυθμένες.

<sup>83</sup>On the reconstruction of \**némh<sub>1</sub>* with final laryngeal see (*LIV*<sup>2</sup> add. s.v. 1\**nem* → \**némh<sub>1</sub>*) with references.

<sup>84</sup>The verb κατεπρήθοντο Q.S.13.436 is dependent on Homer, while παῦε, μὴ πρήθου (Babr.1.28) ‘stop, don’t inflate yourself’ (said to a frog) is a learned form that likely depends on Homer via the grammarians. These cite a present πρήθω together with its supposed aorist ἔπραθον (Hdn. iii.ii.358, 800 etc.). The overly lively profile that “πρήθω” has enjoyed in the modern scholarly literature is due in part to the lack of clarity concerning the status of the present in *LSJ*.

βαῖνον Κουρήτες | καὶ ἐνέπρηθον μέγα ἄστυ.

“...until his room was being frequently shot at, and the Curetes were upon the fortifications and setting fire to the great city.”

This present formation has no cognates outside of Greek and is a priori much more likely to be an innovation of the poet than an ancient inheritance. The source of the innovation is not far to seek. Both the aorist and the future of ἐπι(μ)πρημι are common in the epics, and I 89 can be compared with the following verses:

M 198 – – – – | καὶ ἐνιπρήσειν πυρὶ νῆας

“...and set fire to the ships...”

O 417 – ∪ ∪ – ∪ ∪ – | καὶ ἐνιπρήσαι πυρὶ νῆα

“...and set fire to the ship...”

X 374 – – – ∪ ∪ νῆας | ἐνέπρησεν πυρὶ κηλέω.

“...and set burning fire to the ships.”

The formal analogy by which the innovative present “ἐμπρήθω” was created was:

ἐπι(μ)πλημι (Hom.+) : ἐνέ[ι]πλησα (Hom.+) : ἐμπλήσω (Hom.+) : πλήθω (Hom.+) ::

ἐπι(μ)πρημι (Hdt.+) : ἐνέ[ι]πρησα : ἐμπρήσω (Hom.+) : *x*

where *x* was solved as ἐμπρήθω (i.e. ἐνέπρηθον). The analogy was purely formal; ἐμπρήθω ‘burn (tr)’ does not imitate the intransitive semantics of πλήθω ‘am full’.

Finally, the line-final pseudo-participle contained in the phrase || μακρὰ βιβάζων (N βιβάζων 809, O 676, Π 534) ‘taking broad strides’ belongs strictly to the Homeric language. This form was evidently created by the epic poets in order to supply a nominative to line-final || μακρὰ βιβάντα (Γ 22; cf. (προ-)βιβάντα/-ι/-ος N 371, 807, Π 609 [vv.ll. (προ-)βιβῶντ-]), as the “correct” form of the nominative, μακρὰ βιβάζ (H 213, O 307, 686, ι 450; βιβᾶσα λ 539 [v.l. βιβῶσα]) was not suited for this position in the verse. Its morphology has never been

adequately explained. Fraenkel (1952:144f.) suggests that a model was supplied by ἀσθών ‘breathing out’ beside ἄιον ‘breathed out’, an idea that can also be found in the scholia vetera (ad N 809) and Herodian (*GG* iii.i.440, iii.ii.88, 292). But no exact proportion can be set up to give attested βιβάσθων, and the verb ἄιον is if anything more problematic than βιβάσθων, rendering this explanation a case of *obscurum per obscurius*. Schwyzer’s (*Gr.Gr.* I:703<sup>8</sup>) suggestion that βιβάσθων is a reworking of βιβάς θην (‘having verily stepped’) is undermotivated and has little explanatory power. Specht (1940) sets up a difficult-to-justify preform \**g<sup>u</sup>ig<sup>u</sup>ask<sup>uh</sup>ōn* that, according to this scholar, gave \**g<sup>u</sup>ig<sup>u</sup>ast<sup>h</sup>ōn* by an unparalleled and implausible process of long-distance velar dissimilation. Pisani (1944:536f.) suggests that βιβάσθων has replaced βιβάστων in order to give the former an archaic air. He points to βεβρωκώς beside the hapax βεβρώθοις ( $\Delta$  35) as a possible model. None of these explanations is fully compelling and the correct explanation is undoubtedly still to be sought. As far as the current study is concerned, it will suffice to note that βιβάσθων is a meter-made Homeric form that has drawn inspiration from genuine θ%-presents but is not one itself.<sup>85</sup>

### 2.1.3 Denominal -θ%-

Verbs in suffixal -θ%- are basically deradical and deverbal in Greek. Only the related and synonymous verbs βρέθω ‘am heavy’ (aor. ἔβρισα+ Hom. ‘weighed down’) and its

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κλαύθονται <sup>85</sup>A hapax κλαύθονται ‘lament’ appears in a fragmentary epigram on the death of Phaethon, possibly by Alcaeus of Messene, that is preserved on a papyrus of the early first century BCE (Tebtunis Papyri 3 [= *Supplementum Hellenisticum* Fr.988]). Editors have generally explained this form as an incorrect spelling of κλαύσονται (as though a hypercorrect Ionicism by a speaker of Laconian). But if the form does not contain an error, it likely owes its θ to the substantive κλαυθμός ‘lamentation’ (Hom.+).

[έ]σπερέθω Pseudo-Hesiod reportedly speaks of two women, Ἐρύθεια and Ἐσπερέθουσα (Servius ad Aen. IV 484 *Hesiodus has Hesperidas Aeglen, Erytheam, Hesperethusam, Noctis filias, ultra Oceanum mala aurea habuisse dicit*, cf. A.R. apud Scholia in Clementem Alexandrinum ad *Protr.*14.13 “ἡ δὲ Ἐρύθεια καὶ Ἐσπερέθουσα βοῶπις” ὡς φησιν Ἀπολλώνιος ὁ Ῥόδιος. A slightly different formulation is found in Proclus, who speaks of Αἴγλην τε καὶ τὴν Ἐσπερέθουσαν Ἐρίθειαν; *in Tim.*, ed. Diehl vol. 3 p. 144). It is easy to imagine that folk-tradition could have transformed some similar-sounding verbally-derived proper name into attested Ἐσπερέθουσα out of a desire to connect the ‘maidens of the evening/west’ with the word ἔσπερος ‘evening, west’. It is perhaps with this in mind that Hesychius’ gloss Ἐσπερέθοντα [viz. +Ἐσπερέθοντο?]. ἔσπερον. ἔσπειρον ‘evening; sowed’ and Herodian’s σπερέθω (*GG* iii.i.440; iii.ii.427) should be evaluated. But it remains unclear what morphological relationship could connect σπείρω ‘sow’ to σπερέθω ‘sow’?, though the pair does recall ἀγείρωμαι : ἡγερέθοντο and ἀείρωμαι : ἡερέθοντο.

less-common and poetic counterpart βαρῦθω ‘id.’ have the appearance of being denominal formations.

The verb βαρῦθω, -ομαι (Hom., Hes., Hp., Pi., A., Pl., Arist.+) ‘am heavy’, which forms βαρῦθω no word equations with any verb outside of Greek, can be mechanically retrojected to a preform  $*g^u riH-d^h-$ . The basic root can hardly be any other than that which underlies the adjective  $*g^u réH-u-$ / $*g^u r̥H-éu-$  ‘heavy’ (Grk. βαρῦς ‘heavy’, Ved. *gurú-* ‘id.’, Lat. *grav[i/s]*). The most likely starting point for the element  $*g^u riH-$ , which cannot be derived from  $*g^u reH$  by any known morphological process, would have been the *i*-stem substantive  $*g^u r̥H-i-$  (see García Ramón 2009:13–5).<sup>86</sup> Before a consonant, the suffixal vowel and the laryngeal were metathesized, giving  $*g^u riH-C^\circ$ . Precisely this metathesized form is preserved in the compound Ved. *grīṣmá-* ‘summer’, which Wackernagel (1934:197f.) has analyzed as consisting of (in updated notation)  $*g^u riH-$  ‘heavy’ and the zero-grade of *semh<sub>2</sub>*- ‘season’ (YAv. *ham-* ‘summer’, Ved. *samā-* ‘season’) with an original meaning ‘die Zeit des starken Sommers’.<sup>87</sup> A parallel *u*-stem form  $*g^u ruH-$ , likewise with laryngeal metathesis, has long been seen as underlying Lat. *brū-tus* ‘heavy, dull’ (*WH* I:117–8). Crucially, metathesized  $*g^u riH-$  and  $*g^u ruH-$  would have drawn support from the shape of full-grade  $*g^u reH$ , the samprasāraṇa ablaut of which is preserved in Ved. *grā-van-* ‘pressing

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<sup>86</sup>An *i*-stem  $*g^u r̥H-i-$  could be continued in Arm. *kar* ‘power’ if not an Iranian loan word (see Klingenschmitt 1982:139).

<sup>87</sup>The laryngeal in the compound second member would have been regularly lost via the “νεόγνος rule”, viz.  $*g^u riH-sm̥H[-ó]- > *g^u riH-sm[-ó]-$  and so Wackernagel’s etymology can be upheld in post-laryngeal terms (pace Beekes 2009:239).

stone' < \**g<sup>u</sup>réH- $\mu$ on* (cf. Peters 1988:376).<sup>88,89</sup>

A record of an adjective \**g<sup>u</sup>riH-d<sup>h</sup>h<sub>1</sub>-ú-* 'heavy', containing as its first member the compounding *i*-stem substantive and as its second member the verbal root \**d<sup>h</sup>eh<sub>1</sub>* 'put', is preserved in βρῑ-θύ-ς (Hom.+)' heavy'. The shape of this compound can attractively be compared with that of Latin verbal adjectives in *-idus* such as *rūbidus* 'red' (< \**h<sub>1</sub>ro $\mu$ d<sup>h</sup>-i-d<sup>h</sup>h<sub>1</sub>-o-*), which are in essence the compound version of "cvi-construction" syntagmas (see Nussbaum 1999; Balles 2006). Because of its property-concept semantics, βρῑθός came to form part of a Caland system in Greek that included the substantives βρῑθος 'heaviness' and βρῑθοσύνη 'id.', the compound second member -βρῑθής as well as the adjectives βρῑ-αρός (Hom.+)' and βρῑ-ερός<sup>90</sup> 'strong' made to the non-compounded stem and likely replacing earlier \*βρῑ-ρός (cf. μῑαρός for expected \**mī-ró-* on account of μῑαίνω < \**mīa-nī<sup>o</sup>-* < \**mī-H $\eta$ H $\acute{\iota}$ <sup>o</sup>-*).

It is surely in this complex of morphologically well-motivated Caland forms that the

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<sup>88</sup>A similar *i*-stem with laryngeal metathesis can likely be seen in Ved. *gabhi $\bar{r}$ -rá $\bar{r}$ -* 'deep', well attested in all periods, with long  $\bar{i}$ - in place of expected *gabhirá*-\* < \**gab<sup>(h)</sup>H-rá-* < \**g<sup>uh</sup>mb<sup>h</sup>h<sub>1</sub>-i-ró-* (on the shape of the root see Nikolaev 2019 who equates the Vedic form with Grk. δὺσπέμφελος 'dangerous (of the sea)'; on the outcome of interconsonantal laryngeals in Vedic, see Jamison 1988). The key to the problem of the quantity of the *i* lies in the fact that the root \**g<sup>uh</sup>emb<sup>h</sup>h<sub>1</sub>* DEEP can be expected on semantic grounds to have formed a Caland system, which included an *i*-stem compound first member \**g<sup>(u)</sup>mb<sup>(h)</sup>h<sub>2</sub>-i-* before vowels but \**g<sup>(u)</sup>mb<sup>(h)</sup>ih<sub>2</sub>-C<sup>o</sup>* before consonants. The attested form in long  $\bar{i}$ - can be understood as a contamination: \**gabhi $\bar{r}$ -* × \**gabhirá-* → *gabhi $\bar{r}$ á-*. The original locus of this contamination was likely within the first member of the compound in words like RV *gabhi $\bar{r}$ rá $\bar{r}$ -vepas-* 'having deep excitement', *gá[m]bhī $\bar{r}$ á $\bar{r}$ -cetas-* 'having deep thoughts' and *gá[m]bhī $\bar{r}$ á $\bar{r}$ -śamśa-* 'ruling in the deep' or 'praised on high' (but AV VII 7,1 *gabhiśak* 'tief innen'<sup>?</sup> = AVP XX 1,6 *gabhiśat*).

<sup>89</sup>The element \**g<sup>u</sup>riH-* 'heaviness' evidently gained some lexical autonomy already within the protolanguage and served as the basis for further derived forms. Klingenschmitt (1982:139) attractively proposes that an adjective \**g<sup>u</sup>riH- $\mu$ o-* underlies Welsh *bryw* 'strong, lively', comparing PCelt. \**bi $\mu$ ó-* 'alive' (Welsh *byw* 'id.') for the phonological treatment of inherited \**iH $\mu$*  (cf. Irslinger 2002:26–31). The same quasi-root has also been suspected of underlying the substantives Welsh *bri* 'honour, dignity' and Irish *brí $\acute{g}$*  ( $\bar{a}$ -) 'strength, virtue' (as though from \**g<sup>u</sup>rī-go-*/\**g<sup>u</sup>rī-gā-*, IEW I:477; LEIA B-90). In Greek, this element is well attested. Strabo reports that βρῑ was used by Hesiod in the meaning 'heavy' (Str.8.5.3 τὸ βρῑθὺ καὶ βρῑαρὸν "βρῑ" λέγει) and appears as the first member of the compound βρῑήπυος (Hom.) 'loud shouting'. García Ramón (2009) attractively proposes that the Mycenaean personal name *pu<sub>2</sub>-ke-qi-ri* (PY Ta 711, cf. *pu<sub>2</sub>-ke-qi-ri-ne-ja* TH Of 27) contains an animate accusative of the same word as its second member and can be understood as /*P<sup>h</sup>uge-g<sup>u</sup>rīn*/ 'who escape(d) a heavy (spear/misfortune/enemy/thing)'. The substantive βρῑμη (h.Hom.+)' strength' is likely derived from an adjective \**g<sup>u</sup>riH-mó-* 'heavy' that also stands behind ὄβρῑμος (Hom.) 'strong', with loss of laryngeal either by Saussure's Law (\**o-g<sup>u</sup>riH-mo-*) or by the νεογενός rule (\**o-g<sup>u</sup>rīH-i-*).

<sup>90</sup>IG 14.1293 πρῶτα μὲν ἐν Νεμέᾳ βριερὸν κατέπεφνε λέοντα 'first he slew a powerful lion in Nemea.'



origin of βρέθω ‘am heavy’ is to be sought. And as there is little evidence within Greek and no comparative evidence whatsoever for nominally derived *d<sup>h</sup>*-presents, βρέθω surely entered the verbal system of Greek by formal analogy rather than through a regular derivational process. The likely basis for this analogy would have been the semantically- and morphologically-similar derivational family of πλήθω ‘am full’. The analogy would have had the following shape:

\*πληρός [cf. πλήρωω] : \*πληθύς [cf. ἡ πληθύς] : πλήθος (Hom.+ ) : -πληθής (Hom.+ ) : πλήθω (Hom.+ )  
‘am full’ : ἐπλήσα (Hom.+ ) ‘filled (tr)’ : ἐπέπληθα (Pherecr.+ ) ‘am full’ ::  
βρε[α]ρός (Hom.+ ) : βρεθύς (Hom.+ ) : βρεθός (Hp.+ ) : -βρεθής (Hdt.+ ) : *x* : *y* : *z*  
*x* = βρέθω (Hom.+ ) ‘am heavy’, *y* = ἐβρεσα (Hom.+ ) ‘weighed down’, *z* = βέβρεθα (Hom.+ ) ‘am heavy’

It should especially be noted that for both verbs, the intransitive-active present corresponds with a factitive aorist.

The synonymous (and metrically similar) verb βαρύνθω (Π 519, Hes. *Op.*215, A.R., βαρύνθω Nic., Max., Q.S.) ‘am heavy’ is rare and restricted in use to the language of epic. This verb is likely a poetic nonce formation that depends on βρέθω, though it is difficult to identify a plausible starting point for a formal analogy. One possibility is the proportion βρε-(ήπιος) : βρέθω :: βαρύ-(φθογγος) : *x*, where *x* was solved as βαρύνθω, though this can only be accepted *faute de mieux*. Disyllabic βαρύνθω can further be compared with μινύνθω, discussed above.

#### 2.1.4 -θ<sup>ε</sup>/- from other sources

It is finally necessary to distinguish from the above verbs those verbs that have been suspected of containing a suffix -θ<sup>ε</sup>/- but which historically do not.

The verb ἐσθίω (Hom.+ ) ‘eat’, used in poetry and prose, has a poetic<sup>91</sup> by-form ἔσθω ἔσθω (Hom.+ ) that could theoretically continue \*ἔδ-θω. Brugmann (1913a) recognized that

<sup>91</sup>The iota-less form ἔσθω is particularly common in the Septuagint and is employed occasionally by other late prose authors, including Plutarch. All of these ultimately depend on the poets.

ἐσθίω is derived from the inherited imperative ἔσθι [= Ved. *addhi*] < \**h<sub>1</sub>(é)d<sup>z</sup>d<sup>h</sup>i*, further arguing that the starting point for the “thematization” of ipv. ἔσθι was a hypercharacterized imperative ἔσθι-ε (ξ 80, perhaps helped along by πίε ‘drink!’). He explains the variant ἔσθω as having arisen from iotation of the type found in πόννα for πόννα. It is not clear that this is correct, as yod loss appears only to have occurred in a cluster *CR<sub>i</sub>V* and only in some dialects (Peters 1980:206ff.). Regardless, it is clear from the distribution of forms that ἐσθίω is original and that poetic ἔσθω is somehow to be derived from this. It is therefore not likely to contain a segmentable morpheme -θ%.-.

ἔθοντ- A participle ἔθοντ- appears twice in Homer, and in both cases its meaning is not clear from context:

I 539–30 ὄρσεν ἔπι χλοῦνην σὺν ἄγριον ἀργιόδοντα,

ὄς κακὰ πόλλ’ ἔρδεσκεν ἔθων Οἰνῆος ἀλωήν.

“(Artemis) incited a boar, a wild swine with white teeth, who did much harm ἔθων the orchard of Oeneus.”

P 259-61 αὐτίκα δὲ σφήκεσσιν ἐοικότες ἐξεχέοντο

εἰνοδίους, οὓς παῖδες ἐριδμαίνουσιν ἔθοντες

αἰεὶ κερτομέοντες ὀδῶ ἔπι οἰκί’ ἔχοντας

“And immediately they poured out like wasps in the road that children irritate ἔθοντες, ever provoking them, for they make their home along the road.”

The interpretation of the ancients takes ἔθοντ- to mean ‘habitually’, implicitly connecting it with εἴωθα ‘am accustomed’.<sup>92</sup> This analysis has found a modern proponent in (Bechtel 1914:108–9). It is true that the meaning ‘usually’ fits the passages, but the heavy onset \**sz<sup>o</sup>* required by εἴωθε (< \**se-szoh<sub>1</sub>d<sup>h</sup>-e*) is contradicted by the meter of both verses, and

<sup>92</sup>The interpretation ‘am accustomed’ can be found in the *Scholia vetera* ἔθων δὲ εἰθισμένος τοῖς τόποις; Apollon.*Lex.* ed. Bekker p. 63 ἔθοντες· εἰθισμένως ἐπιφοιτῶντες; Aristonicus, *De signis Iliadis* ἔθοντες, ἐξ ἔθους συνεχῶς ἐπιφοιτῶντες; Eust.2 p. 797 παῖδες ἐριδμαίνουσιν ἔθοντες, ἤγουν τὰ συνήθη πράττοντες. (Eustathius further considers a variety of other far-fetched possibilities ad locum). Hesychius records an alternate interpretation Hsch. ἔθει· φθείρει, ἐρεθίζει ‘destroys, irritates’.

the short root vocalism of ἔθοντ- (rather than ῥθοντ-, likely implied by the long vowel in the perfect) would require special explanation.

An alternative etymology is proposed by Schmidt (1913), who, with the apparent approbation of Leumann (1950:212–3), argues that the verb in question served as the derivational basis for the iterative-causative ὠθέω (aor. ἔωσα) ‘drive’ [= OCS *vazhdŏ, vaditi* ‘accuse’, OAv. *vādāiōit* ‘might break’]. If this is correct, the long vowel of ὠθέω could point to an underlying “Narten” present *\*uédʰ(H)-ti* from to the root *\*uédʰ(H)* of Ved. *ávadhīt* ‘hit’ (see further García Ramón 1998:152, 154). Melchert (1979:267) suggests that just this Narten present lies behind Hitt. *wezzai* ‘strikes, pierces’ [ $\approx$  CLuw. *widai-*?], which under this interpretation must have resulted from a non-trivial shift of inherited *\*wezzazzi* to the *hi*-conjugation. A meaning ‘strike, poke at’ does suit the Homeric usage (“did much harm by prodding the orchard” and “irritate the wasps by poking them”) and concords with Hesychius’ gloss of this word (ἔθει· φθείρει, ἐρεθίζει ‘destroys, irritates’). Nevertheless, this etymology is far from guaranteed. For present purposes, it is enough to conclude that nothing points to this verb historically containing suffixal *\*-dʰ-*.

The verb ἐρέθω (epic, Hom.+ and Theoc.) ‘provoke’ and the related verbs ἐρεθίζω ἐρέθω (Hom., Hp., Hdt., Pl. X.+) ‘id.’ and ὀροθύνω (epic and trag., Hom.+) ‘urge on’ all lack clear etymologies. Some have sought to connect ἐρέθω with the root of ὀρνύμι ‘raise’ (see *GEW* I:550–51), but this etymology is neither formally nor semantically compelling. Given the lack of clear comparanda, it is simplest to posit an otherwise unknown root *\*h<sub>3</sub>redʰ* that can have generated all of the Greek forms. A thematic present *\*h<sub>3</sub>redʰ-e-ti* ‘provokes’ would have given Grk. ὀρέθω\*, which could have undergone sporadic vowel assimilation to give attested ἐρέθω. A root-derived adjective *\*h<sub>3</sub>redʰ-u-/\*h<sub>3</sub>rdʰ-éu-* > *\*ὀρεθύς* → *\*ὀροθύς* would then have served as the derivational basis for ὀροθύνω. ἐρεθίζω was the latest addition to this group, which can collectively be compared with the group ἀλέγω (Hom.+) : ἀεγύνω (Hom.+) : ἀεγίζω (epic, Hom.+). Other scenarios are possible, but the presence of a suffix *-θ%* is not likely.

The verb κλώθω (Hom.+) ‘spin’ is tentatively referred by *LIV*<sup>2</sup> (362) to a root *\*kleh<sub>3</sub>dʰ* κλώθω

‘spin’, which lacks an Indo-European etymology. In Greek, the final aspirate appears in all nominal derivatives: *κάλαθος* (Ar.+)<sup>93</sup> ‘basket’ (← \*κάλαθος < \*k<sup>h</sup>l<sup>h</sup>h<sub>3</sub>d<sup>h</sup>-o-?), *Κλωθήεις* (η 197, du. *Κλωθήει* *Call.Fr.*43.90, see Schindler 1972:87), *κλωστήρ* (Ar.+)<sup>94</sup> ‘spindle, skein’. The by-form *κλώσων· ἐπικλώθων* (Hsch.) could in principle continue \*k<sup>h</sup>l<sup>h</sup>h<sub>3</sub>-s<sup>h</sup>k<sup>h</sup>/o-, but is more likely simply an innovative present based on the aorist (ἐπ-)έκλωσα (Hom., E., Pl.+). The only indication that the *d<sup>h</sup>* of this verb might be suffixal arises from comparison with Lat. *colus* ‘distaff’ (*WP* I 464), but this word is better taken as a cognate of Grk. *πόλος* ‘axis, pole’ from \*k<sup>h</sup>el<sup>h</sup><sub>1</sub> ‘turn’ (because the wool is wrapped around the distaff in a process known as “dressing”). If a genuine *d<sup>h</sup>*-present, the transitive meaning of the active would be surprising.<sup>93</sup>

*ἀΐσθων, ἄϊσθε*      The rare verb *ἀΐσθων* (Π 468) ‘breathing out’, *ἄϊσθε* (Υ 403) ‘breathed out’ is accented as a present in the manuscript tradition and by the ancient grammarians.<sup>94</sup> Its etymology is entirely unknown.

*ἔχθομαι*      The verb *ἔχθομαι* (Hom.+)<sup>95</sup> ‘am/become hateful to’, *ἔχθω* (A.+)<sup>96</sup> ‘hate’ belongs to a Caland system that includes a substantive *τὸ ἔχθος* (Hom.) ‘hatred’ and an adjective *ἐχθρός* (Hom.+)<sup>97</sup> ‘hateful’ (: *ἐχθίων* A.+<sup>98</sup>, *ἔχθιστος* Hom.+), as well as a verb *ἀπεχθάνομαι* (Hom.+)<sup>99</sup> ‘become hateful’. The eye-catching traditional etymology that links *ἐχθρός* with Lat. *extrā* ‘outside’ (< \*eġ<sup>h</sup>s-t(e)ro- ‘outside’) can only be maintained if one assumes a zero-grade variant \*-tro- of the comparative suffix, for which there is little evidence. In absence of this, Greek *ἔχθ-* lacks an etymology, and it is in any case more likely that *ἔχθομαι* and other competing presents (*ἀπ-εχθάνομαι*, *ἐχθαίρω*, *ἐχθραίνω*, *ἐχθρεύω*) were backformed from the well-developed nominal system than that *ἔχθομαι* continues a *d<sup>h</sup>*-present.

<sup>93</sup>The intransitive use of *κλώθω* by Nicander (*Al.*93) is difficult to evaluate: *καί τε σύ γ' ἦ μαλάχης ῥαδάμους [LSJ s.v. ὀρόδαμνος] ἦ φυλλάδα τήξας / χυλῶ ἔνι κλώθοντι κακηπελέοντα κορέσαις*, for which the scholia give *ὡς νῆμα κλωθομένω*. Following this interpretation, the passage would read “And you, having melted the stocks or leaves of mallow in a juice like spinning (intr) thread, satiate the diseased man” (see the discussion in Jacques 2007:10).

<sup>94</sup>Bechtel (1914:22) connects *ἄϊσθε* with *ἄϊον* [ἤτορ] (O 252) ‘breathed out [his heart]’, taking both as aorists, but this is rather arbitrary.

Finally, the poetic verb  $\pi\acute{\epsilon}\rho\theta\omega$  (Hom.+)<sup>95</sup> ‘destroy, ravage’ (aor.  $\xi\pi\epsilon\rho\sigma\alpha$  Hom.+<sup>96</sup>,  $\xi\pi\rho\alpha\theta\omicron\nu$   $\pi\acute{\epsilon}\rho\theta\omega$  Hom., Pi.; both transitive) with frequentative-iterative  $\pi\omicron\rho\theta\acute{\epsilon}\omega$  (Hom.+)<sup>97</sup> ‘id.’ has neither clear cognates outside of Greek nor an agreed-upon etymology. The early proposals (Uhlenbeck 1898 II:187; *WP* II:174) that link Skt. “*bardh*” ‘cut’ with  $\pi\acute{\epsilon}\rho\theta\omega$  under a lemma PIE  $*b^h\text{erd}^h$  are founded on eastern-manuscript readings; the historical root is Skt. *vardh*<sup>2</sup> and can have no connection with  $\pi\acute{\epsilon}\rho\theta\omega$  (*KEWA* III:157). Janda (2000:240–42) has more recently proposed deriving  $\pi\acute{\epsilon}\rho\theta\omega$  from a verb made to a nominal compound  $*b^h\text{er-}d^h\text{h}_1\text{-}\acute{\omicron}$ - ‘making booty’ containing as its first member a root noun  $*b^h\acute{\epsilon}r$ - ‘booty’. This proposal is unconvincing. The root noun in question is in fact attested but as an agent noun  $*b^h\acute{\omicron}r$ -/ $*b^h\acute{\epsilon}r$ - (Grk.  $\varphi\acute{\omega}\rho$  ‘thief’, Lat. *fūr* ‘id.’), which does not have the correct meaning. There is furthermore no actual instance of a syntagma  $*b^h\text{er} + d^h\text{eh}_1$  that might have stood behind such a compound and there is no nominal compound  $*\pi\epsilon\rho\text{-}\theta\text{-}\acute{\omicron}\zeta$ ,  $*\pi\alpha\rho\theta\text{-}\acute{\omicron}\zeta$  (or similar) to lend credence to this approach. Even if  $*\pi\epsilon\rho\theta\acute{\omicron}\zeta$  did once exist, there is no easy pathway from this to attested  $\pi\acute{\epsilon}\rho\theta\omega$ . Whatever its etymology, there is ultimately no reason to see the suffix  $-\theta\acute{\omicron}\zeta$ - in this verb and it will not be further considered here.

## 2.2 Extra-presential $-\theta\acute{\omicron}\zeta$ -

### 2.2.1 Aorists in $-\theta\acute{\omicron}\zeta$ -

Those aorists that show a stem formant  $-\theta\acute{\omicron}\zeta$ - are few, heterogeneous and of secondary origin. This fact is most evident from the comparative record, but can be established on Greek-internal grounds as well.

The  $\theta\acute{\omicron}\zeta$ -aorist with the most lively existence is the poetic and dialectal<sup>95</sup> verb  $\sigma\chi\epsilon\theta\acute{\epsilon}\iota\nu$   $\sigma\chi\epsilon\theta\acute{\epsilon}\iota\nu$  (Hom., Pi., A., S.+)<sup>98</sup> ‘hold’, which is functionally hardly distinct from  $\sigma\chi\acute{\epsilon}\iota\nu$  ‘hold’ and obviously closely related. There is a synchronic rule in Greek that content words cannot

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<sup>95</sup>Arcadian: IPArk 15 = IG V,2  $\mu\eta\ \acute{\epsilon}\sigma\chi\epsilon\theta\acute{\eta}[\nu]\ \mu\eta\delta\prime\ \acute{\alpha}\nu\alpha\gamma\kappa\acute{\alpha}\sigma\alpha\ \mu[\eta]\delta\acute{\epsilon}\nu\alpha$ . “not to hold back or to force anyone”; Aeolic: IG XII,2 526  $\acute{\omicron}\tau\iota\ \acute{\epsilon}\tau\omicron\iota\mu\omicron\iota\ \acute{\epsilon}\sigma\tau\iota\ \delta\acute{\iota}\kappa[\alpha\nu]\ [\acute{\omicron}]\pi\omicron\sigma\kappa\acute{\epsilon}\theta\eta\nu\ \pi\epsilon\rho\iota\ \tau\acute{\omega}\nu\ \acute{\epsilon}\gamma\kappa\alpha\lambda\eta\mu\acute{\epsilon}\nu\omega\nu\ \acute{\epsilon}\nu\ \tau\acute{\omega}\ \delta\acute{\alpha}[\mu\omega]$ .

consist in light monosyllables, a fact first noted by Wackernagel (1906).<sup>96</sup> This rule has ramifications for the inflection of  $\sigma\chi\epsilon\tilde{\iota}\nu$ , which by the regular rules of morphology should form an un-augmented 3sg.  $\sigma\chi\acute{\epsilon}$ \* ‘held’ and a 2sg. ipv.  $\sigma\chi\acute{\epsilon}$ \* ‘hold!’. While the 2sg. ipv.  $-\sigma\chi\acute{\epsilon}$  is attested with preverb,<sup>97</sup> the simple imperative substitutes  $\sigma\chi\acute{\epsilon}-\varsigma$ ,<sup>98</sup> which Wackernagel (1906:175) makes depend on the irregular imperatives  $\theta\acute{\epsilon}\varsigma$  ‘place’ and  $\xi\varsigma$  ‘send’, but which rather continues an old injunctive 2sg.  $*s\acute{g}^h-e-s$  (Brugmann 1900:332). In the third person singular, the unaugmented form is regularly  $\sigma\chi\acute{\epsilon}-\theta\epsilon$  (for  $\sigma\chi\acute{\epsilon}$ \*), which I would argue was the starting point for the new aorist. It is perhaps not a coincidence that only third-person forms of  $\sigma\chi\epsilon\theta\epsilon\tilde{\iota}\nu$  are to be found in the Iliad.

While it is reasonably clear that the purpose of innovative  $\sigma\chi\acute{\epsilon}-\theta\epsilon$  was originally to resolve this clash between the rules of phonology and morphology, the reason that speakers chose to employ the suffix  $-\theta\epsilon$ - for this purpose is far from clear. It is possible that the verbal adjective  $*s\acute{g}^h-et\acute{o}$ - ‘that can be grasped’, reflected in Grk.  $\acute{\alpha}\text{-}\sigma\chi\epsilon\tau\omicron\varsigma/\acute{\alpha}\acute{\alpha}\text{-}\sigma\chi\epsilon\tau\omicron\varsigma$ ] ‘unmanageable’ and YAv.  $a\text{-}z\acute{g}ata\text{-}$  ‘invincible’, played a role (cf. Vine 1998:29ff.). As observed above, adjectives in  $*-e(-)t\acute{o}$ - often coincide with verbs in  $-\theta\epsilon$ -:  $*\tau\epsilon\lambda\epsilon\tau\omicron\varsigma$  ( $\tau\epsilon\lambda\epsilon\tau\acute{\eta}$ ) :  $\tau\epsilon\lambda\acute{\epsilon}\theta\omega$ ,  $\acute{\epsilon}\mu\epsilon\tau\omicron\varsigma$  :  $\acute{\epsilon}\mu\acute{\epsilon}\theta\omega$ ,  $*\beta\rho\epsilon\mu\epsilon\tau\omicron\varsigma$  :  $\beta\rho\epsilon\mu\acute{\epsilon}\theta\omega$ .<sup>99</sup> A  $*\sigma\chi\epsilon\tau\omicron\varsigma$  could therefore suggest to speakers a verb  $\sigma\chi\epsilon\theta\epsilon$ -\* by formal analogy. Because the innovative form was designed specifically to stand in for aor. 3sg.  $*\sigma\chi\acute{\epsilon}$ ,  $\sigma\chi\acute{\epsilon}-\theta\epsilon$  was confined to the aorist active.<sup>100</sup>

$\delta\rho\alpha\theta\epsilon\tilde{\iota}\nu$  The only  $\theta\epsilon$ -aorist that is not confined to the poetic register is  $(-)\delta\rho\alpha[/\rho\alpha]\theta\epsilon\tilde{\iota}\nu$  (Hom.+)  
‘fall asleep’, which supplies the aorist to  $\epsilon\tilde{\upsilon}\delta\omega$  ‘sleep’ (Kölligan 2007:174ff.; 2001), beside a present  $-\delta\alpha\rho\theta\acute{\alpha}\nu\omega$  (Pl.+)  
that is evidently secondary. The Attic variant  $\delta\alpha\rho\theta\epsilon\tilde{\iota}\nu$  (as opposed

<sup>96</sup>There seem to have been similar rules in other ancient Indo-European languages, and the constraint against light monosyllables could well go back to the protolanguage, where its existence would help to explain the rise of the thematic aorist as a morphological category via such monosyllabic  $h_2e$ -conjugation verbal forms as 3sg.  $*sk^u-e$  ‘said’  $\rightarrow *sk^u-e-t$  (Grk.  $\acute{\epsilon}\nu\text{-}\sigma\pi\epsilon$  ‘id.’, Lat.  $in\text{-}quit$  ‘id.’).

<sup>97</sup>E.g. Hes.*Sc.*446 Ἄρες, ἔπισχε μένος κρατερόν “Ares, restrain your strong might.”

<sup>98</sup>E.g. S.*OC* 1169  $\sigma\chi\acute{\epsilon}\varsigma$  οὐπερ εἶ “stay where you are/[hold it right there]!”

<sup>99</sup>On the asterisked forms, see the relevant lemmata above.

<sup>100</sup>Medial  $\pi\rho\omicron\epsilon\sigma\chi\epsilon\theta\acute{o}\mu\eta\gamma\eta\eta$  Theoc.25.254, a learned form, is the only exception to this rule.

to  $\delta\rho\alpha\theta\epsilon\acute{\iota}\nu$ ) crucially implies an earlier full-grade present  $*\delta\acute{\epsilon}\rho\theta\epsilon\%-\text{-}$ , as the phonologically regular outcome of  $*\#Cr-$  is  $*\#Cr\acute{\epsilon}$  (Klingenschmitt 1974:275f.).<sup>101</sup> The present  $\delta\acute{\epsilon}\rho\theta\omega$  cited by Herodian (*GG* iii.ii, p. 800) may preserve an accurate memory of the original present form. It might further be noted that aor.  $\acute{\epsilon}\delta\rho\alpha\theta\omicron\nu$  is an activum tantum and can be characterized as an “active deponent,” likely a fall-out of the fact that it is based on a  $d^h$ -present.<sup>102</sup>

The aorist verb  $\acute{\eta}\lambda\upsilon\theta\text{-}\omicron\nu/\acute{\epsilon}\lambda\theta\text{-}\epsilon\acute{\iota}\nu$  possesses a third, less-common stem allomorph  $\acute{\eta}\lambda\upsilon\text{-}$ .  $\acute{\epsilon}\lambda\theta\epsilon\acute{\iota}\nu$  This Greek verb forms an exact word equation with TochB *lac* ‘went out’ [= TochA *läc*] and OIr. 3sg. *luid* (: 3pl. *lotar*) ‘went’, showing that the final dental was a property of this aorist already in the protolanguage, while no extra-Greek forms bear witness to a dental-less variant of the root. The origin of the dental-less forms is therefore to be sought within Greek. The following are attested:  $\acute{\epsilon}\lambda\acute{\eta}\lambda\upsilon\mu\epsilon\nu$  (Cratin.235),  $\acute{\epsilon}\lambda\acute{\eta}\lambda\upsilon\tau\epsilon$ , (Achae.24,43),  $\acute{\epsilon}\lambda\upsilon\tau\alpha\iota$ .  $\acute{\epsilon}\rho\chi\epsilon\tau\alpha\iota$  (Hsch.),  $(\acute{\epsilon}\pi\text{-})\eta\lambda\upsilon\text{-}\sigma\acute{\iota}\eta$  (h.Hom.),  $(\acute{\epsilon}\xi\text{-})\eta\lambda\upsilon\text{-}\sigma\iota\varsigma$  (Hdt.+),  $(\acute{\epsilon}\pi\text{-})\eta\lambda\acute{\upsilon}\text{-}\tau\eta\varsigma$  (Hdt.+),  $(\pi\rho\omicron\sigma\text{-})\eta\lambda\upsilon\text{-}\tau\omicron\varsigma$  (LXX) (*GEW* I:492f.). These likely took their start in act. pf. 2pl.  $\acute{\epsilon}\lambda\acute{\eta}\lambda\upsilon\sigma\text{-}\theta\epsilon < *el\acute{\epsilon}lut^h\text{-}te$ , which had the appearance of a middle despite being morphologically active. This was repaired to  $\acute{\epsilon}\lambda\acute{\eta}\lambda\upsilon\text{-}\tau\epsilon$ , whence 1pl.  $\acute{\epsilon}\lambda\acute{\eta}\lambda\upsilon\text{-}\mu\epsilon\nu$  (Wackernagel 1904:18).

The thematic aorist  $\acute{\epsilon}\mu\alpha\theta\omicron\nu$  (pr.  $\mu\alpha\nu\theta\acute{\alpha}\nu\omega$ ) ‘understood, learned’ could conceivably  $\acute{\epsilon}\mu\alpha\theta\omicron\nu$  be derived from a lost present  $*\mu\acute{\epsilon}\nu\text{-}\theta\omega < *m\acute{\epsilon}n\text{-}d^h\text{-}$  (cf.  $\mu\epsilon\nu\theta\acute{\eta}\rho\eta$ .  $\varphi\rho\omicron\nu\tau\acute{\iota}\varsigma$ ,  $\mu\acute{\epsilon}\rho\iota\mu\iota\alpha$  ‘care, worry’ Hsch.). But in the absence of an attested present of this shape, this word does not offer reliable testimony on the issue at hand and cannot be further considered in the present context.

There is finally a problematic subclass of poetic verbs in  $\text{-}\alpha\theta\epsilon\%-\text{-}$  that pose significant difficulties of interpretation. The question of whether these verbs belong to the present or

<sup>101</sup>For a recent survey of issues relating to the realization of syllabic liquids in Greek and interpretations that often depart from traditional analyses, see further (van Beek 2022).

<sup>102</sup>The root  $*der$  on which this  $d^h$ -present is founded likely to be seen in Ved.  $[ni\text{-}]dr\bar{a}\text{-}\eta\acute{\alpha}\text{-}$  (AV+) ‘tired’, which can be derived from an instrumental  $*dr\text{-}\acute{\epsilon}h_1$  ‘with sleep’ (cf.  $pur\acute{a}$  ‘earlier’  $\rightarrow pur\bar{a}\text{-}\eta\acute{\alpha}\text{-}$  ‘old’; the verbal adjective to the root  $dr\bar{a}$  ‘sleep’ might have been expected to be  $d\bar{u}r\eta\acute{\alpha}\text{-}^* < *d\bar{r}H\text{-}n\acute{o}\text{-}$  like  $p\bar{u}r\eta\acute{\alpha}\text{-}$  ‘full’). It doubtless also bears some etymological relationship to the root  $*dr\text{-}em$  ‘sleep’ (*LIV*<sup>2</sup> 128) of Lat. *dormio* ‘sleep’ and Slavic  $*dr\acute{e}m\text{-}j\%-\text{-}$ ,  $*dr\acute{e}m\text{-}a\text{-}/[*dr\acute{e}m\text{-}\acute{v}\text{-}]$  ‘slumber’ (conceivably denominal to deinstrumental  $*dreh_1\text{-}mo\text{-}$  ‘asleep’).

to the aorist system was debated by the ancient grammarians and remains problematic today. They are grouped here under the rubric “aorist” because most occur only in the preterit, though their association with the aorist is surely secondary on formal grounds. Their confinement to the poetic register and to the specific semantic sphere of warfare and pursuit suggests that they are to some extent coinages of the poets. In Homer we find ἐέργαθεν, -ον (E 147, Φ 599, Ξ 36) ‘cut off, held back’ and μετεκίαθε, -ον (Λ 52, 714, Π 685, Σ 532, 581, α 22) ‘followed after’. The Attic tragedians use ὑπείκαθεῖν (S., Pl., A.R., Orph., Opp.) ‘yield’, ἀμῶναθεῖν ‘defend, assist’ (A., S., E., Ar.), διωκάθειν/διωκαθεῖν (A., Ar., E., Pl.) ‘pursue’ and ἀμῶναθεῖν ‘defend, assist’ (A., S., E., Ar.). The verbs ἀλλάθω καὶ ἀλλάθειν. Σοφοκλῆς καὶ Αἰσχύλος. σημαίνει δὲ τὸ βοηθεῖν (Phryn.PS.155 = Phot.p.76R. = AB383), ἀγράφεν· συνάγειν. συμμίσγειν (Hsch.) ‘gather together’ and κατεκίαθεν· κατεκοιμήθη (Hsch.) ‘lay down to sleep’ are known only from glosses.

### 2.2.2 Perfects in -θ-

Greek perfects in -θ-α are not reflected in the comparative record and are demonstrably of secondary origin. Greek verbs with presents in -θ%- often form such perfects when the alternative would be a form with vowel hiatus. In Homer we find βέβρηθα (pr. βρήθω) ‘am heavy’ and γέγηθα (pr. γηθέω) ‘rejoice’, both of which persist into later Greek and are semantically roughly equivalent to their presents (Risch 1974:347). We later find πέπληθα (Pherecr., Herod., Theoc.+) ‘am full’, λέληθα (Semon., Sol., Pi.) ‘escape notice’ and καταπέπυθα· κατερρύηκα (Hsch.) ‘fell into ruin’. The extension of presential -θ- to the perfect was easily effected via formal analogy with verbs like pr. πείθ-ομαι ‘obey’ : pf. πέ-ποιθ-α ‘trust’ where the -θ- of the perfect was etymologically justified.

ἐγρήγορθ- Several cases require special explanations. The verb ἐγρήγορα ‘am vigilant’ forms a peculiar and exclusively Homeric θ-perfect in the hapax ἐγρηγόρθῃσι (K 419). This form occurs in the Doloneia, a section of the Iliad commonly agreed to be a late addition to the epic. It likely resulted from the poet(s) responsible for the line in question interpreting 2pl. ipv. ἐγρήγορθε (H 371 = Σ 299) to be the surface representation of



underlying /ἐγρήγορθ-τε/.<sup>103</sup> This person knew that ἐγρήγορα was an *activum tantum* in contemporary spoken Greek, and so would have been eager to see an active verb in the transmitted form. The abstraction of a stem in final -θ- would have taken place via an analogy of the type:

[πάσχω :] pf. 2pl. πέπασθε/πέποσθε : pf. 3pl. πεπόνθασι ::

[ἐγείρομαι :] pf. 2pl. ἐγρήγορθε : *x* *x* = pf. 3pl. ἐγρηγόρθασι

This nonce formation in -θ- would have further aligned itself with the “θ-perfects” βεβρίθασι (ο 334) and γέγηθ-ε (Θ 559+) as well as anomalous βεβρώθ-οις (Δ 35), and further offered the advantage over ἐγρηγόρθασι that it was metrically viable within the epic hexameter.

The Homeric hapax 2sg. opt. βεβρώθ-οις (Δ 35) ‘you would eat’ beside usual βέβρωκα βεβρώθοις (Hom.+) and the participle βεβρωῶτες (S.*Ant.*1022) without intervening suffix appears to be another nonce formation of the ancient poets. This form is explained by Schwyzer (*Gr.Gr.* I:662) as resulting from an archaic 2sg.(!) \*βέβρω-θα. Speaking against this analysis is the fact that the 2sg. act. ending is everywhere -σθα, not historically justified -θα. There is every reason to think that the ending \*-t<sup>h</sup>a, not used in any dialect, lies temporally quite deep within the history of Greek, and it is worth recalling that the historically ‘correct’ form would in any case have been βεβρόρο-θα\* < \*g<sup>u</sup>e-g<sup>u</sup>órh<sub>3</sub>-th<sub>2</sub>e and not (\*)βέβρωθα.<sup>104</sup> For all these reasons, Schwyzer’s explanation remains unlikely, and it is better to understand βεβρώθοις with Wackernagel (1895:31) as being loosely based on ipv. \*βέβρωθι.<sup>105</sup>

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<sup>103</sup>The peculiar medial form ἐγρήγορθε itself depends on the preceding imperatives ἔλε-σθε and μνήσα-σθε, see further (Rothstein-Dowden forthcoming).

<sup>104</sup>For the *set* character of the root cf. Ved. pr. *girati* ‘swallows’ = OCS *žbrǫ* ‘id.’ < \*g<sup>u</sup>rH-é-.

<sup>105</sup>It is conceivable that there was a conservatively-formed ipv. \*πέπληθ-θι that had come to stand beside innovative πεπλήθ-οις and that this supplied the basis for the analogy.

## 2.3 Discussion and Analysis

The fact clearly emerges from this survey that a thematic present formant \*-*thē/-* was once productive in Greek as a tool for forming deradical and deverbal presents. The word productive is apt, because the large number and wide range of presents that bear this suffix and their uniform morphological profile are indicative of a once productive morphological type rather than of analogical extension from one verb to another. These *thē/-*-presents regularly show full grade of the root. In many cases, only active inflection is attested, which, as has been emphasized, is somewhat surprising given that the verbs in question are overwhelmingly intransitive or else give positive indications of having once been active intransitives.

Some of these findings are old, some are new and some go against conventional wisdom. In order to frame and contextualize these results, a review of the previous scholarly literature will be necessary. Quite little has been written about *thē/-*-presents, and what has been said can be briefly summarized.

Writing in a time before the emergence of modern academic linguistics, Wentzel (1836:14) reached the prescient and insightful conclusion that the formant *thē/-* imparts durative aspect and signifies either a repeated action or a state.<sup>106</sup> Nearly a century later, approximately the same conclusions were drawn, apparently independently, by Benveniste (1935:193–4), who dedicates the final chapter of his monograph on nominal morphology to the “affixe -*d<sup>h</sup>-*,” broadly conceived. Like Wentzel, this scholar emphasizes that this class of presents is conspicuous for its being prototypically intransitive and for its showing middle-like semantics (“ces présents sont tous intransitifs et de valeur nettement moyenne”).

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<sup>106</sup> *Haec terminatio indicat, aliquem versari in statu quodam vel in actione immorari, quae verbo primitivo definita est.... Verba graeca, quae in θω innituntur, omnino statum magis quam actionem significabunt, aut actionem repetitam aut per tempus aliquod continuatam; imprimis autem ea erunt apta ad id indicandum, quod proprium ac perpetuum est alicujus rei. Et profecto videmus, nonnulla ex iis formam medii verbi prae se ferre, multis, quibus est exitus θω, esse significatum intransitivi verbi, nonnulla praedicta esse utroque significato sc. transitivi et intransiti verbi, ut φθινύθειν, μινύθειν, φλεγάθειν; alia ibi poni, ubi actio iterata vel continuata vel ea, quae propria et perpetua est alicujus rei, exponenda erat.*

Nearly the opposite conclusions are drawn by Chantraine (1925). According to this scholar, the main function of *-θη-* is to express telicity. Chantraine writes that “le grec emploie le verbe en *\*-θη* quand l’achèvement de l’action es envisagé. La nuance est voisine de celle du verbe déterminé en slave. . . . On peut dire sans inconvénient que le suffixe *\*-θη* fournit des présents terminatifs” (94).<sup>107</sup> He concludes that the telic semantics of the suffix suggest that, at a deep level, this formation continues some form of the root *\*d<sup>h</sup>eh<sub>1</sub>* ‘place’, admitting that this cannot be shown using the comparative method (108). Later, the same scholar writes that the suffix designates verbs that are stative and perfective, whereby it is unclear whether two separate classes of verbs are meant or a single class of verbs that signify change of state (Chantraine 1958:326). Chantraine’s evaluation of the suffix as perfective is cited approvingly by *LIV*<sup>2</sup> (388<sup>18</sup>), and his views are explicitly upheld and further developed in a series of articles by Magni (2004, 2008, 2010).<sup>108</sup>

The results of the present study strongly substantiate the position of Benveniste and Wentzel and go against the views of Chantraine and Magni. The predominance of intransitive usage amongst these verbs is immediately striking, while the evidence for perfective semantics is slender. Of the various semantic subtypes, the most common are perhaps statives to property-concept oriented roots. These include *αἶθω* ‘shine, burn (intr)’, *πλήθω* ‘am full’, *βρίθω* ‘am heavy’, *φάεθων* ‘shining’, *βαρῦθω* ‘am heavy’ and *φλεγέθω* ‘burn.’ There are two sound emission verbs *βρεμέθω* ‘thunder’ and *χρεμέθω* ‘whinny.’ The verb *τελέθω* ‘am, become’ forms a class unto itself. We find one primary verb of motion *πελάθω* ‘draw near’, with which derivationally obscure *μετεκίαθεν* ‘pursued’ and *διωκαθειν* ‘pursued’ can be compared. Three verbs describe scalar processes: *πύθομαι* ‘rot’, *φθινύθω* ‘decline’, *μινύθω* ‘decrease’.

It is only natural that some of these verbs should have passed into transitive use as well, a phenomenon that is well-paralleled both in Greek and cross-linguistically. The

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<sup>107</sup>“Greek employs verbs in *\*-θη* when the the completion of the action is envisaged. The nuance is similar to that of the determinative [i.e. perfective] verb in Slavic. It is possible to say unobjectionably that the suffix *\*-θη* was used to create telic presents.”

<sup>108</sup>Cf. recently (Batisti 2022:290–291).

above survey has shown in individual instances that the transitive readings registered by the lexica, where they exist, are rare, isolated or even doubtful. This is the case for Homeric  $\theta\upsilon\mu\delta\acute{\omicron}\nu \epsilon\acute{\rho}\acute{\epsilon}\chi\theta\omega\nu$  ( $\epsilon$  83) ‘distraught at heart/rending his heart’ and  $\varphi\theta\iota\nu\acute{\omicron}\theta\epsilon\sigma\chi\epsilon \kappa\tilde{\eta}\rho$  (A 491) ‘diminished at heart/made his heart diminish’, which need not necessarily be transitive and at the same time offer a practical demonstration of how an internal object with an intransitive active verb can be re-analyzed as an external object with a transitive verb, thus giving rise to an actually transitive verb. In other cases, transitive readings have grown directly out of medialized intransitive presents to which transitive actives were oppositionally formed. This process is documented in the case of the replacement of  $\acute{\alpha}\theta\omega$  ‘shine, burn (intr)’ by  $\acute{\alpha}\theta\omicron\mu\alpha\iota$  whence  $\acute{\alpha}\theta\omega$  ‘burn (tr)’ and was likely the case for  $\pi\acute{\upsilon}\theta\omicron\mu\alpha\iota$  ‘rot’ as well, though this cannot be philologically demonstrated. The transition from active to non-active inflection in the case of  $\pi\acute{\upsilon}\theta\omicron\mu\alpha\iota$  was clearly motivated by a desire on the part of speakers to reconcile the the voice morphology of this verb with its strongly non-agential semantics (cf.  $\sigma\acute{\eta}\pi\omicron\mu\alpha\iota$  ‘rot’). Furthermore, the citation form act.  $\pi\acute{\upsilon}\theta\omega$  ‘make rot’ must be qualified with the observation that the active occurs only twice in all of Greek, once in Hesiod and once in Apollonius of Rhodes, making it clear that more-common mid.  $\pi\acute{\upsilon}\theta\omicron\mu\alpha\iota$  is the ‘normal’ form of the present and that transitive  $\pi\acute{\upsilon}\theta\omega$  is something of a semantically loaded turn of phrase that was only possible because of the shift to non-active inflection.

That  $\theta\epsilon\%$ -presents are often not associated with a corresponding aorist has been largely overlooked in the secondary literature. This is partly due to the fact that little attention has historically been paid to the averbo and to the fact that the lack of an aorist is perhaps not self-evident for this morphological class; many verbs, such as  $\pi\lambda\acute{\eta}\theta\omega$  ‘am full’, might at first glance appear to have associated aorists, in this case  $\acute{\epsilon}\pi\lambda\eta\sigma\alpha$  ‘filled (tr)’. But when the situation with  $\pi\lambda\acute{\eta}\theta\omega$  is compared to that of  $\acute{\alpha}\theta\omega$  ‘burn (tr/intr)’,  $\epsilon\acute{\rho}\acute{\epsilon}\chi\theta\omega$  ‘rend’,  $\varphi\lambda\epsilon\gamma\acute{\epsilon}\theta\omega$  ‘burn’,  $\varphi\alpha\acute{\epsilon}\theta\omega\nu$  ‘shining’,  $\beta\epsilon\mu\acute{\epsilon}\theta\omega$  ‘bellowing’ and  $\chi\epsilon\mu\acute{\epsilon}\theta\omega$  ‘whinnying’, all of which lack aorists, it becomes attractive to ascribe  $\acute{\epsilon}\pi\lambda\eta\sigma\alpha$  to  $\pi\acute{\iota}\mu\pi\lambda\eta\mu\iota$  ‘fill (tr)’ rather than  $\pi\lambda\acute{\eta}\theta\omega$  ‘fill (intr)’ and to fully separate the two averbos. Admittedly, there

are many instances where no clear judgement can be made. Does  $\pi\lambda\tilde{\eta}\tau\omicron$  ‘became full’ originally belong to  $\pi\acute{\iota}\mu\pi\lambda\eta\mu\iota$  or to  $\pi\lambda\acute{\eta}\theta\omega$ ? The middle morphology of this aorist, which stands in tension with the active morphology of  $\pi\lambda\acute{\eta}\theta\omega$  ‘am full’, could suggest the former. Ultimately, it is the lack of non-presential forms in some verbs that requires explanation rather than their presence in others, and that explanation can only be that  $\vartheta^{\%}$ -presents were not originally paired with aorists.

Finally, the frequent mismatch between active voice morphology and middle-like semantics that in this dissertation is informally referred to as “active deponency” (see 1.3) emerges as perhaps the most salient and remarkable attribute of  $\vartheta^{\%}$ -presents. This morphosemantic distribution is largely inexplicable from within the grammatical system of Greek and indeed proved offensive enough to language learners that it was susceptible to various repairs, chiefly medialization of the active and the creation of an oppositional active transitive. Such a situation begs a historical explanation and could suggest a large shift of some sort in the verbal system—specifically the system of voice morphology—of the language. But before an answer to this larger question can be attempted, it will be necessary first to depart from Greek and to visit the scattered relics of  $d^h$ -presents in the other Indo-European languages, which will be the purview of the next two chapters.

## Chapter 3

# Remains of $d^h$ -presents in Indo-Iranian, Italo-Celtic, Armenian and Tocharian

If the advantage of Greek for the current study is that this language preserves Indo-European  $d^h$ -presents as a (semi-)productive morphological class, the advantage of the other Indo-European daughter languages is that they do not. This state of affairs means that the individual remains found in these languages may, if carefully considered, provide a window into an older stage in the history of this present formation. The task of this chapter and the following will be to examine these relic forms in order to build a library of material that can be used for comparative reconstruction. Because word equations—the surest guide to accurate reconstruction—are few, this chapter will take the approach of investigating the use of the morpheme  $*-d^h-$  language by language and will consider individually the morphological characteristics of each potential candidate.

The issue of identifying  $d^h$ -presents is complicated by the fact that, in some languages, it is either difficult or impossible to distinguish phonologically between the outcomes of original  $*d^h$  and  $*d$ . The full or partial merger of these two sounds is particularly

problematic for the current study on account of the possible existence in Proto-Indo-European of a class of presents in suffixal *\*-d-*. Like *d<sup>h</sup>*-presents, *d*-presents have received relatively little attention in the secondary literature. They are treated briefly by Brugmann (*Grd.*<sup>2</sup> II,3:372–79) and form the subject of the Harvard dissertation (Vine 1982).

Unlike *d<sup>h</sup>*-presents, however, *d*-presents do not form a recognizable and cohesive morphological or semantic class. This fact is best illustrated by example. A present type *R(é)-d%-* is reconstructed by *LIV*<sup>2</sup> for the roots 2. *\*b<sup>h</sup>reyH* ‘aufbrechen’ (Oic. *brjóta* ‘break (tr)’, OE *brēotan* ‘id.’, cf. Seebold 1970:141–2), *\*kleyH* ‘wohin geraten’ (Oic. *hljóta* ‘get (by lot)’, OEng. *hlēotan* ‘cast lots’, OHG *hliozan* ‘id.’), 2. *\*uelH* ‘sich wälzen’ (Oic. *velta* ‘roll (intr)’ [but OSwed. *vælla* ‘id.’], OHG *wellan* ‘id.’; caus. Goth. *waltjan* ‘κωλίνδεν’ etc., cf. Seebold 1970:553–4) and *uerH* (Lith. *véřda* ‘boils (tr/intr)’), all of which the editors judge to be uncertain reconstructions. Of these, Lith. *véřda*, as will be discussed below, is better explained as a *d<sup>h</sup>*-present, and the other three are conspicuously restricted to Germanic.<sup>1</sup>

In Indo-Iranian, there is a small class of *d*-presents that are typified by zero grade of the root and a sibilant preceding the dental in root coda: Ved. *hīd* ‘rage’ (perhaps extended from *hiṣ* ‘injure’), *vīdáyati* ‘make firm’ (perhaps from *\*viHṣ*, zero-grade of *váyas* ‘vigor’, cf. OAv. *vōiždat* ‘erhebe’<sup>2</sup>) and *mīd* ‘have compassion’ (cf. OAv. *mərəždātā* ‘have compassion!’, OYAv. *mərəždika-* ‘compassion’) likely extended from PIE *\*mers* ‘forget’ (*EWAia* II:326).<sup>2</sup>

These forms, a ragtag assemblage of unrelated verbs lacking unifying morphological and semantic characteristics, seem rather to be the result of low-level lexical analogies and late innovations than the continuation of a robust present formation of the protolanguage. For these reasons, the characteristic properties of *\*-d<sup>h</sup>*- established in the previous chapter

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<sup>1</sup>In Germanic cf. also Goth. *-maitan* ‘hew’ (so *LIV*<sup>2</sup> 427 tentatively s.v. *\*meḷH-*) and Oic. *fljóta* ‘flow’ to *\*pley* ‘float’.

<sup>2</sup>Note further the phrasal equation between RV X 150,1 *mīlīkāya na ā gahi* “come to (show) us mercy” and Yt.10.5 *āca nō jamiiāt. . . marždikāi* “let (Mithra) come to (show) us mercy,” which reveals the Indo-Iranian age of *\*m(a)rždiká-* that in turn suggests a noun *\*m(a)rž-di-* (cf. *\*dṛṣī-* ‘act of seeing’ [Ved. *dṛśāye*] → adj. *\*dṛṣīká-* ‘looking’ [Ved. *dṛśika-* ‘worthy to be seen’]).

for Greek—full grade of the root, intransitivity, active inflection and confinement to the present system—can be used as diagnostics on a case by case basis in those places where phonology presents ambiguities.

### 3.1 Indo-Iranian

It is natural to begin this investigation with Indo-Iranian, the verbal system of which preserves many of the categories that are reconstructed for the protolanguage. But despite the overall conservative nature of this branch of Indo-European, evidence for presents built with suffixal  $*-d^h-$  is scant. Certainly by the historic period, the suffix had been fully lexicalized, and it likely was long before this time as well. But if the general tendency was for the morpheme  $*-d^h-$  to lose ground in both Indic and Iranian, it seems to have gained ground in the derived causative suffix  $-daiia-$  of Avestan. These find an analogue in the Lithuanian iterative-causatives in  $-dy-ti$ , which will be discussed in the following chapter.

#### 3.1.1 Sanskrit

The Sanskrit verbs  $édha-te$  ‘thrive’ and  $sádha-ti/te$  ‘is successful’ (beside  $sédha-ti$  ‘repel’) are the clearest examples of  $d^h$ -presents in Sanskrit, while a third verb  $márdhati$  ‘be neglectful (intr)’ offers itself as a strong possible candidate on morphological and semantic grounds. These are discussed in succession below.

$édha-te$  The only Vedic  $dha$ -present with cognates outside of Indo-Iranian is  $édha-te$  ‘thrive’, which forms a direct word equation with Grk.  $\alphaῖθω$  ‘shine, burn’ and Arm.  $ayrem$  ‘id.’. The Sanskrit verb shows the expected full grade of the root and intransitive semantics, differing from the Greek only in its medial voice, which is likely an innovation. Like its Greek cognate, the Vedic verb was originally confined to the present system, which later spawned an  $iṣ$ -aorist that is first attested in the Yajurveda (Narten 1964:89–90). The reader is referred to the discussion of  $\alphaῖθω$  in the previous chapter.

$sádha-ti/te$



The verb Ved. *sādha-ti/te* ‘is successful, brings to a successful conclusion’ has both the semantic profile and morphological shape expected in a  $d^h$ -present. In the Ṛgvedasamhitā, the active voice is still used both intransitively (RV II 94,2, III 1,17, IV 1,9, V 3,8, VI 66,7, 70,3) and transitively (I 2,7, 96,1, II 19,3, III 1,18, 23, 5,3, 38,9, IV 16,3, 56,7, VII 34,8, X 74,3).<sup>3</sup> This verb also lacks an aorist, another hallmark of  $d^h$ -presents.<sup>4</sup> Importantly, the  $d^h$ -present implied by *sādha-ti* must go back to the protolanguage if the traditional connection of *sādh-ú-* ‘direct, good’, with Grk. εὐθύ-ύ-ς ‘straight’ is to be upheld (see immediately below).<sup>5</sup>

Of the various roots with the shape  $*seH$  that might have served as the derivational basis for *sādhati*, the obvious candidate on both semantic and morphological grounds is  $*seh_1(i)$  ‘release, shoot, sow’.<sup>6</sup> This root formed an  $i$ -present in the protolanguage 3sg.  $*séh_1-i-e$  : 3pl.  $*sh_1-i-énti$  that is continued in Hitt. *sāi* : 3pl. *siyanzi* ‘impress, seal’, CLuw. *sāi* ‘releases’, Lith. *sė-ju* ‘sow’, OCS *sě-jo* ‘id.’, Goth. *saijan* ‘id.’, Lat. *sēuī* ‘sowed’ etc. (HIEV 95). As is often the case with  $i$ -presents, the  $i$ -formant came to be treated as an optional part of the root and consequently surfaces in nominal forms as well, such as Ved. *sāyaka-* ‘missile’ and *sénā* ‘army’ [= YAv. *haēnā-* ‘id.’].<sup>7</sup>

As the current study has suggested and will further demonstrate in the coming *sédha-ti* chapters, a special relationship obtained in Proto-Indo-European between  $i$ -presents and  $d^h$ -presents. This relationship is exemplified by the existence of a present  $*seh_1-d^h-$  ‘go straight, succeed’ beside  $*séh_1-i-$  ‘send flying straight’. The close association between these

<sup>3</sup>It is ultimately the formal iterative-causative RV+ *sādhāya-* ‘makes succeed’ [= Pā. *sādheti*] (cf. RV+ *rādhāyati* ‘id.’, see Jamison 1983:159) that comes to fill this function; cf. JB *sādhnoti* ‘brings to completion’.

<sup>4</sup>The causative aorist RV+ *sīśadhat* that is associated with the present *sādhāyati* is an inner-Indic formation.

<sup>5</sup>RV *prāsita-* ‘shot forth’ (said of birds) could continue the  $d^h$ -less verbal adjective  $*sh_1-tó-$  that might have been expected as part of the original averbo of pr.  $*séH-dh-$ .

<sup>6</sup>For the development ‘move straight’ → ‘succeed’, cf. Hebrew *’āšar* ‘go straight’ → *’ešer* ‘happiness’. On the semantics of  $*seh_1$  see especially (Kölligan 2013).

<sup>7</sup>Likely also *sītā-* ‘furrow’ <  $*sīh_1-teh_2-$ , *sīmān-* ‘border’ <  $*sīh_1-mén-$  and *sīra-* ‘plow’ <  $*sīh_1-ro-$  (with substantivizing accent retraction).

two present formations is dramatically underscored by the existence of a contaminated present *\*séh<sub>1</sub>-i-d<sup>h</sup>-*.<sup>8</sup> This is the preform implied by Ved. *sédhati* (RV+) ‘impels, repulses; go (Dhp.)’. Though the present is transitive in Vedic, a trace of original intransitive usage may be preserved in one instance in the perfect (cf. Kümmel 2000:578; Gotō 1987:327<sup>793</sup>):

RV I 32,13ab *násmai vidyún ná tanyatúh siṣedha, ná yám máham ákirad dhrādúniṃ ca /*  
‘The lightning and thunder did not come to his aid, nor did the sleet and hail that he scattered.

Furthermore, like its sister verb *sádhati*, *sédhati* seems to have originally lacked an aorist. The attested aorist RV *sedhās* ‘you repulsed’ is shown to be innovative by the short diphthong in its root (Narten 1964:267).

Interestingly, the present *\*séh<sub>1</sub>-i-d<sup>h</sup>-* seems to have belonged to the protolanguage. Though this verb does not survive into attested Greek, such a present formation likely underlies the “Caland” adjectives Ionic ῥόζ < *\*sih<sub>1</sub>d<sup>h</sup>-ú-* ‘straight’ and the Homeric hapax εἶθαρ ‘straight away’ < *\*séh<sub>1</sub>id<sup>h</sup>ur(?)* (cf. Peters 1980:86). Though Schwyzer (*Gr.Gr.* I:256), Frisk (*GEW* I:587) and others maintain that Attic εὐθός arose via an assimilation *\*εἶθός > εὐθός*, this is unlikely given that such a change is unparalleled within Greek, whereas the opposite tendency—dissimilation of this very sequence—is well known to have occurred (viz. *\*yéuk<sup>h</sup>-e > εἶπ-ε* ‘said’); the adjective ῥόζ (or possibly a by-form *(\*)εἶθός* with full grade) was rather remade to εὐ-θός by a positive taboo deformation under the influence of the prefix εὐ- ‘good, well’ and the adjective εὐρός ‘wide’.<sup>9</sup>

Returning to Indic, it will be noted in closing that derivatives of semantically and structurally similar *sádhati* and *sédhati* and their etymological adherence to the one or the other neo-root were, quite understandably, routinely confused by speakers of

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<sup>8</sup>Alexander Nikolaev (p.c.) points out to me the similar relationship that may obtain between *\*séh<sub>1</sub>-k<sup>h</sup>o-* (Grk. ῥίχω ‘arrive’) and *\*séh<sub>1</sub>-i-k<sup>h</sup>o-* (Lith. *siekti* ‘attempt to obtain, reach’). See further (Nikolaev 2022c:48<sup>59</sup> et passim).

<sup>9</sup>See (Willi 2001) for an alternative proposal connecting this family of words with a putative root *\*H<sub>2</sub>eyd<sup>h</sup>* ‘gerade sein, sich gerade richten’.

Vedic Sanskrit. So for instance the derived present RV+ *sidhyati* ‘succeed’ and the “Caland” adjectives<sup>10</sup> RV *sidhmá-* ‘successful’ and RV+ *sidh-rá-* ‘successful, on target’ (cf. OAv. *hādra-* ‘correct’) can likely be ascribed to *sādhati*, but from the internal perspective of Sanskrit look rather like they belong to *sédhati*.

The verb RV+ *márdhati* ‘be neglectful (intr), neglect (tr)’ together with its possible<sup>11</sup> *márdha-ti* Gathic cognate OAv. *mar<sup>o</sup>da<sup>i</sup>tī* (Y.51.13) ‘verderben; destroys’<sup>2</sup> does not have a commonly accepted etymology.<sup>12</sup> It does, however, have the shape and semantic profile that would be expected of an inherited *d<sup>h</sup>*-present, quasi \**mér-d<sup>h</sup>*-.

The verbal adjective *mṛddhá-* (MS I 9,3), which appears to mean not ‘neglected’\* but ‘neglectful’ (used in opposition to preceding *vīryāvanta-*, see Narten 1964:198<sup>580</sup>), suggests that the intransitive usage of the active is old. It was also likely the original stative-intransitive semantics of *mar-dha-* that, as in the case of *sā-dha-*, facilitated the creation of various deverbal “Caland” derivatives. These include a substantivized adjective RV+ *mṛdhrá-* ‘contempt’ (← \*‘remiss, contemptible’), a root noun RV+ *mṛdh-* ‘contempt, contemner’ and an *s*-stem abstract RV+ *mṛdhas* ‘contempt’.<sup>13</sup>

A further indication of the historical primacy of the active-intransitive present can be seen in an odd near split in valency in the Ṛgvedasamhitā between the usually intransitive present *márdha-* (intr. III 54,14, VI 60,4, VII 49,4; tr. I 166,2) and the usually transitive

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<sup>10</sup>Other “Caland” system derivatives of the neo-root \**seh<sub>1</sub>d<sup>h</sup>* include RV+ *sādh-ú-* ‘on-target, good’ [≈ Grk. εὐθύς ‘straight’], (-)*sādhas* (inf. RV VIII 71,12; *kṣetra-sādhas-* III 8,7, VIII 31,14 ‘blessing the fields’<sup>2</sup>) (see Nowicki 1976:133–4) and perhaps Elamite *had-u-*, which Gershevitch (1969:223) sees in *BATKADUŠ*.

<sup>11</sup>This Gathic hapax is referred by Bartholomae (1904:1150) rather to the same root as the nasal-infix present OAv. *mōr<sup>o</sup>ndaṭ* (Y.32.10) ‘wrecks’ ≈ Ved. *mṛdnāti* ‘press, rub’, of which a thematic present *márdati* appears in the verb lists of the Naighaṇṭuka (II 14, ed. Roth).

<sup>12</sup>A connection with Grk. \**μαλθός* (implied by *μάλθη* Cratin.204 ‘mixture of wax and pitch’, cf. further *μάλθων* ‘weaking’ and *μαλθαχός* ‘soft’) and PGmc. \**mildī-* ‘mild’ is plausible but tells us little about the history of the verb (cf. *LIV*<sup>2</sup> 431; *EWAla* II:328; *GEW* II:167). Anthony Yates (p.c.) suggests to me the possibility that the meaning ‘be neglectful’ could be derived via intermediary ‘be absent’ from the root \**mer* ‘die; disappear’, the latter meaning of which can be seen in Hitt. *mer-zi* ‘disappear’.

<sup>13</sup>A *u*-stem adjective may stand behind JB *mardhu-ka-* ‘neglectful’, but deverbal adjectives in *-uka-* had become a productive class by this period (cf. *AiG* II:2,480).

root aorist *mṛdh-/\*mardhiṣ-* (tr. IV 20,10, VI 23,9<sup>14</sup>, VII 32,5, VIII 61,6, 73,4, 74,3, 81,4; intr. III 54,21, VII 25,4). This distribution, out of place in the synchronic grammar of Vedic, could hint at the previous existence of a more complex averbo that has become reduced and contaminated. For all of these reasons, it is likely that *márdha-ti* either continues a *d<sup>h</sup>*-present or has been influenced by this class of present at a time when they were productive.

No other Sanskrit verbs present themselves as particularly likely candidates, though some have been suggested by scholars.<sup>15</sup> It is in Avestan that the suffix has left more copious traces.

### 3.1.2 Avestan

In Avestan, the complete merger of *\*-d<sup>h</sup>-* and *\*-d-* makes it impossible to distinguish between *d<sup>h</sup>*-presents and presents containing suffixal *\*-d-* on phonological grounds. Nevertheless, other factors can help to assess the historical identity of Iranian *\*-d-*. The verb OYAv. *frāda-ti/te* ‘further’ forms a word equation with Grk.  $\pi\lambda\acute{\eta}\theta\omega$  ‘am full’ and almost certainly contains the dental-aspirate suffix. Other more dubious cases that are still worthy of consideration are YAv. *raō-ḍa-ti* ‘flow’, YAv. *-x<sup>v</sup>ab-da-ti/te* ‘sleep’ (together with *-x<sup>v</sup>ab-daiia-ti* ‘put to sleep’) and *snāḍaiia-ti* ‘wash’, all of which are discussed in this section.

*frāda-ti/te*

No fewer than four characterized presents to the root *frā* ‘fill’ are attested in Indo-Iranian. The concept ‘fill (tr)’ is regularly expressed in both Vedic and Avestan by a

<sup>14</sup>On the identification of *mṛdhāti* as an aorist see (Narten 1964:199; Joachim 1978:131).

<sup>15</sup>Tedesco (1945:85) intriguingly suggests that the rare verb Skt. *vardhayati* ‘cut’ is the causative to a *d<sup>h</sup>*-present associated with *lu-nā-ti* ‘cut’ (< *\*u<sub>l</sub>-naH-ti* with semi-regular metathesis *\*u<sub>l</sub>R<sub>i</sub>* > *\*Ru*). Ved. *iṣudhyá-ti* ‘implore, request’ = OAv. *išū<sup>v</sup>diiāmahī* ‘we bring strength’ beside OYAv. *išud-* ‘strength’? (*EWAia* I:200f.; Narten 1986:159ff.; Schindler 1979:57; Bartholomae 1904:375) is sometimes cited in this context but appears to be denominal. The participle Ved. *dódhant-* ‘raging, repugnant’ has traditionally been taken to be a *d<sup>h</sup>*-present in connection with the root *\*d<sup>h</sup>eyH* of Ved. *dhūnóti* ‘shakes’ but this analysis is no longer tenable after the advent of laryngeal theory (*IEW* 264; *EWAia* I:731; *LIV*<sup>2</sup> 148; Schindler 1967). A *d<sup>h</sup>*-present to *\*d<sup>h</sup>ey* ‘run’ (Ved. *dhāvati* ‘runs’, Grk.  $\theta\acute{\epsilon}\omega$  ‘run’) remains a possibility. The root *śudh* ‘clean’ is traditionally connected with the root *\*kēy* of Ved. *śó-ṇa-* ‘red’ and *śv-ás* ‘tomorrow’ (*IEW* 595; *EWAia* II:657), but neither the semantics nor the morphology (nasal-infix present *śúndhati* ‘cleans’ but no *śódhati\**) make this connection fully compelling.

nasal-infix present Ved.  $pṛṇā̃^{-ti} \approx$  OAv. 2sg. ipv.  $pəṛəṇā$  (Y 28.10). Beside this, isolated 3sg. mid.  $ápiprata$  (RV V 34,2) ‘filled for himself’ continues a thematic reduplicated present that can be compared with Grk.  $\pi\acute{\iota}\mu\pi\lambda\eta\mu$  (cf. Narten 1969a).<sup>16</sup> The passive/anticausative to this root in Vedic is supplied by productively-formed  $púr̥yate/púr̥yáte$  ‘fills (intr), is filled.’ It is only in Avestan that we find the  $d^h$ -present OYAv.  $frāda^{-ti/te}$  that forms a word equation with Greek  $\pi\lambda\acute{\eta}\theta\omega$ .

A semantic shift from \*‘is full’ to ‘prosper’ accompanied the separation of  $*frā-d^ha-$  from the paradigmatic complex of  $*pípra^{-ti}$  ‘fill (tr)’ and  $*pṛṇā̃^{-ti}$  ‘fill (tr)’.<sup>17</sup> When the factitive counterpart of  $frā-da-$  could no longer be supplied by  $*pípra^{-ti}$  on semantic grounds, this facilitated the adoption of voice-dependent valency, resulting in the creation of the oppositional pair: active-causative  $frā-da-ti$  ‘furthers’  $\sim$  middle-anticausative  $frā-da-te$  ‘prosper’.<sup>18</sup>

The verb YAv.  $raōḍa^{-ti}$  ( $raod^4$ ) ‘flow’ is taken by Brugmann (*Grd.*<sup>2</sup> II,3:374) to be a  $d^h-$   $raōḍa^{-ti}$  present made to the root  $*srey$  ‘flow’ of Ved.  $srāv-a-ti$  ‘flows’, Grk.  $\rho\acute{\epsilon}\omega$  ‘id.’. This scholar further points to the nominal derivative Ved.  $vi-srúh-$  (RV V 44,3, VI 7,6), which the indigenous tradition takes to mean ‘current’ (Nir. VI,3), as evidence that the characterized present contained an aspirate and existed in Proto-Indo-Iranian.<sup>19</sup> The verb  $raōḍa^{-ti}$  is

<sup>16</sup>It is surprising that Grk.  $\pi\acute{\iota}\mu\pi\lambda\eta\mu$ , as a historic  $i$ -reduplicating present, is not thematic like Ved.  $pípra^{-ti}$ . It may be that  $\pi\acute{\iota}\mu\pi\lambda\eta\mu$  represents a contamination of  $*pil-nē-mi$  ( $< *p\acute{i}l-néh_1-mi$ ) and thematic  $*pípl-ō$  ( $< *pípl\acute{h}_1-e[-ti]$ ), which can help to explain both the unexpected nasal and athematic inflection of this verb.

<sup>17</sup>The semantic development ‘fill’  $\rightarrow$  ‘further’ likely passed through an intermediary stage ‘fill (sc. with food)’ (cf.  $frādat.fṣu-$  ‘making livestock prosper [i.e. feeding livestock]’). A similar but later semantic development has occurred in the  $d$ -less causatives Khotanese  $pār-$  ‘nourish’ and Sogdian  $p’r$  ‘fill, nourish’ (cf. Cheung 2006:296; cf. further the family of OEng.  $spōwan$  ‘succeed’, OCS  $spějō$  ‘id.’, Ved.  $sphāya^{-te}$  ‘become fat’).

<sup>18</sup>Another factor that could have contributed to this typologically unremarkable shift in valency was the association and frequent collocation of  $frā-da-$  with bivalent  $vard-a-$  ‘grow’: OAv. act.  $var^p dā^i tī$  ‘makes strong’: mid. (subj.)  $var^p dātaē(-ca)$  ‘grow’ [= Ved.  $vārdhati$  ‘makes strong’:  $vārdhate$  ‘grows’], both in the Gāthās (Yt.13.68  $frādātaē-ca var^p dātaē-ca$  ‘may (our land) prosper and grow’, see Hoffmann 1969:262ff.) and in Young Avestan (A.4.6  $frāḍati-ca var^p dāti-ca$ , V.2.4  $frāḍaiia...var^p dāiia$ , V.2.5  $frāḍaiieni...var^p dāiieni$ , V.21.1  $frāḍəṇte...var^p dəṇte$ , V.4.2  $frāḍəṇnahe var^p dəṇnahe$ , see Bartholomae 1904:1012–3).

<sup>19</sup>On the interpretation of RV  $vi-srúh-$ , see further (Mayrhofer *EWAia* II:785; *KEWA* III:555) with references.

traditionally seen in the following two passages from the Avesta (Bartholomae 1904:1495):

Y.9.11 [= Yt.19.40] *yō janaṭ aṣīm sruuarəm. . . yim upairi viš araodaṭ arštiiō.barəza za<sup>i</sup>ritəm*

“... who killed the horned serpent ... upon whom poison (Hintze: poisonous bush) was flowing (/grew) to the height of a spear.”

V.18.46 *yaṭ nā x<sup>v</sup>aptō xšudrâ frāraodaiie<sup>i</sup>ti*

“... when a man lets his seed to pour forth while he is asleep.”

The interpretation of Brugmann and his contemporaries loosely follows that of the Zend, which renders *araodaṭ* as *ranēnād estād* ‘was ejected’. Strong additional support for this analysis comes from the substantive YAv. *raodah-* (N) ‘*rōdag*; river’ as though from \**sréy-d<sup>h</sup>-es-*:

N.8.2[=26] *yō gāθâ srāuuaiie<sup>i</sup>ti apō vā pa<sup>i</sup>tiš.x<sup>v</sup>aine raodaṅhō vā kərəsanəm vā gaḍōtinəm*

“He who recites the Gāthās while there is an interfering noise of water, or of a river or of highwaymen or of robbers. . . .” (Kotwal and Kreyenbroek 1995)

Although this etymological interpretation of the Avestan verb is highly plausible, it has fallen into disfavor in contemporary scholarship. Kellens (1974:81–3) has expressed doubts as to the existence of *raod<sup>4</sup>*, referring these passages instead to *raod<sup>2</sup>* ‘grow’ [= Ved. *ruh* ‘ascend’] without significant argumentation. In the service of doing away with this root, this scholar explains the substantive *raodah-* as meaning not ‘stream’ but ‘lamentation’ (from *raod<sup>1</sup>* ‘lament’). Hintze (1994:215–6) builds on Kellens’ interpretation, suggesting that if the verb means ‘grew’, the root noun *viš*, which appears only here, must refer to a poisonous plant as opposed to ‘poison’.

Though it is methodologically valid to second-guess both the Zend and received scholarly knowledge, the objections that have been raised against this verb are not particularly compelling. The traditional interpretation of *raoda-ti* as a *d<sup>h</sup>*-present can be regarded likely not only on account of the derived nominals in both Indic and Iranian mentioned above but also when one considers the full grade of the root of the characterized

verb, the intransitive semantics ('flow') expected in a  $d^h$ -present and even the active inflection that I have argued is a hallmark of this type in Greek. There is, in other words, significant evidence in favor of reconstructing PIIr.  $*sráy-d^h$ - 'flow' as though from PIE  $*sréy-d^h$ - 'id.'

In Avestan, we further find a present YAv.  $-x^v ab-da-ti/te$  'sleep' (quasi  $*suyéb-d^h e$ -) with  $-x^v abda-ti/te$  caus.  $-x^v ab-daiia$ - 'put to sleep' (quasi  $*suyobd^h éje$ -) to the root  $x^v ap$  'sleep' (PIE  $*suep$  'id.'). Three logical possibilities present themselves for the historical interpretation of the present stem: (1)  $-x^v ab-da-$  is inherited, (2)  $-x^v ab-da-$  was created in Iranian using productive verbal morphology or (3)  $-x^v ab-da-$  is some type of analogical formation.

A lack of cognates speaks against but does not positively exclude an inherited present  $*suyéb-d^h$ - 'is asleep'. There is good reason to think that the root  $*suyap$  belonged to a suppletive averbo in Indo-Iranian, the present of which was supplied by  $*sás-ti$  'sleep' ( $sás-ti$  'id.', OAv. *hahmī* Y.34.5 'id.', Hitt. *šeš-zi* ~ *šaš-anzi* 'id.'), beside which  $*suyap$  was used to form the perfect  $*sušyápa$  'sleeps' (*sušvāpa* AVP 'id.', YAv. *hušx<sup>v</sup>afa* 'id.') and perhaps a causative  $*suyāpaia-$  'put to sleep' (Ved. *svāpáyati* 'put to sleep, (ritually) kill', YAv.  $x^v ab[d]aiie^i ti$  'put to sleep', see Jamison 1982, 1983:121, 218).<sup>20</sup> Whether this constellation of forms would have left room for a  $d^h$ -present is a matter for speculation.

But even if  $*suyéb-d^h$ - was not a cornerstone of this root's Indo-European or Indo-Iranian averbo, it is interesting that the Avestan verb conforms in every way to the criteria established in the previous chapter for Greek  $\vartheta\%$ -presents, showing full grade of the root, active inflection, intransitive semantics, confinement to the present system, and even finding a typological counterpart in isolated and synonymous Grk.  $(*)\delta\acute{\epsilon}\rho-\vartheta\omega$  'sleep'. There is furthermore a possible hint that the Avestan verb may have originally

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<sup>20</sup>The reconstruction of a root aorist  $*svép-t$  finds little support in the daughter languages pace Barton (1985), whose Aktionsart-based analysis of the root as semantically "aoristic" is taken up by *LIV*<sup>2</sup> (612). Hittite *suppari* 'sleeps' can easily be taken on formal grounds to continue a "stative-intransitive" present  $*sup-ór$ . Less probative still is Vedic *svapánt-*, which in all instances can most easily be taken to mean 'asleep' (not +TEL 'having fallen asleep' vel sim.). This form can and should be understood not as an aorist (Barton 1985:27) but as a present participle replacing *sas-ánt-* (RV ×8), where the suffixal accent in the present is morphologically to be expected (cf. *svási-ti* ~ *svas-ánti* [Kāś. ad Pāṇ. VI 1,188] ~ ptcp. *svas-ánt-*).

been actively inflecting; though the medial participle appears in older texts (YAv. *an-  
auua-ηhabdāmnō* ‘not falling asleep’ Y.57.16, Yt.10.103, 11.11 (×2), *auua-η<sup>v</sup>xabdaēta*  
V.4.45), the Nērangestān transmits the active forms *auua-η<sup>v</sup>habdānti* ‘(lie down to) sleep’  
(N.34.4[=52]) and the active participle *auuaηha.bdāntō* (35.3[=53], v.l. *auuaηha.bdāmnō*).  
These active forms may preserve an old usage, though the shaky nature of the transmission  
of this text does not permit for definite conclusions to be drawn from this fact.

A second present YAv. *x<sup>v</sup>af-sa-* (V.18.16, V.18.24, H.2.42) ‘(fall a)sleep’<sup>21</sup> bearing the  
suffix *\*-sa-* < *\*-sk̄e/o-* occurs beside YAv. *x<sup>v</sup>ab-da-*. This stem shows full-grade of the  
root, a feature regular in a *da*-present but aberrational in a *sa*-present. It is likely that  
full-grade *x<sup>v</sup>afsa-* has replaced expected *\*hufsa-*, which is not directly continued in any  
Iranian language.<sup>21</sup> If *x<sup>v</sup>ab-da-* and *\*huf-sa-* once existed side by side and in similar  
meanings, it was likely the full grade of *x<sup>v</sup>ab-da-* that served as the source for that of  
*x<sup>v</sup>af-sa-*, providing another possible indication of the primacy of this *da*-present within  
Avestan. It is finally noteworthy that the morphological pair YAv. *x<sup>v</sup>abda-* : YAv. *x<sup>v</sup>afsa-*  
mirrors Grk. Ἀρέθουσα : ἀρέσχω as noted in the previous chapter.

These considerations make it likely that the a *d<sup>h</sup>*-present *\*xyab-da-* was formed at  
a relatively early date when the class of *da*-presents had a stronger foothold in Iranian  
than they do in the historic period. The purpose of this innovative present formation  
would have been to supply a non-suppletive present to pf. *\*hušyāpa*. There is significantly  
more evidence pointing in this direction than there is reason to believe, with Kellens  
(1984:163), that the causative *-x<sup>v</sup>ab-daiia-* is the older of the two formations and that  
*x<sup>v</sup>ab-da-* was back-formed to this. The causative is, if anything, morphologically more  
problematic than is the simple present, finding a counterpart only in YAv. *snā-δaiia-*  
‘wash (tr)’ (on which see immediately below). It is more straightforward, in other words,

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<sup>21</sup>The editors of *LIV*<sup>2</sup> (612) call attention in this context to Sogdian 3sg. ipf. *w’βs* /wāβs/ ‘slept’, from  
which Gershevitch (1954:97) infers an unattested present stem *\*’wbs-* /uβs-/ ‘sleep’, which in turn could  
have resulted from expected PIr. *\*hufsa-* ‘sleep’. But if Sogdian inherited *\*xyafsa-*, this would have given  
consonant-initial *\*/χufs-/* (cf. *xwt’w* /χutau/ ‘lord’ < *\*xyatāyan-*, Gershevitch 1954:35), which would  
have stood beside preterit *’wβt-* /uβt-/ < *\*hufta-* < PIIr. *\*suptá-*. The discrepancy in onset between  
*\*/χufs-/* and */uβt-/* could then easily have been resolved in favor of the vowel-initial form, which means  
that Sogdian *w’βs* does not provide unambiguous evidence for the zero-grade form that likely once existed.



to explain *x<sup>v</sup>ab-da-* as a primary formation and *x<sup>v</sup>ab-daiia-* as derived from this than the reverse. As an intransitive active verb, *x<sup>v</sup>ab-da-* would naturally have made use of the productive causative suffix *-aiia-* in order to form its derived factitive counterpart. Avestan *-x<sup>v</sup>ab-d-aiia-* ‘put to sleep’ beside *x<sup>v</sup>ab-da-* ‘sleep’ can be compared with Vedic *sā-dh-áya-* ‘make succeed’ beside *sā-dha-* ‘succeed’.

The root YAv. *snā* ‘wash’ forms two presents, inherited YAv. *snāiia-ti* ‘wash (tr)’ (< *snāδaiia-ti* \**snāH-ájā-* OR \**snāH-ja-*, Sogdian *sn’y-* /*snāy-*/ ‘wash’) and innovative YAv. *snā-δaiia-ti* (V) ‘wash (tr)’ to which attention has been called above. No intransitive formation comparable to Ved. *snā-ti* ‘bathes (intr)’ is attested in Avestan or elsewhere in Iranian, and it is not likely that speakers would have viewed pr. *snaiia-* ‘wash’ (v.a. *snāta-* ‘washed’) as a causative even if this was indeed its ultimate morphological source. They would rather have grouped this present with other *ja-*-presents like OAv. pr. *kaiia-* ‘desire’ (: YAv. v.a. *kāta-* ‘desired’).

Two logical possibilities present themselves, and both suggest that Proto-Indo-Iranian possessed a class of *d<sup>h</sup>*-present. The first possibility is that *snāδaiia-* could point to an earlier \**snā-da-* ‘bathe’ (quasi \**snéh<sub>2</sub>-d<sup>h</sup>*- ‘swim, bathe’), and that this was lost (or is coincidentally unattested) but came to form a causative *snāδaiia-* ‘make bathe’ that survives into the language of the Vīdēvdād beside *snaiia-* ‘wash’. There is nothing implausible about this scenario but there is also no other evidence to support the reconstruction of a *d<sup>h</sup>*-present to this root. The second possibility is that there was simply a class of *daiia*-iterative-causatives in Avestan of which only two representatives, *snāδaiia-* and *x<sup>v</sup>abdaiia-*, happen to be attested. These would ultimately have grown out of genuine *da*-presents, which as a rule were intransitive and so would have furnished a good starting point for causative formations. If this were the case, we might expect *snaiia-* and *snāδaiia-* to have contrasting meanings along the lines of ‘wash’ and ‘make wash’ or perhaps ‘wash repeatedly’. As the two verbs are not used contrastively side-by-side in our texts and as the nature of these texts does not allow for such subtle judgements in the first place, this

scenario cannot be proven or disproven.<sup>22</sup>

In sum, it would be impossible to reconstruct a present type  $R(\acute{e})-d^h$ - based on internal evidence from Indo-Iranian, but the comparative evidence allows us to recognize clearly and unambiguously the traces it has left in these languages. In Vedic, *édha-te* ‘thrive’ and Ved. *sādha-ti/te* ‘is successful’ and in Avestan *frāda-ti* ‘furthers’ are the clearest examples.

## 3.2 Celtic

It is in the Brittonic languages rather than Irish that distinct traces of Celtic  $d^h$ -presents have been preserved. The only sure cases are MW *tođi* ‘melt’ and *cwyđaw* ‘fall’, both of which continue full-grade formations with suffixal  $-\delta$ - (<  $*-d^{(h)}$ -) and both of which are intransitive.

*tođi* Middle Welsh *tođi*, 3sg. *tawđ* ‘melt, thaw’ [= OBret. *teuziff* ‘id.’] can only continue Proto-Celtic  $*tā-d^h$ - as though from PIE  $*téh_2-d^h$ -,<sup>23</sup> a  $d^h$ -present to the root  $*teh_2(i)$  ‘melt’ of OCS *tajǫ* ‘melt’ and Arm. *t<sup>c</sup>anam* ‘make wet, submerge’ (*LIV*<sup>2</sup> 616). The status of this verb as  $d^h$ -present (as opposed to a  $d$ -present) as well as its Italo-Celtic date are confirmed by Lat. *tābēs* <  $*teh_2-d^h-u$ - ‘wasting away’, which is discussed in the following section. In Irish, the same root PCelt.  $*tā$  surfaces in two hapax legomenō. The first of these is 3sg. subj. *ar-na-ttá* (Mon. Tall. 159,35)<sup>24</sup> ‘should vanish, should dwindle’ (*eDIL*

<sup>22</sup>A third and less likely possibility is that *snāđaiia-* has an analogical source within the textual tradition of Young Avestan. It is possible that  $^{\circ}\delta^{\circ}$  was the result of contamination in a specific collocation of words, such as the occasional pairing of *frasnāđaiia-*, *yaožđaiia-* and *uzdāđaiia-* (V.7.74–5, 8.40, cf. *yaožđā<sup>i</sup>ti* and *frasnā<sup>i</sup>ti* V.5.57–8). It is hard to imagine that such a purely collocational leveling could have taken place if a larger class of verbs in  $-đaiia-$  did not already exist.

<sup>23</sup>A preform PCelt.  $*tā-ǰ$ - would have come out in Welsh as 1sg. *toaf*\* like *cnoaf* ‘gnaw’ [= OIr. *·cná* ‘id.’] <  $*knā-ǰ$ -.

<sup>24</sup>*The Monastery of Tallaght*, ed. Gwynn and Purton (Dublin: Hodges, Figgis & co., 1911). When the holy man Maelruain learns that the anchorite Colcu has subsisted off of very meager food, giving away what is given him for fear of becoming ritually polluted by those that brought it to him, the priest tells the anchorite: *Is si mo riarsa am olsesiom arnatta do saogal ní do tórmuch forsind fitt teirc sin cen cop étech 7 cen cop accobar lat.* “‘This is my will truly,’ said he; ‘so that thy life fail not, to make some increase in that scanty pittance, without leaving thee free to refuse it or desire it (?)’” (emphasis added).

s.v. 1 *do-tuit* following *VKG* II:656). The second is pf. 3sg. *ro-tetha(e)* (Fél. Prol. 193)<sup>25</sup> ‘vanished, died’ (*eDIL* s.v. *tinaid*). And to this picture must be added the verbal noun *tám* ‘disease, swoon death’ < \**tā-mu-*.<sup>26</sup>

Schumacher (2004:627) shows that the attested forms of the Irish verb allow us to posit with confidence a present indicative (\*)*taïd* < PCelt. \**tā-ǵ/o-* ‘melt, decay’, cognate with OCS *tajǫ* ‘melt’ and continuing an *i*-present \**téh<sub>2</sub>-ǵ-* (see fn. 27). Both reduplicated *s*-preterits (see Schumacher 2004:70) and verbal nouns in \**-mu-* (see Schumacher 2000:128–9; so already Marstrander 1924:14) regularly correlate with hiatus presents in Irish. The latter correspondence is highly robust, and examples include but are not limited to *sniid*, *·sní* ‘spin’ : *sním* ‘spinning’, *ráid*, *·rá* ‘row’ : *rám* ‘rowing’, *gniid*, *·gní* ‘do’ : *gním* ‘doing’, *snaïd* and *·sná* ‘swim’ : *snám* ‘swimming’.

Welsh *tođi* reflects as faithfully as possible the by-now-familiar characteristics of a *d<sup>h</sup>*-present. The root vocalism *o* : *aw* < PCelt. \**ā* reflects an Indo-European full-grade formation \**téh<sub>2</sub>-d<sup>h</sup>-*. Its semantics are strongly intransitive. And it is further noteworthy that the constellation of present stems (\*)*taïd* ~ *tinaid*<sup>27</sup> ~ *tođi* in Celtic recalls that of Ved. *púryate* ~ Ved. *prṇāti* = OAv. *ipv. pəṛəṇā* ~ OAv. *frādəṇte* = Grk. *πλήθω*.

The other Brittonic verb that bears the formant PCelt. \**-d/o-* is MW *cwyđaw* ‘fall’ [= *cwyđaw* MBreton *coezaff* ‘(be)fall, MCorn. *koedha* ‘id.’]. This can be straightforwardly traced back

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<sup>25</sup> *Féilire Óengusso Céili Dé: The Martyrology of Oengus the Culdee*, ed. Stokes (London: Harrison and Sons, 1905). *Borg Emna ro tetha*, / *acht mairte a clocha*: / *is rúam iarthair betha* / *Glenn dálach dá locha*. “Emain’s burgh it hath vanished, save that its stones remain : the cemetery of the west of the world is multitudinous Glendalough” (emphasis added).

<sup>26</sup> The semantic gap between ‘melt’ and ‘die’ over ‘dwindle’ is not large, cf. Middle Breton (*e*)*steuziff*, which means not ‘melt’ but ‘disappear, be consumed’ and OIr. *tinaid* ‘melt, vanish’.

<sup>27</sup> The intransitive verb *tinaid* ‘melt, decay’ likely continues an *h<sub>2</sub>e*-conjugation nasal-infix present \**ti-nh<sub>2</sub>-e[-ti]* (> PCelt. \**tin-e-ti*) that served as the anticausative to \**ti-néh<sub>2</sub>-ti* (cf. OEng. *pīnan* ‘become wet’, TochB *ti-n-* ‘be dirty’<sup>?</sup>, cf. Gorbachov 2007). The root \**tih<sub>2</sub>* ‘melt’ on which the Celtic verb appears to be based is more plausibly taken to have resulted from a reinterpretation of the zero grade of \**teh<sub>2</sub>(i)* ‘melt’ (with laryngeal metathesis) than from a separate root \**tejh<sub>1</sub>* (*LIV*<sup>2</sup> 617). Traces of zero-grade \**tih<sub>2</sub>*- can be seen in OIc. *þíðr* ‘not ice-bound’, OCS *tina* ‘slime’, Grk. *τῖλος* ‘thin stool, diarrhea’ and Lith. *týgras* ‘a viscous swamp overgrown with tall trees’ (*IEW* 1053–4). It is primarily on account of Hitt. *zē(y)ari* ‘be cooked’ that *LIV*<sup>2</sup> posits a second root \**tejh<sub>1</sub>*, but the vocalism of this form can easily be explained as reflecting lengthened-grade \**téh<sub>2</sub>-ǵ<sup>e</sup>* (initial *z<sup>o</sup>* is equally problematic under both interpretations, see Kloekhorst 2008:1033 for a survey of proposals).

to a Proto-Celtic characterized present *\*keġ-d%*- with full-grade root vocalism. The suffixal status of the dental in this verb can be seen on Welsh-internal evidence; beside *cwyđaw* Welsh also had the dental-less deponent (*na/ry*)-*chiawr* ‘falls’, the middle morphology of which makes it a fossil within the verbal system of the language.<sup>28</sup> The existence of *-chiawr* ‘fall’ beside *cwyđaw* ‘fall’ is in and of itself enough to show that the traditional lemmatization of this verb under a root *\*keġd* (*IEW* 542; Schrijver 1995:224) and equation with OIc. *hitta* (*á/i*) ‘meet (with)’ is poorly justified. We must certainly assume with Schumacher (2004:404ff.) an ablauting root *\*keġ ~ \*ki* in Proto-Celtic to which both of these presents were made. This root formed the nominal derivative OIr. *cith* ‘rainfall, downpour’ < *\*ki-tu-* (Irslinger 2002:91) and likely stands behind the active-inflecting verb OIr. *ciūd* ‘cries, laments’ < *\*ki-ġ%*- (Schumacher 2004:404ff.).<sup>29</sup> Full-grade *\*kéġ-d%*- beside zero-grade *ki-ġ%*- has the look of a highly archaic morphological feature, and the intransitivity of the Welsh verb (‘fall’) and the full grade in the root fit well with the profile of *d<sup>h</sup>*-presents in the other languages.

In sum, there is good reason to think that the category of *d<sup>h</sup>*-presents existed in Proto-Celtic and that MW *tođi* ‘melt’ and *cwyđaw* ‘fall’ beside their dental-less Irish cognates *nuđ* continue characterized presents of this type. On MW *nuđ* ‘mist haze’ (← *\*snéu-dh-?*) see

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<sup>28</sup>The only other verbs in Welsh that bear the inherited middle marker *-r* are *gwyr* ‘knows’ and *-dawr* ‘(it) matters’. Of these, *gwyr* /*guir*/ [= MBret. *goar*, MCor. *gor*] continues a preform *\*uid-r-* with the ending added directly to the zero grade of the root (Schrijver 1995:154), while the verb *-dawr* [= MBret. *-deur* ‘it is important’ = MCor. *-duer* ‘id.’] finds a cognate in the Irish deponent *dáthair* ‘is vexed’ and clearly continues an impersonal deponent of Proto-Celtic date of the shape *\*dā(ġo)r* (Schumacher 2004:267–8). The verb *-chiawr* differs formally from these in implying a preform < *\*kiġ-ā-r* with unexpected *-ā-* (rather than *\*ki-ġo-r*). But whether this *\*-ā-* is ultimately the marker of the subjunctive, is a “preterital” *\*-ā-* of the type found in Italic and Balto-Slavic, was caused by contamination with *-dawr* or resulted from a combination of these factors, the suffixal status of the *-d-* in *cwy-đaw* is evident.

<sup>29</sup>Though this reconstruction poses no formal, phonological or morphological problems, the putative semantic development *\*‘fall’* → ‘weep’ is far from trivial. Schumacher (2004:406) argues that this semantic shift could have arisen through a metonymy *\*‘falls to the ground (weeping)’* → ‘(falls to the ground) weeping’ or through a metaphor of mental dejection and downcastness. If the etymological connection between the Irish and the Brittonic verbs is to be upheld, the key may lie rather in the semantic gap between the specialized meaning of *cith* ‘rainfall, downpour’ and its extended meaning ‘hardship, travail’. Bridging these two semantic spheres, we might imagine, would be a meaning *\*‘flood of tears’*, and though this meaning of *cith* is not attested, it can be inferred from the early gloss Gpl. *cithech* ‘*flebilium*’ (Ml. 130c13). *LIV*<sup>2</sup>:s (321) further connection of this Celtic verb with Ved. *śīyate* (AV, Br.) ‘falls’ (caus. *śāpayati* replacing *\*śāyāyati*, cf. Insler 1987:60f.), which according to Pāṇini (VII 3,78) is supplanted by *śad* outside of the present (see Hoffmann 1960=1975:92), is highly plausible.

the discussion of Lat. *nūbēs* below.

### 3.3 Italic

The<sup>30</sup> Italic languages do not directly continue a class of  $d^h$ -presents. Nevertheless, several nominal and verbal forms in Latin do bear on the issue under investigation indirectly but consequentially. This section will first discuss the nominal suffix *-bēs* and then the verb *renīdeō* ‘shine’.

Of central importance to determining the fate of  $d^h$ -presents in Italic is Lat. *plēbēs* *plēbēs* ‘the common people’. This word is traditionally taken to be a nominal derivative of the neo-root *\*pleh<sub>1</sub>d<sup>h</sup>* FULL, which ultimately depends on the characterized present *\*pleh<sub>1</sub>-d<sup>h</sup>*-‘be full’. This substantive was clearly originally used like Grk. *πλήθος* (Ion. *πληθύς*) ‘throng’ to describe the teeming multitudes that filled the streets and fora of early Italian cities, as encapsulated for Greek in the phrase *πλήθουσα ἀγορά* ‘full assembly’. The nominative form *plēbēs* (as opposed to Classical *plēbs*) first appears in the fragments of historians Hemina and Sisenna and is secured by inscriptions from the Republican period as well as by the derived adjective *plēbeius*. By the time of Cicero, third-declension *plēbs* had taken over in common parlance.<sup>31</sup> The hinge form that facilitated this change in declensional class was A sg. *plēbēm*.<sup>32</sup>

Both the realization of medial  $*d^h$  as Latin *b* rather than *d* (cf. *medius* ‘middle’ < *\*med<sup>h</sup>χos*, *vidua* ‘widow’ < *\*Hyid<sup>h</sup>éyeh<sub>2</sub>*) and the appurtenance of this substantive to the fifth declension require special explanation. It is commonly agreed that  $*d^h$  gave *b* after *r* and *u* and before *r* and *l* (see for instance Pfister and Sommer 1977:139; Meiser

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<sup>30</sup>The observations contained in this section were presented at the Forty-First East Coast Indo-European Studies conference (ECIEC XLI) at Harvard University on June 25, 2022. The present reworking of the material has benefited greatly from discussions at and following the conference, especially with Michael Weiss, Benjamin Fortson IV, Alexander Nikolaev and Andrew Merritt, as well as others whose questions, observations and corrections have shaped the presentation of the material here.

<sup>31</sup>Cf. *nūbs* (Liv. Andr.) for *nūbēs* ‘cloud’.

<sup>32</sup>Plural forms of *plēbēs* only begin to appear in late Latin.

1998:104–5). Weiss (2007:375) argues that a following  $*u$  or  $*y$  also caused this special development, taking as evidence *lumbus* ‘loin’ <  $*lomd^h uo-$  (OCS  $l\acute{e}dv\bar{v}j\acute{e}$  ‘id.’), *imbūtus* ‘moistened’ from a conjectured preform  $*en-d^h h_1-u-h_1-to-$  ‘having the property of being placed in’ and *tribus* ‘tribe’ [= Umbr. **trifu-**] from  $*tri-d^h h_1-u-$ . The existence of *plēbēs* beside synonymous Ionic  $\pi\lambda\eta\theta\acute{\upsilon}\zeta$  is enough to justify setting up a preform of the structure  $*pleh_1 d^h -\mu[-\bar{e}]-$  (so already *Grd.*<sup>2</sup> II,1:220), and Weiss’s sound law provides the necessary and independently motivated phonological justification for such a preform.

The question of precisely what morphological developments led to *plēbēs* joining the fifth declension is both more difficult and less relevant for the purposes of the current investigation. It is natural for reasons of economy to supposed that both *plēbēs* and Ion.  $\pi\lambda\eta\theta\acute{\upsilon}\zeta$  (as well as  $\pi\lambda\eta\theta\acute{\upsilon}\nu\omicron\mu\alpha$  ‘am in the majority’) ultimately depend on an adjective  $*pl\acute{e}h_1 d^h -u-/*pleh_1 d^h -\acute{e}u-$  ‘full’ that itself presupposes verbal  $*pl\acute{e}h_1 d^h -$ .<sup>33</sup> In order to reconcile the morphology of the Greek and Latin forms, Beekes (1985:39), Schrijver (1991:381) and others reconstruct a hysterokinetic “ $*h_1$ -stem”  $*pleh_1 d^h -\mu\acute{e}h_1-m/*pleh_1 d^h u-h_1-$  (cf. Widmer 2007). Steinbauer (apud Mayrhofer 1986:133–4) argues for a hysterokinetic paradigm  $*plh_1 d^h -\mu\acute{e}h_2-/*plh_1 d^h -uh_2-$  of which the strong stem gave *plēbēs* and the weak stem gave  $\pi\lambda\eta\theta\acute{\upsilon}\zeta$ . He justifies the posited morphology by comparison with the type *māter-ies*, *-iāi* <  $*-i\acute{e}h_2-/*-ih_2-$ . Klingenschmitt (1992:127=2005:342–3), by contrast, posits a preform hysterokinetic  $*plh_1 d^h -\bar{e}\mu-/*plh_1 d^h -\mu-$  the original nominative of which, going into Latin, was  $*plh_1 d^h \mu-\acute{e}$  with morphological deletion of final  $\mu$  as in hystero- and amphikinetic *i*-stems (cf. Ved. *sakh-á*, Grk.  $\Sigma\alpha\pi\varphi-\acute{\omega}$ ).<sup>34</sup>

Though the details of why and how this substantive joined the fifth declension of Latin remain problematic, most authorities agree in tracing *plēbēs* back to a form in  $*d^h$  rather than  $*b^h$ . Importantly for this study, the idea that a verb of the shape  $R(\acute{e})-d^h-$  can by some regular series of derivational processes have given a substantive in  $*-b\acute{e}s$  has

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<sup>33</sup>The deverbal nature of the neo-root  $*pleh_1 d^h$  FULL is reflected in the fact that it does not appear to have been capable of root ablaut.

<sup>34</sup>For an alternative approach, see Olsen (1988:38), who proposes tracing Lat. *plēbēs* back to a preform  $*pleh_1-t^h u- < **pleh_1-tu$ .

implications for the other Latin substantives that bear the same suffix.

The word Lat. *tābēs* ‘wasting away, moisture from melting/decay’ (Plaut.+), belongs to a “Caland” system within Latin that includes a stative verb *tabeō* ‘melt, waste away’ (Lucr.+), a fientive verb *tābescō* ‘melt’ (Liv.+), and an adjective *tābidus* ‘melting’ (Liv.+). This family of words is standardly connected with the root *\*teh<sub>2</sub>(i)* ‘melt, decay’ and explained as containing a “root enlargement” *\*-b<sup>h</sup>-*, for which Grk. τῖφος (Theoc., A.R., Lyc.) ‘marsh’ is compared (de Vaan 2008:603; *IEW* 1053; *WH* II:639–40; *GEW* II:906–7). This explanation is phonologically unexceptionable but has little explanatory power with respect to morphology.<sup>35</sup>

The account of *plēbēs* outlined above suggests an alternate analysis of this word. Although the mechanism is not well understood, it was evidently possible by some derivational process to arrive at a substantive in *-bēs* from a verb in PItal. *-θ-* < PIE *-d<sup>h</sup>-*. This observation alone would supply some grounds for suspecting the former existence of a verb PItal. *\*tā-θ-* ‘melt’, and this supposition is confirmed by the persistence of precisely this characterized present in Celtic, the closest relative of Italic. The verb in question is MW *tođi* ‘melt’, discussed above.

There is therefore every reason to project the verb *\*tā-θ-* ‘melt’ back to Proto-Italo-Celtic, whence *tābēs* could have arisen through one of two pathways. The first possibility is that the neo-root *\*tāθ* came to form a small Caland system of its own that included a hysterokinetic *u*-stem adjective *\*teh<sub>2</sub>d<sup>h</sup>-éu-/\*teh<sub>2</sub>d<sup>h</sup>-u-* ‘fluid’. Such a *u*-stem adjective may indeed underlie the Hesychius gloss τῆθύα· τενάγη, ἄ προχέουσιν οἱ ποταμοί (‘silt’). This then underwent the same “black-box” derivational process that formed *plēbēs* from *\*pléh<sub>1</sub>d<sup>h</sup>-u-/\*pleh<sub>1</sub>d<sup>h</sup>-éu-* ‘full’, ultimately giving *tābēs*. But as there is no good evidence for other nominal derivatives of PItal. *\*tāθ*, it is perhaps more likely that *tābēs* was created by formal analogy with *plēbēs* according to the proportion:

*\*plē-θ[e]-ti* ‘is full’ : *\*plēθu[ēs]* ‘multitude’ ::

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<sup>35</sup>Rasmussen (1999:557) suggests taking Lat. *tābēs* from a preform *\*teh<sub>2</sub>i-tu-*(!), but few scholars would accept this phonological development.

\**tā-θ[e]-ti* ‘melts’ : *x*      where *x* = \**tāθu[ēs]* > *tābēs* ‘melted substance’

Both scenarios necessarily presuppose a verb PItal. \**tā-θ-*, and any alternative scenario that does not run into problems of economy when the Celtic verb is introduced to the historic picture.<sup>36</sup>

*nūbēs*      A third and more dubious case of a derived substantive in *-bēs* is Lat. *nūbēs* ‘cloud’. This word has traditionally been taken to belong to the etymological family of YAv. *snaoδ-a-* ‘cloud’ since (Solmsen 1906:870) and of Modern Welsh *nudd* ‘fog’ since (Thurneysen 1890:488).<sup>37</sup> A third comparandum can be found in the verb TochB *snätk-* = TochA *snotk-*, ‘permeate, imbue’ (Adams 2013:779). The vocalism of the Tocharian A form reveals that TochB *snätku* ‘having permeated’ goes back to \**snuTK*, and this, as will be further argued in the following section, points to a *sk̑e-*-derivative to a verb \**snéu(-)d<sup>h</sup>*.<sup>38</sup>

These likely cognates from across the family suggest a (neo-)root \**sneud<sup>h</sup>*, which in turn could ultimately depend on a *d<sup>h</sup>*-present to an original root \**sneu* ‘flow’, as Thurneysen (1890:510) suggests. The basic root in question is that of Ved. *pra-snau-ti* (YV+) ‘drip’ and Grk. *νέω* ‘swim’ and appears further in Italic in the substantive Lat. *nūtrī-x* (< \**sneu-trih<sub>2</sub>*-) ‘nurse’.<sup>39</sup> Solmsen (1909:78) has even argued that the primary verb \**snéu-d<sup>h</sup>*- is actually continued in Latin in the rare verb *ob-nūbō, -ere* ‘envelope, cover’ < \**-snéu-d<sup>h</sup>*-, preserved in legalistic formulae. But the verb *ob-nūbō* ‘cover (with a veil)’ could well be a red herring, being rather a prefixed and semantically shifted form of *nūbō* ‘wed’, which

<sup>36</sup>The parallel substantive *tābum* ‘corrupt moisture’ could either continue old \**teh<sub>2</sub>d<sup>h</sup>-u-ó-* (cf. IG IX,1<sup>2</sup> 3:718 *πλεθα*, SEG 22:407 *πλειθα* / *πληθᾶ* / < \**pleh<sub>1</sub>d<sup>h</sup>u-e-h<sub>2</sub>*- or simply deverbal from *πλήθω*?) or could be deverbal, cf. Lat. *squāleō* ‘am rough, dirty’ : *squālēs* : *squālus* = *squālidus*, *scabreō* ‘am rough, unclean’ : *scabrēs* : *scaber*; cf. further *sordeō* ‘am dirty’ : *sordēs* : \**syordo-* [= ? PGmc. \**syartaz* ‘black’ (Goth. *swarts*, Oic. *svart*, OE *swart* etc.), see WH 562] = *sordidus* (Hocquard 1976:197ff.).

<sup>37</sup>In Welsh, the diphthong \**eu* regularly appears as *u* before a consonant, as for instance MW *tud* ‘people, tribe’ [= OIr. *túath* ‘id.’] < \**teutā-*, see (Jones 1913:103).

<sup>38</sup>Solmsen (1909:75-6) calls attention in this etymological context to the Hesychius glosses *νυθόν· ἄφωνον*, *σκοτεινόν* ‘mute, dark’ and *νυθῶδες· σκοτεινῶδες* ‘dark’ and to the hapax Grk. *νοῦθος* (Hes. *Fr.* 158[:48] apud Hdn. *GG* iii.ii p. 947) which Herodian defines as ‘*ψόφος*; thud’ and which may or may not belong here.

<sup>39</sup>The root \**sneu* ‘drip’ is likely a variant of \**sneh<sub>2</sub>* ‘wash, swim’, possibly via the third person viz. *snéh<sub>2</sub>-e* > \**snéu* (whence a neo-active \**snéu-ti* by *e*-infixation?). Other such pairings are \**dreh<sub>2</sub>* ‘run’ : *dreu* ‘id.’ [: \**drem* ‘id.’] and \**g<sup>u</sup>eh<sub>2</sub>* ‘go’ : \**g<sup>u</sup>eu* (in the ‘cow’ word) [: \**g<sup>u</sup>em* ‘go’].



goes back to *\*snéyub<sup>h</sup>-e-ti* to judge from RussCS *snubiti* ‘wed’.<sup>40,41</sup>

The substantive *nūbēs* differs morphophonologically from *plēbēs* and *tābēs* in that a *y* need not have stood after the final dental to produce the attested result; a preform *\*sneyd<sup>h</sup>+* would in any case have given Latin *nūb+* on account of the preceding *u*, and it is hence possible that *nūbēs*, if it does not depend on a verb *\*noy-θ[e]-ti* ‘is wet’, continues a root noun *\*snóyud<sup>h</sup>-/\*snéyud<sup>h</sup>-* (cf. Nsg. *nubs* Liv. Andron.) or an *i*-stem *\*snóyud<sup>h</sup>-i-/\*snéyud<sup>h</sup>-i-* that joined the fifth declension via its plural *nūbēs*, which would have been common on pragmatic grounds, or on the model of the rhyming word *pūbēs*. The Latin substantive is therefore inconclusive on its own, but the possibility of a *d<sup>h</sup>*-present will be further discussed below in the context of TochB *snātk-* = TochA *snotk-*, ‘permeate, imbue’.

It is likely that the Latin *re-nīdeō* ‘shine’ continues a *d<sup>h</sup>*-present *\*néy-d<sup>h</sup>-*. That the long *ī* in the root of this verb cannot be due to the former presence of a laryngeal is demonstrated by synonymous and related Lat. *nīteō* ‘shine’. In his insightful discussion of these two verbs, Osthoff (1895:299ff.) shows that both are formed to a single root *\*ney* ‘shine’ (cf. *IEW* 760), and makes the case that *nīteō* is a denominative verb of the structure *nite-ye-* to a zero-grade verbal adjective *\*ni-tó-*, adducing as parallels Lat. *fāteor* ‘confess’ [= Osc. **fatium**] made to the verbal adjective *\*b<sup>h</sup>h<sub>2</sub>-tó-* (in Grk. φα-τός ‘spoken’), Lat. *pūteō* ‘stink’ to v.a. *\*puH-tó-* and *lāteō* ‘am hidden’ to v.a. *\*lh<sub>2</sub>-tó-*.

What then is the history of *nīdeō*? Nussbaum (1999:391–2) has argued that an adjective *\*ney-i-θos* ‘shining’, consisting of an *i*-stem substantive *\*nóy-i-/\*néy-i-* and a suffix *\*-d<sup>h</sup>h<sub>1</sub>-ó-*, stands behind this verb. Resulting pre-Latin *\*nīdos* ‘shiny’ was then used as the derivational base for *re-nīdeō*. There are three parallels for derivation of an *eō*-verb from an *\*-idus* adjective: *āridus* ‘dry’ → *ārdeō* ‘burn’, *avidus* ‘eager’ → *audeō*

<sup>40</sup>Here, however, the semantics are rather opposite to what one might expect, as marriage quintessentially involves uncovering rather than covering.

<sup>41</sup>Michael Weiss (p.c.) points out to me that a meaning ‘cover’ could easily stand behind the Latin, Welsh and Avestan words for cloud and is not incompatible with the usage of the Tocharian verb. This furthermore would allow OIr. *snúad* ‘color, appearance’ (← *\*covering*) to be directly equated with Welsh *nudd* ‘cloud’.

‘dare’ and \**gāvidus* → *gaudēre* ‘enjoy’. But Fortson (2016:13–18) points out that *audeō* has a well-established preterit *ausit* rather than expected *auduit*\*, lacks an inchoative (expected *audēscō*\* ‘start to dare’, cf. *āridus* : *ārdēscō*), does not overlap semantically as much as might be expected with *avidus* ‘eager’, and forms a derivative *audāx* that points to a simple thematic verb \**audō* or an *a*-stem nominal \**auda*. On account of these oddities, Fortson (2016:18–21) proposes an attractive new etymology connecting *audāx* with Hitt. *hūdak* ‘swiftly’ and *hūda-* ‘readiness’, and within Italic with South Picene *aūdaqum* (Sp AP 1), following the interpretation of (Marinetti 1985:141). This still leaves *āridus* : *ārdeō* and \**gāvidus* : *gaudeō* as possible analogues for \**nīdos* : *re-nīdeō*.

But Nussbaum’s argumentation, though sound in terms of phonology and morphology, remains bound within the nominal domain, ignoring the fact that \**ni-tó-*, having the shape of a verbal adjective, is likely to have been associated with a fuller averbo. The more straightforward account of the facts from within the verbal system of Latin is to posit a *d<sup>h</sup>*-present *néġ-d<sup>h</sup>*- ‘shine’ that directly gave *re-nīd[e]ō*. The appurtenance of this verb to the second rather than the third conjugation poses no problems for this interpretation. As Hocquard (1976:256) notes, the apparent full grade of the root is aberrational for a second-conjugation verb. Latin verbs of the second-conjugation usually either show zero grade of the root (*rūbeō* ‘am/become red’ < \**h<sub>1</sub>rud<sup>h</sup>-eh<sub>1</sub>-ġé-* [OIr. *ruidid*, *·ruidi* ‘blushes’]; *maneō* ‘remain’ < \**m<sub>ṛ</sub>neh<sub>1</sub>-ġé-*), or else continue *o*-grade iterative-causatives (*spondeō* ‘pledge’ < \**spond-éġe-* [cf. Osc. *spentud*]; *moneō* ‘put in mind’ < \**mon-éġe-* [= OAv. *mānaiie<sup>i</sup>tī* ‘id.’]; *lūceō* ‘shine’ < \**louk-éġe-* [= Hitt. *lukizzi* ‘ignites’]). This distributional fact suggests an original simple thematic verb \**-nīdō* that shifted into the second conjugation for semantic and structural reasons.<sup>42</sup> A similar shift in inflectional class occurred in the rhyming verbs *strīdō* → *strīdeō* ‘make a loud noise’ and \**rīdō* (It.

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<sup>42</sup>Vacillation between the second and third conjugation is common. Examples include *ol(e)ō* ‘smell’, *feru(e)ō* ‘am hot’, *fulg(e)ō* ‘shine’, *scat(e)ō* ‘gush’, *terg(e)ō* ‘rub’, *tu(e)ōr* ‘watch over’, *clu(e)ō* ‘am reputed’, *abnu(e)ō* ‘refuse’, *excell(e)ō* ‘am eminent’, and further forms can be inferred from the Romance languages (Kühner and Holzweissig 1912:773–4).

*ridere*, Fr. *rire*) → Lat. *rīdeō*.<sup>43</sup> The fact that this verb continues a  $d^h$ -present may also explain why *renīdeō* does not form a perfect<sup>44</sup> or an adjective in *-to*, *-itus* or *-idus* (cf. Hocquard 1976:327).

In sum, there are clear traces of  $d^h$ -presents in the nominal system of Latin that are supported by good etymologies and connected with  $d^h$ -presents elsewhere in Indo-European. The relationship between Lat. *plēbēs* ‘multitude’ and Grk.  $\pi\lambda\acute{\eta}\theta\omega$  ‘am full’ has long been known. That between Lat. *tābēs* ‘melted substance’ and MW *tođi* has been overlooked and has significant consequences for the current study. The case of Lat. *nūbēs* is less clear, but this may also depend on an old  $d^h$ -present. And the fact that  $d^h$ -presents are now known to have existed in Italo-Celtic (if not in Italic) suggests that it is reasonable to see this formant in Lat. *renīd/eō* ‘shine’ as well.

### 3.4 Armenian

Only one verb in Armenian is likely to continue a  $d^h$ -present, and this is the verb *ayrem* *ayrem* ‘burn’, which can attractively be equated with synonymous Grk.  $\alpha\acute{\iota}\theta\omega$  ‘burn’ and further with Ved. *édhate* ‘thrives’. Because various aspects of this etymology are disputed, this verb requires further discussion.

The regular phonological outcome of intervocalic  $*d^h$  in Armenian is disputed. The dominant school of thought maintains that  $*d^h$ , which uncontroversially gave Classical Armenian *d* word-initially, was lenited to  $*\delta$  between vowels and appears in Classical Armenian as *r*. Jasanoff (1979a:145) has argued that a reflex of  $*d^h$  can be seen in the Armenian imperative. The endings of the Armenian imperative are 2sg. mid. ipv. *-ir* and 2pl. mid. ipv. *-aruk<sup>c</sup>*, which Jasanoff traces back to  $*-[eh_1-]d^hi$  (cf. Ved. *-d<sup>h</sup>i*, Grk. *-θι*)

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<sup>43</sup>*frigeō* ‘am cold’ goes back to a long-vowel root  $*sriHg-$  (on the change  $*(-)sr- > *(-)\theta r- > fr-/-br-$ , see Leumann 1977:189), likely also *līveō* ‘am pale’, the etymology of which is unknown.

<sup>44</sup>The “regular” perfect would have been *nīduī\**. An alternative model is supplied by pr. *ārdēō* : pf. *ārsī*, *gaudeō* : *gavisī* and *audeō* : *ausī*, which according to Nussbaum (1999) form a derivational group together with *renīdeō*.

and  $*[-a]-d^h(u)ue(s)$ <sup>45</sup> (cf. Ved.  $-dh_{(u)}ve$ , Grk.  $-[\sigma]\theta\epsilon$ ) respectively. Armenian also has the irregular imperative forms *lur* ‘hear!’, *dir* ‘put!’ and *tur* ‘give!’, which can be traced back to the inherited preforms  $*\hat{k}lu-d^h\acute{i}$  (Ved. *śrudhí* ‘id.’),  $*d^h\acute{e}h_1-d^h\acute{i}$  and  $*d\acute{e}h_3-d^h\acute{i}$ .

Since the appearance of Jasanoff’s article, further evidence in support of this sound law has come to light. Praust (2005:149) proposes deriving *gerem* ‘αἰχμαλωτεύω; take prisoner’ from PIE  $*\mu\acute{e}d^h-e-ti$  ‘leads (off)’ (OIr. *fedid* ‘brings’, OCS *vedo* ‘lead’, Goth. *gawidan* ‘συνέξεν; bind’ etc.). Praust further argues that Arm. *metr* (Gsg. *metu*) ‘honey’ exhibits the same sound change. This he traces back to PIE  $*m\acute{e}d^h-u-$  (Ved. *mádhu-* ‘mead’) with the final  $-r$  that is typical in Armenian of the outcomes of neuter  $u$ -stems. According to Praust,  $*med^h u[r]$  gave pre-Armenian  $*merur$ , which by a quasi-regular process of dissimilation ( $*r \dots r > *l \dots r$ ) gave  $*melur$  (cf. *etbayr* ‘brother’  $< *b^hr\acute{e}h_2t\bar{e}r$ ), whence the attested form. Most recently, Martzloff (2017) has added two likely candidates to this dossier. This scholar attractively proposes tracing Arm. *erkir* ‘second’ and *erir* ‘third’ back to  $*d\mu\acute{i}-d^h h_1-\acute{o}-$  and  $*tri-d^h h_1-\acute{o}-$  respectively, convincingly arguing that the Armenian adjectives form a near word equation with Ved. *dvídhā* ‘twofold’ and *tríd^hā* ‘threefold’ as well as Lat. *bifāriam* ‘doubly’ and *trifāriam* ‘triply’.<sup>46,47</sup>

At least two opposing views exist. The first, which ultimately goes back to Bugge (1890:79–80), argues that  $*Vd^hV$  gave Armenian  $VzV$ , and at least two of his etymologies remain plausible. The first equates Arm. *suzanem* ‘plunge, hide’ with Grk.  $\kappa\epsilon\acute{\upsilon}\theta\omega$  ‘hide’ and OEng. *hȳdan* ‘hide’. The second equates *eluzanem* ‘expel’ with the root of Grk.  $\check{\rho}\lambda\upsilon\theta\omicron\nu$  ‘went’. These two words notably have in common that the consonant in

<sup>45</sup>The  $a$  of Armenian is to be traced back to the medial ending of the third person plural  $*-nto$  (Praust 2005:150<sup>32</sup>).

<sup>46</sup>Martzloff (2017) is reluctant to take a stance on the accentuation of the proposed preforms  $*d\mu\acute{i}-d^h h_1-\acute{o}-$  and  $*tri-d^h h_1-\acute{o}-$  in Proto-Indo-European. Barytone accentuation is to be expected on morphological grounds. The Vedic adverbs show accent retraction that can be morphologically explained; it is either substantivizing in nature (i.e.  $*d\mu\acute{i}-d^h h_1-o-$  ‘a second part’) or can be compared with the retracted accent of other adverbs, as for instance adv. *dvā* ‘by day’ ← subs. *divā* ‘through the sky’ (see Jasanoff 1978b:123; Barth 2018).

<sup>47</sup>Viredaz (2005:85–93) argues that Arm. *ur* ‘where’ should be traced back to PIE  $*k^uud^he$ , but as a preform  $k^u u-r$  comparable to Lith. *kūr* ‘where’ is just as likely, this etymology is not probative of the phonological development  $*Vd^hV > VrV$  in Armenian.

question immediately follows upon a  $u$  ( $< *e\mu$ ). It is at least conceivable that pre-Armenian  $*V\partial V$  in general became  $*VrV$  via  $*V\partial V$  but that it had a conditioned outcome as a voiced sibilant after a high back vowel ( $*u\partial V > uzV$ ). If this is correct, the two opposing theories can be united as one single theory and these words pose no exception, though this would mean that the irregular imperatives *lur* ‘hear’ and *tur* ‘give’ are either analogical to *dir* ‘put’ or else had a slightly different conditioning environment. This special development would likely have resulted from the perceptual similarity of the coronal fricatives [ð] and [z] and from the physically smaller lingual gesture required to pass from the back vowel [u] to alveolar [z] as opposed to inter-dental [ð].<sup>48</sup>

A third theory concerning the outcome of intervocalic  $*d^h$  has been proposed by Klingenschmitt (1982:19–20). This scholar argues that intervocalic  $*t$  and  $*d^h$  were subject to the same development, that is to say they both gave  $*\dot{\imath}$  in much the same way that intervocalic  $*p$  and  $*b^h$  both gave Armenian  $w$  ( $ew$  ‘and’  $< *epi$ , [ $t^c aga$ ]-*wor* ‘king’  $< *b^h oro$ -). The evidence for the posited sound change is taken from the ablative forms of the personal pronouns 1sg. *inēn* ‘from me’ and 2sg. *k<sup>c</sup>ēn* ‘from you’, which Klingenschmitt equates with Grk. 1sg.  $\xi\mu\epsilon\theta\epsilon\nu$  ‘from me’ and 2sg.  $\sigma\acute{\epsilon}\theta\epsilon\nu$  ‘from you’. But these can just as easily be traced back to ablatives in  $*-eti$  and compared with Ved. 1sg. *mát* ‘from me’, 2sg. *t<sub>(u)</sub>vát* ‘from you’ [= OAv. *mat* Y.44.15, OYAv. *θβat*]. Klingenschmitt’s proposal has ultimately not proven to have explanatory power beyond the personal pronouns and can be considered superseded.

Because disputes over the phonological treatment of inherited  $*d^h$  in Armenian must take into account the verb *ayrem*, there have of course been proposals for alternative etymologies of this verb that take its  $r$  from other sources. De Lamberterie (2003:250) suggests that *ayrem* could be denominative to an unattested substantive  $*ayr$  ‘fire’  $< *h_2eh_1-tēr$  (cf. Pal. *hā ri* ‘is warm’), presumably cognate with OYAv. *ātar-* ‘fire’. But the

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<sup>48</sup>Bugge (1890:79) also equates Arm. *awaz* ‘sand’ with Grk.  $\xi\mu\alpha\theta\omicron\varsigma/\psi\acute{\alpha}\mu\alpha\theta\omicron\varsigma$  ‘sand’, and although this equation is repeated in the secondary literature (Normier 1980:19; Viredaz 2005:85; Kortlandt 2003:80–81), it is not at all clear how or why the two should be equated given the incompatibility of Grk.  $\mu$  and Arm.  $w$  (cf. Olsen 1999:782).

substantive is neither directly nor indirectly attested in Armenian, and de Lamberterie’s argument that it might have been eliminated to avoid homophony with *ayr* ‘man’ and *ayr* ‘cave’ bears little force. Taking a slightly different approach, Klingenschmitt (1982:19) posits a borrowing from Iranian. But the Proto-Indo-Iranian root  $*Hajd^h$  forms only nominal derivatives in Iranian (Cheung 2006:157), and none of these has precisely the right shape to supply the  $*ayr$  of Armenian that would then have given rise to the denominal *ayrem* (but itself subsequently been lost).

To summarize the discussion above, all of the facts point to *ayrem* ‘burn’ continuing the  $d^h$ -present  $*h_1áj-d^h$ - ‘burn’. There is overall much more and better evidence for the rhotic outcome of intervocalic  $*d^h$  than for other proposed outcomes, and it is in particular the imperative ending  $-r < *d^hi$  that is probative in this regard, as this is highly unlikely to reflect an Iranian borrowing. Given Armenian’s known propensity for coinciding with Greek, it is hard to ignore what appears to be an exact word equation in Arm. *ayrem* = Grk.  $\alpha\acute{\iota}\vartheta\omega$ . Alternative etymologies involving lost nominal forms or borrowings from Iranian come at a high cost and low benefit. Ultimately, however, Armenian has little to contribute to the current study other than to confirm the existence of the specific  $d^h$ -present  $*h_1áj-d^h$ - ‘burn’ in the late protolanguage by way of a three-way word equation Grk.  $\alpha\acute{\iota}\vartheta\omega$  = Ved. *édhate* = Arm. *ayrem*.

### 3.5 Tocharian

This survey concludes with the Tocharian languages. These do not feature in existing treatments of  $d^h$ -presents. They do, however, have morphology to bring to bear on the issue. Roughly thirty Tocharian verbal roots, more than half of which are attested in both Tocharian languages, end synchronically in the cluster  $^{\circ}tk$  (Melchert 1977; Malzahn 2010:460–466). These all belong to either class III/IV (“*o*-thematic”), in which case they show stative or inchoative semantics, or class VI/VII (nasal presents), in which case their semantics are generally factitive-causative.

The root-final cluster  $^{\circ}tk$  immediately reveals that these Tocharian roots do not continue Indo-European primitives.<sup>49</sup> The reconstructible phonetic constraints on root structure in the protolanguage prohibit root-final obstruent clusters not involving laryngeals (cf. Schindler 1972:5–6). For this reason, Pedersen (1941:170ff.) proposed early in the history of Tocharian studies that roots of this shape are ultimately to be traced back to denominative verbs from substantives in  $-tk-$ . Pedersen adduces three examples where both the substantive and the verb on which it is supposedly based are attested: TochA *pätäk* ‘division, discord’ beside the verb TochAB *putk* ‘divide’, TochA *lotäk* = B *klautke* ‘manner’ beside TochA *lutk/lotk* = B *klutk/klautk* ‘turn, become’ and TochA *spaltäk* = TochB *spel(t)ke* ‘zeal, exertion’ beside TochA *spāltk* = TochB *spālk* ‘exert oneself’. The chief flaw of this theory lies in the fact that the morphological makeup of these three substantives is as unclear as that of the verbs, making it just as likely, if not more likely, that the substantives are deverbal. The explanation therefore has little explanatory power and fails to convince.

A noun-oriented approach is also pursued by Lane (1965), who attempts to trace roots in  $^{\circ}tk$  back to verbal adjectives in  $-t\acute{o}-$ . According to this scholar, participles of the structure  $R(z)-t\acute{o}-$  were mechanically extended to  $R(z)-to-ko-$  to create a composite derivational morpheme  $*-toko-$ . That  $*-toko-$  is not reconstructible for the protolanguage is not overly problematic for Lane’s theory,<sup>50</sup> but the proposal fails to convince on both phonological and morphological grounds. First, there is no reason to think that  $*-toko-$  could by any regular process of sound change have given the apparently syncopated form found in the two Tocharian languages. Second, Lane draws support for his argument from the fact that some verbs in  $-tk-$  show zero grade in their root. This correlation, which was not robust by the standards of the ’60s, is even less so now that Tocharian *i* and *u* are known to continue the diphthongs  $*\acute{e}i$  and  $*\acute{e}u$  and not the simple vowels  $*i$  and  $*u$  of the

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<sup>49</sup>This statement is something of a tautology, as the vast majority of “roots” in the Tocharian languages, though the term is synchronically apt, reflect characterized presents of the protolanguage.

<sup>50</sup>On the poorly evidenced and likely secondary suffix Skt.  $-taka-$ , see (*AiG* II,2:592.)

protolanguage. Finally, it is suspicious that no participles in *-tk* are clearly attested in either Tocharian language.

The first approach to this problem from within the verbal system is that of Schneider (1941:45ff.). This scholar proposes that *tk*-verbs go back to roots in final dental to which was added a suffix *-k*-. To this morpheme he ascribes the intensive-iterative and inchoative semantics that characterize the verbs in question (49). He plausibly proposes, on semantic grounds, a connection with the Tocharian suffix *-sk*- (< \**-sk̂%/o-*). In order to account for the lack of *s* in the *tk*-roots, however, he posits a presumably analogy-driven abstraction of *-k*-, the details of which are not clearly spelled out.<sup>51</sup>

Schneider's approach of connecting Tocharian <sup>o</sup>*tk*- with *-sk*- is ultimately upheld today by most scholars, though in the modified formulation of Jasanoff (1975:111; 1978b:38–9) and Melchert (1977).<sup>52</sup> The *-s*<sup>o</sup> of the suffix, according to these scholars, was eliminated following a dental by a regular sound change within Proto-Tocharian.<sup>53</sup> The phonology of this sound change is discussed at length in (Pinault 2002). The best evidence for Jasanoff and Melchert's theory comes from morphology. Melchert emphasizes that *-sk*- and *-tk*- (< \*<sup>o</sup>*t-sk*-) pattern together; both tend to form class III/IV or VI/VII presents and *ā*-subjunctives and both are characteristic of medial-intransitive verbs.

According to Jasanoff and Melchert, the starting point for the Tocharian suffix were roots in final dental. A handful of more-or-less good etymologies lend significant support

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<sup>51</sup>There is in fact good evidence, not adduced by Schneider, that the suffix \**-sk̂%/o-* is, at a deeper level, segmentable as \**-s-k̂%/o-*. This is implied by the preservation of the *s*-present \**péh<sub>2</sub>-s-ti* 'protect' (Hitt. *paḥḥas-mi* 'protect', OCS *pasō* 'graze (tr)', Lith. *pósėti* 'honor') beside \**péh<sub>2</sub>-sk̂e-ti* 'id.' (TochB 3pl. *paskenträ* 'protect', Lat. *pāscō* 'graze (tr)', and in \**-ġnēh<sub>3</sub>-s-ti*/\**-ġneh<sub>3</sub>-s-eh<sub>2</sub>-je-ti*] (Hitt. *ganēšzi* 'recognizes', TochA *kñasäšt* 'find your way', Lat. *i-gnōrō* 'I don't know', beside *ġnēh<sub>3</sub>-sk̂%/o-* (*gnōscō* 'recognize', Grk. γνῶσχω 'know', see *HIEV*:133, 178 and cf. Nussbaum 2021b:15ff). This formant is likely identical with the \**-k̂%/o-* of Grk. τή-χω 'melt', Ved. *śócati* 'gleams' (by palatal dissimilation \**k̂éu-k̂e-ti* → \**k̂éu-ke-ti*) and other verbs. Schneider's argument could therefore be reformulated around the claim that this morpheme \**-k̂%/o-* was used in Tocharian as well. But while this cannot strictly be ruled out, the distributional facts suggest that Tocharian employed only \**-sk̂%/o-*, not \**-k̂%/o-*, as will become clear below.

<sup>52</sup>For a dissenting voice, see (Hartmann 2001).

<sup>53</sup>There is no evidence to suggest that inherited \**t* and *d<sup>h</sup>* behaved differently in this environment from \**d*. It is unlikely that a sequence \**d.sk̂* > \**ts.sk̂* would ultimately have been perceived differently by speakers from a sequence \**d<sup>h</sup>.sk̂*/\**t.sk̂* > \**t.sk̂*, and so roots in final dental of any description could theoretically have given verbs in <sup>o</sup>*tk* by addition of the suffix *-sk*-.



to this supposition:

1. A *yutk* ‘worry’: TochA *yutk-a-tär* (III/V/I) ‘be/become worried’ < \**H<sub>1</sub>(e)u<sup>dh</sup>-sk̂%/o-*, cf. Ved. *yúdhya-ti* ‘fight’, Lith. *jundù, jùsti* ‘be set in motion’ etc. (*IEW* 511–2; *LIV*<sup>2</sup> 225–6).
2. AB *litk* ‘go away’: TochB caus. *lyitk-üss-i* ‘removed’ and TochA abstr. II *lyitk-ā-lune* imply PToch pr. \**l’əytk-æ-tər* ‘go away’ < \**l(e)ḷt-sk̂%/o-* (cf. Goth. *ga-leiþan* ‘(ἀπ)έρχεσθαι; go/come’, -*iriθiie<sup>i</sup>ti* ‘dies’ (*LIV*<sup>2</sup> 410). The separate Tocharian root *lit* ‘fall; go away’ in TochA *lit-a-tär* (III/V/I) ‘id.’ ≈ TochB *lait-o-tär* (IV/V/I) ‘id.’ reveals the suffixal nature of the final *-k-*.
3. AB *nätk* ‘push’: TochB *natk-na<sup>m</sup>* (VI/V/I) ‘push away’ [TochA inf. *nätk-ässi* ‘id.’] < \**nud-sk̂%/o-* (cf. Ved. *nudáte* ‘pushes’). The proposed etymology goes back to Jasanoff (1975:111; see further Melchert 1977:123–4). Malzahn (2010:683) calls this etymology into question, pointing to TochB 2sg. mid. pret. *nätkatai* with unexpected initial palatal, which implies a front vowel in the root. She proposes tracing this verb instead to \**ni-d<sup>h</sup>h<sub>1</sub>-sk̂%/o-* (cf. *wätk-* below) but less plausibly must then posit a unique subclass of type I preterits to account for this abnormality (Malzahn 2010:131). Given that this analysis rests on a hapax form within an otherwise unexceptional paradigm, it is perhaps better to suppose an error for <sup>+</sup>*nätkatai* and group this with the large class of preterits of the type TochB 3sg. act. *carka* ‘dismissed’ : 3pl. *cärkäre* : 3sg. mid. *tärkäte* that show fixed root vocalism, palatalization throughout the active and no palatalization in the middle.
4. AB *wätk* ‘separate’: TochA *wätk-a-tär* (III/V/I) ‘separate (intr)’ [= TochB (\**wätk-e-tär* compatible with pret. *wätk-ā-<sup>Ø</sup>* ‘decided, differed’ and implied by A] < \**u<sup>i</sup>-d<sup>h</sup>h<sub>1</sub>-sk̂%/o-* (cf. Ved. *vidhyati* ‘satisfy with an offering, pierces’, Lat. *dīvidō* ‘divide’).
5. AB *putk* ‘divide’: TochB *puttänka<sup>m</sup>* (VII/V/I) ‘*vibhajati*; divides’ = TochA *putänkā<sup>s</sup>* (VII/V/I) ‘id.’ < \**p(e)ḷt-sk̂%/o-* (cf. Lat. *putō* ‘prune’, Cz. *ptáti se* ‘inquire’).

6. AB *mär̄tk* ‘shave’ : TochB subj. V *mär̄tk-ā-tār* ‘shave’ and pret. I *mär̄tk-ā-∅* ‘shaved’ = TochA pret. *mär̄tk-[-ā-]∅* imply PToch *mär̄tārikā-* ‘shave (tr)’ < \**m(e)rd-sk̄%*- (cf. Ved. *mṛdnāti* ‘crush’, Lat. *mordeō* ‘bite’).

These etymologies account for at most six of the thirty forms and do not provide a clear starting point from which morphemic *-tk-* would have been likely to spread analogically as a verbal suffix. Furthermore, the theory that the *tk-*verbs of Tocharian arose from *sk̄%*-presents to roots that just happened to end in a dental does little to explain the distributional fact that most of the Tocharian verbs belonging to this category are intransitive.

I would argue that there were multiple sources for the suffix and that characterized presents in \**-d<sup>h</sup>*- played an important role in the creation of this class of roots in Tocharian. These inherited presents would have lent their intransitive semantics to the nascent Tocharian *-tk-* formations. The fact that no identifiable *d<sup>h</sup>*-presents exist as such in Tocharian suggests that these were mechanically extended by *-sk-* before the period of Tocharian unity. The new suffix likely lent inchoative semantics to a class of verbs that were largely stative. The neo-roots in *°tk-* subsequently took on the medial inflectional ending PToch \**-æ-[-tä]r* that served to reinforce their inherent stative-inchoative semantics, while *sk-*extended verbs to roots in final dental followed suit if the verb was intransitive or else formed causatives using productive nasal-suffix morphology if they were transitive.

*kāt̄k* The verb TochAB *kāt̄k* ‘*nandate, modati*; rejoice’, unlike most *tk-*verbs but like several *sk-*verbs,<sup>54</sup> maintains its inherited active thematic present/subjunctive in both Tocharian languages (TochB *kācc-ä-m* = TochA *kāck-ü-s*). The only other *tk-*present that seems to have inflected thematically is *plāt̄k* (see below), and in both cases we clearly have to do with an archaism that goes against the larger tendency to remodel these verbs as class III/IV presents. Tocharian *kāt̄k* has been equated with Grk. γῆθέω, γέγηθα ‘rejoice’

<sup>54</sup>Examples of *sk-*verbs with good etymologies that inflect thematically (class II) are TochAB *pāsk* ‘protect’ (3sg. *pāṣ-tār* < \**pḥ<sub>2</sub>-skē-*, cf. Ved. *pā-ti* ‘id.’); TochAB *nāsk* ‘swim’ (3sg. pr. *nāṣṣ-ā-m* < \*(*s*)*nḥ<sub>2</sub>-skē-*, cf. Ved. *snā-ti* ‘id.’); TochB *yāsk* ‘beg’ (subj. 3sg. *yāṣ-tār* < \**ḣ<sub>2</sub>-skē-*, Ved. *yā-ti* ‘id.’). For a complete list, see (Malzahn 2010:462).

at least since (van Windekens 1976:197–8), and the resemblance in shape and meaning between the Tocharian and the Greek verb is indeed striking. PToch *\*kātβk'ä/a-* can be mechanically retrojected to a preform *\*ġh₂dʰ-sk̂e/o-*, an inner-Tocharian derivative to the characterized present *\*ġéh₂-dʰ-*, the evidence for which was laid out 2.1.1.1.

It has long been assumed that the verb TochAB *pyutk[/pyätk]*<sup>55</sup> ‘come into being, *pyutk* create’ must in some way continue the root *\*bʰuH* ‘be(come)’ (Pedersen 1941:288; Lane 1965:96; Melchert 1977:121; Malzahn 2010:242; Adams 2013:441). A derivation of *pyutk* from *\*bʰuH* must overcome two obstacles. The first of these is the origin of the onset cluster *py*<sup>o</sup> with “morphological palatalization,” and the second the the “root extension” *-tk-*. The reason for the appearance of *py*<sup>o</sup> for expected *p*<sup>o</sup> presents problems the solutions to which are likely tied up with the question of the origins of preterit class II, where this type of “morphological palatalization” was regular, and of Tocharian causative formations in general. This need not concern us here. But the problem of the *-tk-* suffix finds an immediate solution within the framework of the present study. The aoristic root *\*bʰuH* ‘become’ would have lent itself well to the creation of an innovative present *\*bʰuH-dʰ-* ‘be’ that can be compared with OCS *bŏdŏ* ‘become’ (< *\*bū-n-d-*, see the following chapter). In Tocharian, this was mechanically extended by *-sk̂e/o-* to give *p[y]utk/p[y]ätk* ‘be(come)’.

The verb *snätk* ‘permeate’ has been mentioned above in the context of Lat. *nūbēs* *snätk* ‘cloud’. In both Tocharian languages, only the preterit participle is attested: TochB *snätku* ~ TochA *sāsnotku*. The historical morphology of the Tocharian participle is not well enough understood for these forms to enable us to draw any confident conclusions about the averbo to which they once belonged.

This verbal root has been thought to go back to an extended form of the root *\*sney* ‘drip’ at least since (Melchert 1977:118). Melchert suggests a *d*<sup>e</sup>/*o-*present as an intermediary form, for which he compares OIc. *snýtan* ‘expel (snot) from the nose’, OEng. *snýtan* ‘id.’ and OHG *snūzen* (< PGmc. *\*snūtjanaŋ*). While this verb (and the associated West-Germanic substantive OEng. *gesnot* ‘snot’) are likely to be derived from the root *\*sney*

<sup>55</sup>The zero-grade root *pyätk* is preserved in the participle TochA *papyätku* ‘having become’.

‘drip’, this root takes on a bewildering array of alternating suffixes in Germanic that include OIc. *snýðja* ‘sniff out’, OHG *snūden* ‘snort’, OIc. *snoppa* ‘snout’ = MHG *snupfe* ‘id.’, MHG *snūfen* ‘sniff’ beside *snūben* ‘id.’ and dial. Swed. *snukka* ‘snivel’ = MHG *snukken* ‘id.’ that must ultimately be onomatopoeic.<sup>56</sup>

If the arguments tentatively advanced above in favor of an old  $d^h$ -present *\*snéy-d<sup>h</sup>*-‘be wet’ are correct, the Tocharian verb can easily be grouped with YAv. *snaoða-* ‘cloud’, Lat. *nūbēs* and Modern Welsh *nudd* ‘mist’. This is more attractive than the “snot” proposal because it combines evidence from multiple branches of Indo-European, though caution is urged by the fact that the verbal form is preserved only in Tocharian (and perhaps Lat. *obnūbō* ‘cover’, see above).

*plätk* The verb TochAB *plätk* ‘swell up, arise, overflow’ (Melchert 1977:118–9) forms a present participle TochB *plyetk-e-mane* (sbj. *pletk-ä-ṃ*). While the participle could in principle belong either to a simple thematic verb of class II or to an “*o*-thematic” verb of class III, Malzahn (2010:744) argues that a class III present can be excluded on the basis of the subjunctive; athematic subjunctives regularly are paired with thematic presents but never with class III presents. The inflection of *plätk* as a thematic present is a clear archaism like that of *kāt̄k* ‘rejoice’.

Scholars have found it difficult to agree on an etymology for this verb. Van Windekens (1976:379), following (Schneider 1941:48), proposes deriving it from the root *\*pleth<sub>2</sub>* ‘lie open’ of Ved. *práthate* and Grk. *πλατύς* ‘wide’. This accounts for the samprasāraṇa ablaut of the Tocharian verb, but derivation from a laryngeal-final root would likely have resulted in a Tocharian root with  $\bar{a}$ -character, which *plätk* lacks. The semantic development required by this scenario is also nontrivial.

Melchert (1977:119) proposes a preform *\*b<sup>h</sup>leh<sub>1</sub>D-/\*b<sup>h</sup>lh<sub>1</sub>D-*, an enlarged form of the root “*\*b<sup>h</sup>el(h<sub>1</sub>)*” (IEW 120–2). For the *d*-enlargement, he compares Grk. *παφλάζω* ‘bubble’, but the comparison is worth very little for etymological purposes as  $-\zeta\omega$  could easily have other sources than a historic *\*d*, and the Greek verb shows no trace of the laryngeal that

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<sup>56</sup>The long root vowel of PGmc. *\*snūtiȝ/a-* is likely affective.

Melchert ostensibly wishes to make responsible for the root vocalism of the Tocharian present. Perhaps a connection with the root  $*b^hleh_1$  of Lat. *fleō* ‘cry’, OHG *blāen* ‘blow’ and RussCS *blěju* ‘bleat’ (*LIV*<sup>2</sup> 87) could be considered, but it seems likely that this verb is primarily a sound-emission verb, which does not square well with the Tocharian semantics, and the intermediate stage in root-final dental is not attested.

Finally, Adams (2013:461) proposes tracing *plätk* to the root  $*b^hleud$  of isolated Grk.  $\varphi\lambda\upsilon\delta\acute{\alpha}\omega$  ‘become soft through excess moisture’ and  $\varphi\lambda\upsilon\delta\alpha\varphi\acute{o}\varsigma$  ‘flabby’, which can be compared with the verbs Grk.  $\varphi\lambda\acute{\epsilon}(\text{F})\omega/\varphi\lambda\acute{\upsilon}\omega/\varphi\lambda\acute{\upsilon}\zeta\omega$  ‘overflow’, Lat. *fluō* ‘flow’ and OCS *bljujǫ* ‘puke’). He does so mainly in the interest of connecting *plätk* with TochAB *plutk* ‘come into being’. The two verbs are certainly distinct from each other in both Tocharian languages, and an etymological connection is far from guaranteed. Once more, the semantic similarity between the Tocharian and extra-Tocharian forms is not overly compelling.

To my knowledge, a connection of TochB *plyecc-ä<sup>m</sup>* ‘swell up, arise’ with the group of Grk.  $\pi\lambda\acute{\eta}\theta\omega$  ‘is full’, OYAv. *frada<sup>i</sup>ti* ‘furthers’ has not been considered. The semantic development ‘fill up (intr)’ → ‘swell up’ is trivial and requires no special pleading. From a  $*pleh_1-d^h-sk^{\circ}/-$  ‘become full’, both the samprasāraṇa ablaut and the palatalizing  $*’æ$  of the Tocharian present find an immediate historical explanation. It is true that TochAB *plätk* belongs to a larger class of thematic presents that show the root vocalism PToch  $*’æ < *ē$ , and Malzahn (2010:366) argues that the source for this long vowel were Narten presents. But it is likely that there were multiple sources, and  $*pl’ætk-’æ/ä-$  is a case in point for what these could have been. Finally, this etymology has the advantage over previous proposals that it accounts for the Tocharian verb straightforwardly from a verb of clear Indo-European pedigree.<sup>57</sup>

To sum up,  $d^h$ -presents likely provide the—or at least a—missing link in the historical account of Tocharian roots in final *-tk-*. They supply a plausible source for both the dental in this cluster and the intransitivity with which these roots are associated. The

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<sup>57</sup>The Fremdvokal of the citation form *plätk* appears only in the participle TochA *paplätku* = B *plätku*, which can be taken to be analogical to other verbs that exhibit this alternation like TochB pr. *ceñc-ä<sup>m</sup>* ‘hinder’ : ptcp. *tänkuweš*.

only reason that this fact has been overlooked is that, until now, little attention has been paid to the suffix  $*-d^h-$ .

### 3.6 Interim Conclusions

While the analyses of verbs discussed in this chapter could be subject to doubt or skepticism on an individual basis, collectively they furnish strong evidence from multiple languages for a type of present formed with the suffix  $*-d^h-$  that had a non-trivial propensity for intransitive semantics. While it has been repeatedly observed that full grade was the norm in these languages, little further has been said about the ablaut of the original paradigm and nothing has been said about the conjugational type (thematic, athematic, or *h<sub>2</sub>e*-conjugation) that these verbs would have used in Proto-Indo-European. In the next chapter, I turn to the “Northern Indo-European” languages—Germanic, Baltic and Slavic—which I argue provide crucial evidence about the morphology of this present formation.

## Chapter 4

# Baltic, Slavic, Germanic and the inflectional properties of $d^h$ -presents in the parent language

The “Northern Indo-European” languages are well known to constitute a dialect area if not a genetic subgroup of Proto-Indo-European. They pattern together morphologically on a number of features, including the substitution of  $^{*o}m-$  for  $^{*o}b^h-$  in the non-singular oblique cases, their use of thematic nasal inchoative formations (Gorbachov 2007; Villanueva Svensson 2011a) and a general propensity for conserving *o*-grade vocalism in verbs (Jasanoff *HIEV* 64–90).

Though there is no characteristic “Northern Indo-European” treatment of  $d^h$ -verbs, it will be useful to discuss these languages together. Collectively, they help to bring into focus questions about the ablaut patterns and inflection of  $d^h$ -presents that the languages surveyed in the previous chapters do not. In particular, these three branches of Indo-European happen to preserve one of the best  $d^h$ -present word equations: OLith. *veld* ~ OCS *vlad-%-* ~ Goth. *wald-%-* ‘be powerful’ that poses significant problems of interpretation and the evaluation of which will be postponed until the conclusion of this

chapter.

## 4.1 Baltic

The information presented in the previous chapter, hard-won from the historical record, has consisted of sporadic and sometimes doubtful relics of  $d^h$ -presents spread thinly throughout the Indo-European daughter languages. In Baltic, we encounter the opposite problem. A productive class of iterative-causative verbs in Lith. *-dy-ti* [= Latv. *-dī-t*] provide a glut of philological data.<sup>1</sup> It is only natural to seek the starting point of this formation in causatives of the shape  $*-d^h-e\check{s}e/o-$  made to  $*d^h$ -presents. Because these characterized presents were by nature intransitive, they lent themselves naturally to serving as the basis for causative formations, just as in the case of the Avestan causatives in *-daiia-* (type  $x^v abdaiia-$  ‘put to sleep’) discussed above.

In Lithuanian, *-d-* appears before the iterative-causative suffix in three principal morphophonological environments that are synchronically identifiable:

1. Always when the stem ends in a vowel, e.g. *pūti* ‘rot’ : *pūdyti* ‘make rot’, *bijóti(s)* ‘fear’ : *baidýti* ‘frighten’, *lóti* ‘emit a bark’ : *lódýti* ‘bark’, etc.
2. Usually in diphthongal stems (including resonant diphthongs).
  - (a) With ablaut: *tirti* ‘examine’ : *tárdyti* ‘try to find out’, *skriėti* (dial.) ‘turn in a circle, fly’ : *skraidýti* ‘fly about’, *nértis* ‘be submerged’ : *nárdytis* ‘be repeatedly submerged’, *lìmti* ‘bend down (intr)’ : *lámdyti* ‘crumple (tr)’, *skìlti* ‘become cracked’ : *skáldyti* ‘crack (tr)’, *trìmti* ‘become calm’ : *trámdyti* ‘calm (tr)’, *spìrti* ‘kick’ : *spardýti* ‘kick repeatedly’ etc.
  - (b) Without ablaut: *gìmti* ‘be born’ : *gimdýti* ‘give birth to’, *bálti* ‘become white’ : *báldyti* ‘make white’, *gũlti* ‘lie down’ : *guldýti* ‘put to bed’ etc.

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<sup>1</sup>See especially (Endzelīns 1923:641f.; Stang 1942:148; Otrębski 1965:383ff.; Stang 1966:325; Senn 1966:284f.).



3. Optionally in the case of stems ending in an obstruent, usually without discernible change in meaning: *klup[d]ýti* ‘stumble’, *lip[d]ýti* ‘glue’, *mig[d]ýti* ‘sleep’, *stab[d]ýti* ‘check’, *tup[d]ýti* ‘squat, make squat’, *žvig[d]ýti* ‘let bray’ (cf. Kuryłowicz 1977:87<sup>31</sup>).

In Latvian, we encounter a morphological situation that is clearly more conservative. Here, infinitives in *-dî-t* are much less common. These Latvian verbs are built only to roots in final vowel or diphthong (including resonant) as in the first two categories of Lithuanian. But in Latvian, the historically-justified correlation of suffixal *-dî-t* with *o*-grade root vocalism is more robust. Examples include *mîet* ‘affix a pole’ : *mâidît* ‘id.’, *smiê-t* ‘laugh’ : *smaiñ-dît* ‘smile’ and *splaũt* ‘expectorate’ : *splaudît* ‘id.’ (Endzelîns 1923:641; Forssman 2001:195). Several clear word-equations with Lithuanian exist and these are given in Table 4.1, though this list is not meant to be exhaustive.

**Table 4.1:** *Baltic iterative-causatives in \*-dî-ti, \*-d(i)je-[/\*-dā-]*

Lithuanian		Latvian	
base verb	iterative-causative	base verb	iterative causative
<i>skîlti</i> ‘crack (intr)’	<i>skâldyti</i> ‘cut to pieces’	<i>šķêlt</i> ‘split (tr)’	<i>skaldît</i> ‘split’
<i>(bijóti(s))</i> ‘fear’	<i>baidyti</i> ‘scare (tr)’	—	<i>baĩdît</i> ‘scare (tr)’
<i>spîrti</i> ‘kick’	<i>spardýti</i> ‘kick repeatedly’	<i>speřt</i> ‘kick’	<i>spãrdît</i> ‘kick’
<i>jóti</i> ‘go by horse’	<i>jódyti(s)</i> ‘ride around’	<i>jât</i> ‘go by horse’	<i>jãdît</i> ‘ride around’
<i>skristi</i> ‘fly’	<i>skraidýti</i> ‘fly around’	<i>skriet</i> ‘run’	<i>skràidît</i> ‘run around’
<i>irti</i> ‘dissolve (intr)’	<i>ardýti</i> ‘dissolve (tr)’	<i>ĩrt</i> ‘come unstitched’	<i>ãrdît</i> ‘unstitch (tr)’

While the lexical particulars of the spread and development of dental iterative-causatives are not recoverable, the synchronic facts paint a clear picture of the overall trajectory of the suffix. We can posit that a core of original Baltic *d*-presents came to form iterative-causatives in *\*-d-î-/\*-d-(i)je-*, built to the present stem of the verb. These regularly showed *o*-grade of the root, like the verbs in Table 4.1. The new verbs in *\*-d(i)je-* would soon have generated full averbos to match other iterative-causatives in *\*-î-/\*-(i)je-*, consisting of a present in *-(i)je-*,<sup>2</sup> an infinitive in *\*-dî-ti* and an aorist in *\*-d(i)j-â-*. But

<sup>2</sup>Just like all iterative-causatives, verbs in *\*-d-î-/\*-d-(i)je-* were mechanically remade to *\*-d-î-/\*-dâ-*

the existence of infinitive and aorist forms with *-d-* beside the extra-presential *d*-less forms of the basic verb led learners to see the *-d-* as part of the iterative-causative suffix. So, for instance, an original paradigm pr. \**skél-d-* : inf. \**skil-ti* : aor. \**skil-ā-* ‘split (intr)’ (see below) came to form a de-presential causative pr. *skal-d(i)je-* : inf. \**skál-dīti* : aor. *skál(i)j-ā-* ‘split (tr)’ (Lith. *skáldyti* ‘cut to pieces’, Latv. *skaldīt* ‘split (tr)’), and a comparison of inf. \**skil-ti* with inf. \**skál-dīti* suggested a segmentable suffix. Finally, the iterative-causative suffix \**-dī-/\*d(i)je-* was generalized as a strategy for avoiding vowel hiatus in verbs that ended in a vowel or diphthong (including resonant diphthongs). This is precisely the situation found in Latvian. In Lithuanian, however, further developments occurred. The marker *-dy-* came to be perceived as the marker of iterative-causatives par excellence. Language learners no longer felt the need to use it only with historical *o*-grade of the root and even came to place the suffix optionally after consonants in order to give these a more iterative-causative “feel.”

These facts from the historically productive morphology of Lithuanian and Latvian, when viewed against the background of the Indo-European class of *d<sup>h</sup>*-presents, suggest that some or all of the class of Baltic “*d*-presents” continue the formant \**-d<sup>h</sup>-*. Our task now will be to attempt to identify a core of likely *d<sup>h</sup>*-presents and to explore their morphological properties and subsequent development.<sup>3</sup>

*vérdū* The verb Lith. pr. *vér-du* : inf. *vir-ti* : aor. *vir-iaū* ‘boil (tr/intr)’ and its exact Latvian cognate *veŗ-du* : *vir-t* : *vir(-ā)* ‘id.’ are fossils within the grammatical systems of their respective languages. Only in this lexical item do we find a *-d-* that is distributionally restricted to the present, not appearing in either the infinitive or in the aorist. Interestingly, *-d-* is also lacking in the causative Latv. *vāru, vārīt* ‘make boil’ [= OCS *variti* ‘id.’]. The exact agreement between Lithuanian and Latvian as to the form and meaning of this verb

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in East Baltic. This morphological remodelling is a well-known crux of Baltic and likely depends on a contamination of iterative-causatives of the shape *R(o)-éǰ%o-* with rarer *R(ō)-eh₂-ǰ%o-* (type: Latv. *ruotāju* : *ruotāt* ‘hop’, Grk. *νομάω* ‘wield’, see Villanueva Svensson 2012). This issue does directly not bear on the problem at hand and will not be further discussed.

<sup>3</sup>On *d*-presents in Baltic see especially (Endzelīns 1923:573, 641f.; Stang 1942:140ff.; Stang 1966:336; Smoczyński 1987; Bammesberger 1992).

confirms that its anomalous paradigm is at least as old as the period of Eastern Baltic unity. The confinement of the *-d-* to the present together with the full grade of the root by which it is accompanied and the optionally intransitive semantics of the verb attested from the oldest period<sup>4</sup> argue strongly for the reconstruction of a *d<sup>h</sup>*-present that can be retrojected to *\*ǵérH-d<sup>h</sup>-*. The Baltic verb finds a cognate in dental-less OCS *vbŕjǝ*, *vbŕ[ě]ti* ‘boil (intr)’ and likely belongs to the etymological family of Hitt. *warnu-<sup>zi</sup>* ‘burns (tr)’  $\sim$  *urā<sup>ni</sup>* ‘burns (intr)’, Arm. *vařem* ‘burn (tr)’ and perhaps PGmc. *\*warmā-* ‘warm’ (*IEW* 1066).

The above account, the merits of which are clear in the framework of the current study, cannot be called a *communis opinio*. Bammesberger (1992), who sees no reason to associate the Baltic and Slavic *d*-presents with the  $\vartheta\omega$ -presents of Greek,<sup>5</sup> attempts to explain the averbo of *vérdū* as an inner-Baltic creation. This scholar proposes that the *d* of *vérdū* was extracted from the verb *dúodu* ‘I give’ via an analogy aor. *\*dúo-* : pr. *dúod-* :: aor. *\*ver-(!)* : pr. *x* where *x* was solved as *vérd-* (10). This is hardly likely. There is neither semantic nor phonetic similarity linking the verbs *dúoti* and *virti* of a kind that would have led speakers to associate specifically these two verbs. Much worse, there is no evidence whatsoever for the aorist stem *\*ver-* that plays a crucial role in Bammesberger’s analogy. The attested preterit *vire* agrees exactly with the Slavic verb OCS *vbŕě-ti* ‘boil’ and is surely as old as Proto-Balto-Slavic. Without this, there is no way to account for the full grade of *vér-d-u*. It is far more sensible to posit an intransitive present *\*ǵérH-d<sup>h</sup>-* ‘boils’ for the Baltic forms that stood in roughly the same morphological relationship to the *\*ǵrH-ǵ<sup>o</sup>-* of Slavic *vbŕjǝ* that MW *tođi* ‘melt’ does to OCS *tajǝ* ‘melt’.

The verb *vér-d-u* is morphologically unique in its restriction of the dental to the present, but its existence assures us that *d<sup>h</sup>*-presents of this type were inherited into Balto-Slavic and suggests that the many Lithuanian verbs in which etymologically suffixal *-d-* has come to pervade the paradigm represent a secondary and relatively late morphological

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<sup>4</sup>E.g. Sirvydas 1620: *versmé verdanti* ‘seething spring’.

<sup>5</sup>“Besonders naheliegend ist die Verknüpfung nicht” (Bammesberger 1992:7).

innovation. Such verbs usually have stative semantics, form infinitives in *-ė-* (occasionally *-o-*), are frequently athematic and stand beside related but *d*-less verbs with similar semantics. These distributional facts are best illustrated by example.

*merdmi* The verb OLith. *merdmi* (Klein 1653, Lith. *mėrdžiu/mėrdėju/mėrdu*) : *mėrdėti* : *mėrdėjau* ‘lie dying’ constitutes a good starting point for this investigation because it has a well-grounded etymology and demonstrates all of the morphological characteristics relevant to this class in Lithuanian. It is quite clear on semantic grounds that this verb is derived from the root PIE *\*mer* ‘die’ of Hitt. *mer-zi* ‘disappear’,<sup>6</sup> Ved. *mriyáte* ‘die’, Lat. *morior* ‘id.’, Arm. *meṙanim* ‘id.’ etc. (*LIV*<sup>2</sup> 439–40; *IEW* 735).<sup>7</sup>

Chronological and morphological considerations show athematic *merdmi* to be the oldest form. It is likely that *merdmi* was first updated to thematic *mėrdu* and later trivially remade regionally to *mėrdžiu* or *mėrdėju*. Both thematic *mėrdu* and athematic *merdmi* are surprising within the context of their averbo. Verbs in *\*-ė-* mostly belong to two morphological categories: denominative statives of the type pr. *sen-ė-ju* : inf. *sen-ė-ti* : pret. *sen-ė-jau* ‘be old’ with pervasive *\*-ė-*, and deverbals of the type *min-iù* : *min-ė-ti* : *min-ė-jau* ‘mention, remember’ with presents in *\*-i%*. Verbs of these two very common morphological types supplied the basis for the generation of the innovative present formations.

Parallel to the averbo of *merdmi/mėrdu* runs a second and etymologically related averbo *mīr-štu* : *mīr-ti* : *mīr-iau* ‘die’, made to the primitive root without suffixal *-d-*. To judge by the averbo of *vėrdu* : *vīrti* : *vīriau*, *mėrdu* once formed an infinitive *mīr-ti* and perhaps also an aorist *mīr-iau*, which would in all likelihood have been homophonous with those of *mīrštu*. This latter itself is shown to be old within the Baltic context by the by the fact that this verb alone among *sta*-presents shows the phonological outcome of the sibilant in a *ruKi*-context (*\*rs* > *rš*).<sup>8</sup> The confusion about which principal parts

<sup>6</sup>Cf. the similar semantic sphere of the root *\*nek̑* ‘disappear, die’ (*LIV*<sup>2</sup> 451–2; *IEW* 762).

<sup>7</sup>On the acute root vowel of *mėrdu*, see below p. 135 fn. 61.

<sup>8</sup>On the suffix *-sta-*, see (Gorbachov 2014).

belong to which verb could easily be resolved by adding to the stem *mérd-* of the present the semantically appropriate stative marker *-é-* to create the attested infinitive *mérd-é-ti* and aorist *mérd-é-jau*.

A number of other verbs show features reminiscent of *merdmi/mérdu* and must have *veldmi* similar morphological histories. One that is of particular importance for this study and which will be discussed at greater length at the end of this chapter is athematic OLith. 3sg. *velst* (Daukša 1595, Lith. *vėldu/vėldžiu/veldėju*) : *veldėti* : *veldėjau* ‘have power over’ with iterative-causative *valdýti* ‘rule’ [= Latv. *vàldīt* ‘id.’]. This verb forms a word equation with OCS *vlad-%o-* ‘have power’ ~ Goth. *wald-<sup>1</sup>/<sub>a-</sub>* ‘id.’, which will be discussed below. The Lithuanian verb is normally taken to be derived from the same, dental-less root as Lat. *valeō* ‘am powerful’ (*LIV*<sup>2</sup> 676–7). Once again, it is clearly athematic *vėldmi* that is old vis-à-vis the other present formations. This was likely first remade to *vėldu* (like *mérdu*) and then to *vėldžiu* (the standard form) and to dialectal *veldėju* via the innovative infinitive *vėld-é-ti*.

Although there is no direct evidence for athematic *\*ér-d-mi* (or thematized *\*érdu*), an *érdėju* original present of this shape likely stands behind the intransitive verb Lith. *érdėju*(/*érdžiu*) : *érdėti* : *érdėjau* ‘disintegrate, decompose’, the principal parts of which recall those of the verbs discussed immediately above. An early Baltic *d*-present was likely the basis for the causative Lith. *ardýti* ‘dissolve’, which forms a word equation with Latv. *ārdīt* ‘rip apart at the seams’, while the *-d-* is lacking in the cognate verb OCS *oriti* ‘tempt’, *razoriti* ‘destroy’. In Baltic, the synonymous *d*-less verb *yrù*(/*inrù/irnù/irstu*) : *irti* : *irau* ‘disintegrate’ [= Latv. *īrt* ‘come unstitched’] is clearly made to the same historical root (?\**h<sub>1</sub>erH*), and the morphological relationship of *érdėti* to *irti* recalls that of *mérdėti* to *miĩrti*. The wide variety of present formations that accompany *irti* may in this case indicate a paradigm split; after *érdmi* came to generate a new infinitive *érdėti* and aorist *érdėjau*, its historical infinitive *ir-ti* and aorist *irau* now formed a defective averbo, and speakers had recourse regionally to productive morphological patterns to derive the new presents *ĩr-a-*, *ir-sta-* and *ir-na-* to fill the empty slot of the present.

*čiaudmi* The athematic Lithuanian verb *čiaudmi* (Ruhig 1747, also *čiaudu/čiaudžiu/čiaudėju*) : *čiaudėti* : *čiaudėjau* ‘sneeze’ appears to continue a present *\*kséy-d<sup>h</sup>*- ‘sneeze’ made to the same root as Ved. *kṣauti* (GDhS) ‘sneeze’ (ptcp. *kṣuvant-* Br.+), with regular metathesis of the initial sibilant cluster and development of PIE *\*ey* to PB *\*iay* in front of a consonant.<sup>9</sup> Latvian continues a dental-less *ǰ*%-present *šķaūju* : *šķaūt* : *šķāvu* ‘sneeze’ (iterative *šķaūdīt* ‘sneeze’), revealing on Baltic-internal grounds the suffixal nature of the dental and repeating the pattern of *d<sup>h</sup>*-present beside (*i*-present/)*ǰ*%-present that has so frequently been observed throughout this study. A hint of the suffixal nature of the *-d-* in Lithuanian itself can perhaps be seen in dialectal pr. *čīūvu* ‘begin to sneeze’ : aor. *čīūvau* (Nesselmann 1851).

*svėrdu* A similar profile is presented once again by the Lithuanian verb *svėrdžiū* (Šlapelis 1921 and dial. *svėrdu*, dial. *svėrdėju*) : *svėrdėti* : *svėrdėjau*<sup>10</sup> ‘totter, sway’. As in the case of *mėrdmi* → *-du* → *-džiū/-dėju*, the existence of a present *svėrdu* beside an infinitive in *-ė-* is likely an indication of former athematic inflection. Though the deeper etymology of this verb is not known, the suffixal character of the dental is revealed by the semantically similar and clearly related verb Lith. *svyrù(/svirstù/svirù/svyrnù)* : *svirti* : *svirau* ‘bend (intr)’. As in the case of *irti* ‘dissolve’, the wide array of presents belonging to dental-less *svirti* ‘bend’ suggests divergent dialectal innovations resulting from a paradigm split. The original paradigm would have run *\*svėrdmi* : *\*svirti* : *\*svirau* ‘bend [while walking] (intr)’.

*pėldu* The archaic verb Lith. *pėldu* : *pėldėti* : *pėldėjau* ‘save (money), regret’ [= OPr. ptcp. *pel-dūns* ‘erworben; redeemed (spiritually)’] is plausibly connected by Trautmann (1923:213) and later authorities (Fraenkel 1962:565; *IEW* 804) with Lith. *pėl̃nas* ‘gain’ [= OCS *plěnъ* ‘booty’] and outside of Balto-Slavic with Grk. *πωλέω* ‘sell’ and with the OIc. *falr* ‘to be

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<sup>9</sup>The precise conditioning and outcomes of PIE *\*ey* in Baltic remain a matter of controversy, see recently (Derksen 2010). On the morphological class of verbs with root vocalism *iau* see especially (Stang 1966:358–9; Villanueva Svensson 2011b).

<sup>10</sup>Dialectal forms differ as to the acuteness of the root in all principal parts.

sold' (< \**polh<sub>2</sub>ó-*, Heidermanns 1993:187). The root \**pelh<sub>2</sub>* 'sell' is a variant,<sup>11</sup> going back to the protolanguage, of the root \**perh<sub>2</sub>* 'id.' of Grk. πέρνημι 'export for sale' and OIr. *ernaid* 'bestow'<sup>12</sup> (Ved. *pāṇate* 'barter' < \**pr̥ṇāti* is ambiguous).

The verb Lith. *skėldu* (Haack 1730+, younger *skėldėju/skėldžiu*) : *skėldėti* : *skėldėjau skėldu* 'burst open (intr)' forms a morphological pair with synonymous Lith. *skylù/skylstù/skilnù* : *skilti* : *skilau* 'crack (intr)' [≈ Latv. \**šķilt* 'strike (a spark), start a fire']. The simple thematic present *skėldu* predates the other present formations in its attestations, and itself has likely replaced older athematic \**skeldmi* (like *merdmi* → *mėrdu*). Once again, the wide variety of attested present formations associated with *skilti* are suggestive of competing innovations following a paradigm split (*skėldu* → *skėldėti*; *skilti* → *skylù/skylstù/skilnù*). Though Latvian has no morphological equivalent of Lith. *skėldu*, both languages know an iterative-causative Lith. *skáldyti* 'cut to pieces' = Latv. *skaldīt* 'chop, split (tr)' that is likely based on a historic *d*-present, which may also be reflected in the substantive Latv. *šķelda* '(wood)chip'. The non-stative semantics of Lith. *skėldėti* set it apart from those discussed above and suggest that the restructuring of the infinitive through suffixation of *-é-* had become a purely mechanical process that affected nearly all *d*-presents, even those for which the stative morpheme was semantically ill-suited.

Though unclear in its morphological particulars, the verb Lith. *žiedėju/žiedžiu* : *žiedėti žiedėju* : *žiedėjau* 'become moldy' is likely the renewed form of earlier athematic *žiedmi*.<sup>13</sup> The direct Latvian cognate pr. *ziē-du/-žu* : *ziēdēt* 'bloom' can be compared with *dziē-du/-žu* 'sing', the outcome of attested athematic *giedmi* 'sing', which is discussed below, and it may be that athematic Lith. *žiedmi* was responsible for the athematic inflection of

<sup>11</sup>The variant \**pelh<sub>2</sub>* no doubt arose in a dissimilatory context, perhaps following the preverb *pro-*, cf. Grk. προπωλέω 'negotiate a sale', Ved. *prapaṇá-* (AV) 'wares'. Similar dissimilatory effects, divorced from their original context, can be perceived in the alternation of \**r* and \**l* in numerous allomorphic suffixes in Proto-Indo-European (cf. Brugmann *Grd.*<sup>2</sup> I:425).

<sup>12</sup>The semantics of the morphologically problematic verb *renaid* 'sell' could suggest a preform \**pr̥<sub>2</sub>-neh<sub>2</sub>-*. For a discussion of the verbs *ernaid* and *renaid* and an argument for their etymological separation, see (Schumacher 2004:551–2) with references to earlier literature (especially McCone 1991:37–40).

<sup>13</sup>Balčikonis and Naktinienė 2017 s.v. *žiedėti* cites 3sg. *žiesti*, presumably an athematic form of the verb, but I have been unable to locate its actual occurrence.

Lith. *pra-žydmī* (Ruhig 1747:79, 192) ‘come into bloom’.<sup>14</sup> Though the dental-less root does not unambiguously appear in Baltic,<sup>15</sup> it has traditionally been seen in Arm. *cił* ‘sprout’ and in a variety of Germanic words including the verb PGmc. *\*kei-n- $\frac{1}{a}$ -* ‘sprout’ (Goth. *keinan* ‘βλαστᾶ; sprout’, ptcp. *-kijana-*, OEng. *cīnan* ‘gape’, OHG *chīnan* ‘sprout’) (WP 544–5, LIV<sup>2</sup> 161–2). The Baltic verb can be retrojected either to *\*gréH-i-d<sup>h</sup>-* or to *\*gré $\dot{\lambda}$ H-d<sup>h</sup>-*.

*skrendù* The verb Lith. *skrendù* (/ *skrindù*) : *skrìsti* : *skrìdau* ‘fly’ likely depends on a lost athematic present *\*skr(i)edmi*, which is implied by dialectal *skrem-iù* ‘I fly around’ (← *\*skre(d)mi* ‘id.’, cf. Stang cf. 1966:317–8). The *d*-less stem is continued in Lith. *skriėjù* (/ *skrejù* / *skrėnù*) : *skriėti* : *skriėjau* (/ *skrėjau*) ‘circle, fly’ (iter. *skraidýti*) [= Latv. *skrienu* / *skreju*, *skriet* ‘run, fly’ (iter. *skraidīt*)]. This likely implies a present of the structure *\*skre(h<sub>1</sub>)(i-)d<sup>h</sup>-*,<sup>16</sup> possibly an “-*i-d<sup>h</sup>*-present” formally similar to Ved. *sédhati* ‘repulses’ < *\*seh<sub>1</sub>-i-d<sup>h</sup>-* (see p. 70), the root of which can be compared with that of OEng. *skriðan* ‘glide’ (< *\*skré(h<sub>1</sub>)-i-t<sup>h</sup>-* or *\*skrið<sub>1</sub>-t<sup>h</sup>-*). Ultimately, the morphology and phonology of this Baltic verb present problems of detail, but these can be ignored in face of the, for present purposes, more important fact that it contains suffixal *-d-*, was intransitive and inflected athematically.

*giedmi* A much clearer example of a Baltic verb that concatenates the suffix *-i-* of a historic *i*-presents with the the formant *-d<sup>h</sup>-* here under investigation is OLith. *giedmi* ‘sing’ (3sg. *giesti* Knyga Nobažnystės 1653:269). It is this athematic present that underlies both dialectal *gíemu* (← *gíe(d)mi*) and likely also *gíestu* (← 3sg. *gíest(i)*). As might be expected, the outcome of this verb in standard Lithuanian is simple thematic *gíedu* [≈ Latv. *dziēdu* beside *dziēžu*] (like *mérdu* ← *merdmi*), and because the infinitive was *gíed-o-ti* [= Latv. *dziēdāt* ‘sing’] and not *gíed-é-ti\**,<sup>17</sup> thematic *gíedu* never gave way to

<sup>14</sup>Ruhig distinguish athematic *pražydmī* ‘zu blühen anfangen’ from thematic *žydu* ‘blühen’.

<sup>15</sup>On Latv. *zeiju* : *ziet* ‘appear’, see (Derksen 2008:518).

<sup>16</sup>The possibility of a laryngeal-final root is suggested by dialectal Lith. aor. *skrėjo*.

<sup>17</sup>Lith. *gíed-o-ti* as opposed to *gíed-é-ti\** likely owes its *o* to earlier *\*gā-ti* < *\*geh<sub>2</sub>-ti-* ‘singing’.



*giedžiū\** or *giedėju\** in later Lithuanian.

The verb *giedmi* can be retrojected to a preform  $*géh_2-i-d^h-$ , ultimately an  $-i-d^h-$ -present to the root  $*geh_2$  ‘sing’.<sup>18</sup> This root formed an *i*-present that is continued in Indo-Iranian Ved.  $gā-y-a-ti$  ‘sings’ (aor.  $gā-s-/gā-siṣ-$ , v.a.  $gītá- < *gih_2-tó- < *gh_2i-tó-$ ) and is reflected in numerous nominal derivatives including Ved.  $gā-thá-/gá-tha-$  (RV+) ‘song’ = [YAv.  $gāθā-$  ‘id.’] and  $gī-thā-$  (ŚB) ‘id.’ (EWAia I:482f.). The same *i*-present was inherited into Proto-Balto-Slavic, where it finds an exponent in ORuss. *gaj-u*, *gaj-ati* ‘croak, lament’ and in the substantive Latv. *gaī-lis* ‘rooster’ (←  $*\text{‘one that sings’}$ ).

A similar morphological profile is presented by the verb OLith. *klie(d)mi* (Daukša *kliedmi* 1595, later *klėdu/klėdžiū*) : *klidėti* : *klidėjau* ‘talk nonsense’ together with its by-form *klaĩdmi* (Pietkiewicz 1598, later *klaĩdėju* : *klaĩd-ė-ti* : *klaĩd-ėjau* ‘talk nonsense’). The basic stem *klaj-* surfaces in the verb *klaj-ó-ti* (*/klej-ó-ti*) ‘walk around in confusion’ [ $\approx$  Latv. *klaj-ā-t* / *klej-uō-t* ‘id.’] and in the adjective Lith. *klaj-ù-s* ‘confused, wandering’. Though *klaj-* lacks a deeper etymology, its shape could suggest an  $-i-d^h-$ -present  $*k^{(u)}lėh_2-i-d^h-$ . To this was made deverbative Lith. *klýstu* : *klýsti* : *klýdau* ‘wander’ [= Latv. *klīst* ‘id.’] as though from  $*k^{(u)}ih_2-d^h-sk̃/-$ , a formation which recalls the the Tocharian verbs in  $-tk-$  ( $< *d^h-sk̃/-$ ) discussed in the previous chapter.

While further verbs could tentatively be added to this inventory,<sup>19</sup> the point is sufficiently made. Alone the fact of the existence of causatives in  $*-dī-ti/*-d(i)je-$  [ $\rightarrow *dā-$ ] implies that a present formant  $-d-$  was used in early Baltic, and clear cases like *vérdū* and *merdmi* help to fill in the gaps. These presents repeat the characteristics of

<sup>18</sup>One might wonder whether  $*geh_2$  ‘sing’ and  $*géh_2$  ‘rejoice’ are not ultimately the same root specialized in two different nuances of meaning. The existence of a  $d^h$ -present  $*géh_2-d^h-$  ‘rejoice’ (Grk.  $\gamma\acute{\eta}\theta\omega$  ‘rejoice’, TochAB *kātk*, see above pp. 22, 94) beside the *i*-present  $*géh_2-i-$  ‘sing’ (Ved.  $gā-y-a-ti$  ‘sings’, ORuss. *ga-j-u* ‘croak, lament’) and the contaminated present  $*géh_2-i-d^h-$  represented by Lith. *giedmi* fit the recurring averbo patterning that is characteristic of the  $d^h$ -present/*i*-present morphological complex (see further 5.3 below).

<sup>19</sup>A less clear case of a  $d^h$ -present in Baltic that is still perhaps worthy of mention is Lith. *gaudžiū* : *gaūsti* : *gaudžiaū* ‘buzz’ [= Latv. *gaūst* : *gāudāt* and *gaudēt* ‘cry’] beside Lith. *gauju* : *gauti* : *gaujau* ‘heulen, von Wölfen; howl’, documented by Nesselmann (1850). This verb has traditionally been taken by lexicographers to continue a *d*-present to the root of OCS *govorъ* ‘speech’ and Grk.  $\gamma\acute{o}\acute{o}\varsigma$  ‘wailing’, but this analysis must be treated as speculative.

$d^h$ -presents that we have repeatedly encountered: they are intransitive, they appear to have originally been confined to the present system, and they stood in a special morphological relationship with  $i$ -presents ( $\rightarrow \check{i}\%$ -presents).

But while all of these facts mirror what we have already seen in the other languages, the Baltic data surprise in one important respect. Here,  $d^h$ -presents inflect athematically. The athematic Lithuanian verbs *merdmi* ‘am dying’, *veldmi* ‘own’, *giedmi* ‘sing’, *čiaudmi* ‘sneeze’ and *kliedmi* ‘talk nonsense’ are all directly attested in the older language. At a second stage in the development of Lithuanian, these verbs were systematically thematized  $-d-mi \rightarrow -du$ , and in light of this fact, it is likely that the verbs *vérdū* ‘boil’, *svérdū* ‘totter’, *példū* ‘regret’ and *skéldū* ‘split’, all of which are incongruously (from the internal perspective of Lithuanian) paired with infinitives in  $-é-ti$ , also continue original athematic presents. The special affinity of  $d$ -extended verbal stems for athematic inflection is striking and has been repeatedly remarked upon within the Baltic context (Specht 1935:90; Stang 1942:103), but never adequately explained or integrated into a larger theory of dental-suffix formations at the Indo-European level.

The fact that the reflexes of  $d^h$ -presents in Baltic employ athematic inflection cannot easily be explained as a secondary innovation from within Baltic and implies that  $d^h$ -presents did not inflect thematically in Proto-Indo-European, the thematic inflection of this present type in Greek and Indo-Iranian notwithstanding. But in order to make sense of this fact it will first be necessary to make with a short digression on the historical morphology of athematic verbs in Baltic.<sup>20</sup>

The athematic verbs of Baltic are a composite morphological type from the historical perspective. One of their inputs were active athematic verbs of Proto-Indo-European. So the verb (O)Lith. *es-mì, es-ì, èsti* ‘be’ [= OPr. *asmai, assai, ast* ‘id.’] clearly continues PIE  $*h_1és-mi, *h_1és-i, *h_1és-ti$  ‘be’ (Ved. *ásmi, ási, ásti* ‘id.’), the verb (O)Lith. *eimì, eisì, eĩti* ‘go’ [= OPr. 3sg. *ēit* ‘go’, Latv. *iēt* ‘goes’] clearly continues PIE  $*h_1éǵ-mi, *h_1éǵ-si$ ,

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<sup>20</sup>On Baltic athematic inflection see (Specht 1935; Stang 1942:99ff.; Sabaliauskas 1957; Stang 1966:309ff., 406ff.; Senn 1966:295ff.; Vine 1982:15ff.).

\* $h_1\acute{e}j\text{-}ti$  ‘to go’ (Ved. *émi*, *éši*, *éti* ‘id.’), and OLith. *é(d)-mi* ‘eat’, continues PIE \* $h_1\acute{e}d\text{-}mi$  ‘id.’ (Hitt. *ēd-mi* ‘id.’, Ved. *ád-ti* ‘id.’, Lat. subj. *ed-i-m* ‘id.’).

Despite the fact that the endings *-mi*, *-si*, *-ti* of Old Lithuanian look superficially very much like the *-mi*, *-si*, *-ti* of Vedic and the  $-\mu$ ,  $-\sigma(\iota)$ ,  $-\tau\iota$  [  $-\sigma\iota$  ] of Greek, they are in fact quite different in origin. The reflexive form of the first-person singular *-mie-* (OLith. *duo-mie-s(i)* ‘give’, Daukša 1595) shows that this ending goes back to earlier \**-mai*, agreeing with OPr. *-mai* and ensuring a diphthongal ending for Proto-Baltic. In the second person, though no reflexive forms are attested in Old Lithuanian, the acute quality of Lithuanian *-si* coupled with the testimony of Old Prussian *-sai/-sei* ensures diphthongal origin here as well.<sup>21</sup> In the third person, however, non-acute Lith. *ti* [= OPr. *-ti* in *asti-ts* ‘ists’, Latv. *-t*] does actually continue active athematic PIE \**-ti*.

In Slavic, by contrast, the athematic ending 1sg. *-mъ* (e.g. OCS, ORuss. *jes-mъ* ‘I am’) cannot go back to an earlier diphthong and must directly continue the athematic active ending \**-mi* of Proto-Indo-European. In the third person, by contrast, the Slavic languages agree with Baltic in continuing PIE \**-ti*. Old Russian *-тъ* directly continues this ending while OCS 3sg. *-тъ* ultimately continues apocopated \**-t* ← \**-tī* to which has been added a prop vowel *ъ*. The ending of the second person, which appears as *-si* (with long final vowel) in the older Slavic languages, is a known crux of Slavic linguistics. Whether this ending ultimately resulted from lengthening of *-sī*, analogy, or some other process,<sup>22</sup> the crucial point is that Proto-Balto-Slavic did continue the athematic type in \**-mi*, \**-si*, \**-ti* of Proto-Indo-European, but that the athematic verbs of Baltic must of had a second input as well.

The endings 1sg. \**-mai* and 2sg. \**-sai* of Proto-Baltic bear an unmistakable resemblance to the endings of the Proto-Indo-European middle. In the first person, \**-[m]ai* appears to be an updated version of older \**-ai* [= Ved. *-e*, OCS *-ě* in *vědě* ‘know’] with \**m* from the active ending \**-mi* (cf. van Wijk 1916:114). The same development took place

<sup>21</sup>On the vocalism of the 2sg. ending in Old Prussian, see (Stang 1966:408–9).

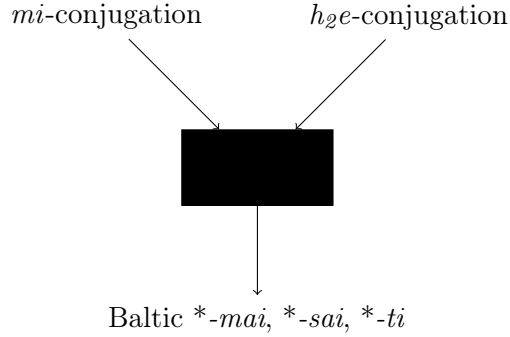
<sup>22</sup>On Slavic *-si*, see (Vaillant *Gr.* III:8–10) and (Olander 2015:312–8) with references to earlier literature.

independently in Greek mid. 1sg.  $-[\mu]\alpha$ . In the second person,  $*-sai$  looks like the direct cognate of Grk.  $-\sigma\alpha$  and Ved.  $-se$ . The third person, however, clearly does continue the active athematic ending as stated above. The logical conclusion that can and has been repeatedly drawn from this fact is that two different conjugational types merged to form the class of Baltic athematics. The first of these was the Proto-Indo-European athematic active, while the second was a conjugational type that bore an apparent formal affinity to the Indo-European middle.

While this statement is trivially true from a descriptive perspective, identifying the precise source of the non-active endings and motivating this merger is a long-standing problem of Baltic linguistics. The true middle voice as it appears in Greek, Latin, Sanskrit and Hittite, has no special affinity for athematic inflection and so would seem to provide few organic points of contact with the thematic active. Acknowledging this weakness, many scholars have sought to localize the starting point for the contamination in the perfect, a “middle-adjacent” tense formation that had the relevant property of being athematic in the protolanguage. But this approach is also problematic, as there is no good evidence that any athematic verbs of Baltic actually continue old perfects.

But advances in our understanding of the Indo-European verbal system yield ready answers to these old questions. It is now known that there were both presents and aorists in the protolanguage that employed the same endings as the perfect, namely the “ $h_2e$ -conjugation” series  $*-h_2e$ ,  $*-th_2e$ ,  $*-e$ , as expounded in detail in (Jasanoff *HIEV*). The fact that these endings could originally be used with certain types of characterized presents does away with the need to posit perfect origin of  $*-mai$  and  $*-sai$  and allows us to see in these endings the continuations of  $-h_2e\check{\imath}$  and  $*-th_2e\check{\imath}$  contaminated with  $-mi$  and  $-si$ . This is schematized in Figure 4.1.

While the  $h_2e$ -conjugation theory supplies a ready source for the diphthongs in the athematic endings of Baltic, it remains to be explored in rather more detail how and why the two conjugation types came to merge. For the present discussion, let us take as examples the verbs OLith.  $\acute{e}(d)mi$  ‘eat’ and  $barmi$  ‘scold’. In Proto-Indo-European,



**Figure 4.1:** *Two sources for athematic inflection in Baltic*

the verb ‘eat’ formed a Narten root present  $*h_1\acute{e}d-mi$ ,  $h_1\acute{e}d-si$ ,  $h_1\acute{e}d-ti$  ...  $*h_1\acute{e}d-\eta ti$ . That this verb inflected athematically can be seen in Hitt.  $\acute{e}dmi$  ‘I eat’, Ved.  $\acute{a}t-ti$  ‘eat’ the Homeric infinitive  $\acute{\epsilon}\delta\text{-}\mu\epsilon\nu\alpha$  ‘eat’ and in the Latin subjunctive  $ed-i-m$  ‘eat’. The athematic character of this verb was preserved in both Baltic and Slavic. In Baltic, it is continued by OLith.  $\acute{e}(d)-mi$  ‘eat’ (< PB  $\acute{e}d-mai$ ) with the usual substitution of  $*-mai$  and in Old Church Slavonic by  $ja-m\text{ь}$  with the inherited monophthongal ending.

Although it inflects in exactly the same way as  $\acute{e}(d)-mi$  in Lithuanian, OLith.  $barmi$  ‘scold’ has a rather different morphological profile. It’s  $o$ -grade root vocalism of Baltic finds a counterpart in OCS  $bor-j\text{ь}$  ‘fight’ (<  $*b^h orH$ )<sup>23</sup> and cannot easily be explained as continuing a perfect for semantic reasons. Furthermore,  $a$ -timbre of the root can be ruled out on account of Lat.  $feri\bar{o}$  ‘strike’. All of these odd inflectional facts add up to suggest that this verb originally showed  $*o : *e$  ablaut and inflected using the  $h_2e$ -conjugation endings, viz.  $*b^h\acute{o}rH-h_2e+i$ ,  $*b^h\acute{o}rH-th_2e+i$ ,  $*b^h\acute{o}rH-e+i$  ...  $*b^h\acute{e}rH-\eta ti$  (Jasanoff *HIEV* 75<sup>20</sup>).

Going into Baltic, “ $mi$ -conjugation” verbs like  $*\acute{e}d-mi$  and “ $h_2e$ -conjugation” verbs like  $*b\acute{a}r-[m]ai$  had the crucial structural similarity that both were non-thematic root present formations. By the time of the late proto-language, neither type of root present was

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<sup>23</sup>It would be natural to assume that OCS  $borj\text{ь}$  ‘fight’ continues an iterative causative of the shape  $*b^h or-\acute{e}\acute{\chi}\%$  - were it not for the fact that its infinitive  $brati$  (< PSl.  $*bor-t\bar{i}$  as opposed to  $boriti^*$ ) is incompatible with such a preform.

**Table 4.2:** *Development of the athematic inflectional endings in Baltic*

	PIE		pre-Balt.		PBalt.
1	* <i>b<sup>h</sup>órH-h<sub>2</sub>eǵ</i>	>	* <i>bar-mai</i>	>	* <i>bar-mai</i>
2	* <i>b<sup>h</sup>órH-th<sub>2</sub>eǵ</i>	>	* <i>bar-sai</i>	>	* <i>bar-sai</i>
3	* <i>b<sup>h</sup>órH-e</i>	>	* <i>bar-ti</i>	>	* <i>bar-ti</i>
1	* <i>h<sub>1</sub>éd-mi</i>	>	* <i>ēd-mi</i>	>	* <i>ēd-mai</i>
2	* <i>h<sub>1</sub>éd-si</i>	>	* <i>ēd-si</i>	>	* <i>ēd-sai</i>
3	* <i>h<sub>1</sub>éd-ti</i>	>	* <i>ēs-ti</i>	>	* <i>ēs-ti</i>

particularly common, especially compared with the large and growing class of thematic presents. Speakers of Proto-Baltic evidently conflated the two types under the single rubric of “non-thematic” to create the mixed series of endings described above. This process is schematized in Table 4.2.

In the first person, \*-*mai* represents the contamination of \*-*mi* × \*-*ai*. Given that Slavic preserves -*mi*, it is likely that 1sg. -*ai* of Baltic was first re-characterized as -*mai* with the *m* that was seen to be prototypical of the first person, just as in the case of the middle ending Greek -[μ]α [≈ Ved. -*e*]. It was only later in the final stage of the merger that \*-*mai* came to outcompete \*-*mi*. Similarly, in the second person, the inherited ending \*-*tai* of the *h<sub>2</sub>e*-conjugation was first remade to \*-*sai* under the influence of \*-*si* before being generalized as the all-purpose athematic ending. In the third person, however, speakers generalized the ending \*-*ti* in favor of \*-*eǵ*, likely already within Proto-Balto-Slavic, as there is no evidence for this ending in either language.<sup>24</sup> The reason for this must have simply been that the ending \*-*ti* that characterized both thematic and athematic conjugation types was extremely common and closely associated with the third person.

Returning now to the issue at hand, the fact that Baltic *d*-presents inflected athematically can mean only one of two things. Either they inflected athematically in Proto-Indo-European using the endings \*-*mi*, \*-*si*, \*-*ti* or they inflected according to

<sup>24</sup>It is at least conceivable that the allomorph 2sg. -*sei* (beside -*sai*) of Old Prussian depends on contamination with lost 3sg. \*-*ei* of the *h<sub>2</sub>e*-conjugation.

the  $h_2e$ -conjugation using the endings  $*h_2ei$ ,  $*-th_2ei$ ,  $*-ei$ . Of these two possibilities, the second option is obviously superior. It allows the thematic forms of the other daughter languages to be explained as pedestrian thematizations of the type that are often found with inherited  $h_2e$ -conjugation verbs and that were effected via the third-person singular (pr. 3sg.  $*-e(i) \rightarrow *-e-ti$  or perhaps ipf.  $*-e \rightarrow *-e-t$ ). Had  $d^h$ -presents conjugated according to the  $mi$ -conjugation, they could be expected to have retained traces of athematic inflection in Greek, Sanskrit and Latin at the very least.

In sum, Baltic offers the clearest evidence outside of Greek for a productive class of  $d^h$ -presents with full grade of the root and intransitive semantics. This profile emerges from the language facts of Lithuanian and Latvian even without recourse to the comparative method. What is more, the Baltic evidence shows that the suffix in Proto-Indo-European was not thematic  $*-d^h\%-$ , as it is usually reconstructed (e.g. *LIV*<sup>2</sup> 20), but rather simple  $*-d^h-$ , which took the endings of the  $h_2e$ -conjugation. These observations from Baltic, where the situation surrounding dental presents is quite clear, provides the necessary background against which to view the more ambiguous evidence from Slavic, to which this study now turns.

## 4.2 Slavic

The Slavic verbs OCS *jadŕ* ‘go by vehicle’, *idŕ* ‘go by foot’, *bŕdŕ* ‘become’ are all formed with a dental the suffixal status of which is recoverable from the language facts of Slavic even without recourse to the comparative method. The verbs *vladŕ* ‘have power’, *kradŕ* ‘steal’, *kladŕ* ‘put’ and dial. Russ. *udu* ‘am ripe’ bear a dental that is shown to be suffixal by the comparative evidence. Each of these is discussed in turn below.<sup>25</sup>

The verb OCS pr. *ja-dŕ* : inf. *ja-x-a-ti* ( $\leftarrow *ē-ti$ ) : aor. *ja-dŕ* (/ *jad-oxŕ*) ‘go by vehicle’ *jadŕ* is standardly traced back to the Indo-European root  $*\check{\chi}eh_2$  ‘go by conveyance’ of Lith. *jóju* ‘ride’, Ved. *yá-ti* ‘go (esp. by conveyance)’ and TochB *iyam* ‘travel by conveyance’ [=

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<sup>25</sup>On dental-suffix presents in Slavic, see especially (Stang 1942:51–2; Vaillant *Gr.* III:174ff.).

Ved. *īyate* ‘speeds’].<sup>26</sup> Slavic employs a suffixal dental both in the present and in the aorist but not in the infinitive. The aorist OCS *jadъ*, which inflects thematically, shares its stem with the present and must therefore continue an old imperfect, likely in imitation of the semantically similar pair pr. *idǝ* : aor. *idъ* ‘go foot’. That this imperfect supplanted a sigmatic aorist *\*ĕ-x-ъ*, directly cognate with Ved. aor. *a-yā-s-am*, is revealed by the infinitive OCS *ja-x-a-ti*, which contains the historic aorist suffix and has replaced *\*ĕ-ti* ‘ride’ in most of Slavic.<sup>27</sup> Furthermore, the Baltic iterative-causative Lith. *jodyti(s)* ‘ride around’ [= Latv. *jādīt* ‘id.’] could suggest that this dental present is as old as Proto-Balto-Slavic; though iterative-causatives in *\*-dī-ti* were productive in both Eastern Baltic languages, the agreement between Lithuanian and Latvian in forming an iterative-causative to this specific verb and the existence of a well-established *d*-present in Slavic provide reasonable grounds for cautious speculation.

Slavic does not continue, in any obvious way, Indo-European imperative morphology. In thematic verbs, imperatives of the type 2sg. *\*b<sup>h</sup>ér-e-Ø* : pl. *\*b<sup>h</sup>ér-e-te* ‘carry!’ (Grk. φέρε : φέρετε, Ved. *bhára* : *bhárata*) were replaced by their corresponding optatives *\*b<sup>h</sup>ér-o-īh<sub>1</sub>-s* : *\*b<sup>h</sup>ér-o-īh<sub>1</sub>-te* > OCS *ber-i* : *ber-ĕ-te*.<sup>28</sup> The vast majority of Slavic imperatives are of this type, and OCS *jadǝ* might reasonably have been expected to form an imperative *jad-i\**. Instead, this verb forms an irregular imperative OCS 2sg. *jaždъ* ‘go!’ using the “athematic” imperative ending */-jъ/*. The other imperatives of this shape in Old Church Slavonic are *daždъ* ‘give!’, *jaždъ* ‘eat!’, *věždъ* ‘know!’ and *viždъ* ‘see!’.<sup>29</sup>

<sup>26</sup>So (*LIV*<sup>2</sup> 309–10), but Höfler (2023) argues intriguingly that the root was *\*h<sub>2</sub>ejh<sub>2</sub>*, state II *\*h<sub>2</sub>jeh<sub>2</sub>* with initial laryngeal. According to this scholar, *\*h<sub>2</sub>ejh<sub>2</sub>* formed an *s*-stem instrument noun *\*h<sub>2</sub>éjh<sub>2</sub>-os* ‘thill’ (Sln. *ojĕ* ‘id.’), which served as the derivational basis for the ultimately synonymous substantive *\*h<sub>2</sub>éjh<sub>2</sub>-s-eh<sub>2</sub>* ‘thill’ (Hitt. *hišša-* ‘id.’, Ved. *īšā-* ‘id.’). The same root, Höfler convincingly argues, also stands behind Lith. *iena* ‘shaft’ and PGmc. *\*airō-* ‘oar’. In the verbal domain, Höfler attractively traces both Ved. *áyate* ‘speeds’ and Ved. *īyate* ‘speeds’ to the same root and more speculatively suggests that Ved. *yāti* ‘goes (esp. by conveyance)’ is formed to state II of a root of the same root.

<sup>27</sup>The original infinitive is continued in a pocket of Western Slavic: Cz. *jet*, Sorb. *jěć*, both corresponding exactly with Lith. inf. *jó-ti*.

<sup>28</sup>On the syllabification of the thematic optative see (Hoffmann 1976b:615<sup>12</sup>; Jasanoff 2003:13–4, 2009).

<sup>29</sup>On the athematic imperative in Slavic see especially (Meillet 1965:331; Vaillant *Gr.* III:35–36; Olander 2015:320–1).



With the exception of *jaždь* ‘go’ and *viždь* ‘see!’, all verbs that form imperatives in *-jь* are athematic in attested Slavic. OCS *daždь* ‘give!’ corresponds to a present *damь*, *jaždь* ‘eat!’ to a present *jamь* and *věždь* ‘know’ to a present *vědě*[/*věmь*]; though *viždь* ‘see!’ lacks an athematic present in Slavic, OLith. 1sg. *vei[z]dmi* and dialectal Lith. *véimu* (← *\*véid-mi*), when taken together with OCS *viždь* ‘see!’, imply athematic inflection at the Balto-Slavic level (cf. Jasanoff 1978b:108).

Why does the thematic verb *jadǫ* form an athematic imperative in Old Church Slavonic? Two logical alternatives present themselves: either ipv. *jaždь* is all that is left of what once was a fully athematic present paradigm or it is a late innovation based on some type of formal analogy. The latter possibility is not easy to defend, as it is not at all clear what formal analogy would have produced *jaždь*, and further why the same remodelling was not applied to the imperative *id-i* ‘go (by foot)!’ of *i-ti* (see below). By contrast, the fact that *d<sup>h</sup>*-presents inflect athematically in Baltic provides a plausible basis for the interpretation of *jaždь* as a deep archaism.

The athematic imperative OCS *jaždь* is just one of several factors that point to *jadǫ* being an original *d<sup>h</sup>*-present (as opposed to a “*d*-present or a deimperative form, see the discussion on *idǫ* ‘go’ below). The verb OCS *jadǫ* also resonates with larger class of *d<sup>h</sup>*-presents in being intransitive and can be compared with other verbs of translation motion like Grk. *πελάθω* ‘approach’ and Ved. *sādhati* ‘proceed in a straight line, succeed’ that employ the same derivational suffix. On a formal level as well, *jadǫ* has the shape of a *d<sup>h</sup>*-present, with apparent full grade of the root. If we examine the larger averbo, the hypothetical Indo-European present *\*ǵéh<sub>2</sub>-d<sup>h</sup>*- to which this form can be retrojected would stand in the same morphological relationship to the *ǵ<sup>o</sup>*-present Lith. *jó-ju* as does OIr. *\*taid* ‘melt’ to MW *toði* ‘id.’, repeating a pattern that has repeatedly been noted throughout this study, while its morphological relationship to the *i*-reduplicated present *\*ǵi-ǵh<sub>2</sub>*- continued in TochB *iyam* ‘drive’ and Ved. *íyate* ‘speeds’ recalls that of *πλήθω* ‘am full’ Grk. *πίμπλημι* ‘fill’. For all of these reasons, the reconstruction of a *d<sup>h</sup>*-present remains both plausible and economical, albeit not provable.

*i-d* $\varrho$       Though OCS pr. *i-d* $\varrho$  : inf. *i-ti* : aor. *idъ* ‘go by foot’ bears a superficial resemblance to *ja-d* $\varrho$  : *ja-ti* : *ja-dъ*, the two verbs present, in actuality, quite different profiles from each other and betray their divergent morphological histories in the details of their phonology and inflection. OCS *i-d* $\varrho$  is widely agreed to be built to the root PIE *\*h<sub>1</sub>eǵ* ‘go by foot’. This root formed a dental-less athematic present in the protolanguage that is exceptionally well witnessed (CLuw. *i-ti* ‘goes’, Grk. εἶ-σι ‘id.’, Ved. *é-ti* ‘id.’ etc., see *LIV*<sup>2</sup> 232) and that must have persisted into Proto-Balto-Slavic, whence athematic OLith. *ei-mì* ‘go’, Latv. *eĩ-mu* ‘id.’ (← *\*ei-mai*) and OPr. *ēi-t* ‘id.’.<sup>30</sup>

Most scholars plausibly trace the *-d-* of *id* $\varrho$  back to an inherited imperative *\*h<sub>1</sub>i-d<sup>h</sup>i*.<sup>31</sup> This imperative can be reconstructed with great certainty on the strength of Hitt. *īt* (with apocope of the final vowel, see Melchert 1994:182, 131), Grk. ἴθι, Ved. *ihí* and Umbr. *ef* (with secondary full grade, see Untermann 2000:209). In Slavic, a two-step remodelling took place. First, the inherited imperative *\*jъdъ* was updated to *\*jъd-i<sub>2</sub>* (with *\*-i<sub>2</sub>* < *\*-oih<sub>1</sub>-s*) to give attested OCS *idi*. The new thematic imperative implied a thematic present *\*jъd%<sub>o-</sub>*, which arose trivially by analogy (*ber<sub>i</sub>2* : *ber* $\varrho$  :: *\*jъdi<sub>2</sub>* : *x*, *x* = *\*jъd* $\varrho$ ). Speakers took advantage of the new thematic present *\*jъd* $\varrho$  to replace the highly irregular verb 3sg. *\*ji-tъ* : 3pl. *\*j-ętъ* with non-ablauting *\*jъd%<sub>o-</sub>*. A parallel for this morphological development is furnished by deimperative Grk. ἐσθίω ‘eat’ (ipv. ἔσθι), which has been discussed above (p. 53).

This deimperative account of OCS *id* $\varrho$  has the advantage of explaining in a simple way the zero grade that is reflected in OCz. *jdu* (> *du*) ‘I go’, which must continue PSl. *\*jъd%<sub>o-</sub>* (see Vaillant *Gr.* I:140–1; Meillet 1965:80). No reconstructible *d<sup>h</sup>*-present

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<sup>30</sup>The final conjunction *idánt/idañt/idant/ýdant/ydánt/ydañt/id/idántig* (Eastern dial. *adunt*) ‘in order that’ cannot be taken as serious evidence for former *\*id-mai* ‘go’ with zero grade of the root (pace Vaillant *Gr.* III:100).

<sup>31</sup>So e.g. (*LIV*<sup>2</sup> 233; Derksen 2008:216). Vaillant (*Gr.* III:176) improbably proposes that the present participle was renewed *\*ĵ-ant-* → *\*ĵd-ant(j)-* (> *id* $\varrho$ št-) on the model of *jadošt-*, comparing for typological purposes the late innovative form BCS *znadē-* ‘knows’, remade from *zna-* on the model of *da-/dad-*. Chantaine (1925:107) reconstructs a *d<sup>h</sup>*-present but does not explain the zero grade.

shows zero grade of the root.<sup>32</sup> Slavic *\*jьd̥e/o-* furthermore shows no signs of ever having had athematic inflection; it forms a thematic imperative OCS 2sg. *id-i* : 2pl. *id-ě-te* that contrasts with that of *jaždь* : *jad-i-te*. Given that these two verbs otherwise overlap in many respects and have clearly influenced each other in their development, this stark and consistent difference in the formation of their respective imperatives is almost certainly an old feature, pointing in the case of *jaždь* to a *d<sup>h</sup>*-present and in the case of *idi* to a deimperative thematic present made to the inherited imperative in *\*-d<sup>h</sup>i*. Because this verb is unlikely to continue a true *d<sup>h</sup>*-present, it will not be further considered in the present study.

The core vocabulary item OCS pr. *bǫ-dǫ* : inf. *by-ti* : aor. *by-xъ* ‘become’ is an excellent candidate for a *d<sup>h</sup>*-present, though its deeper morphological history does present several complications. This verb is standardly traced back to the root PIE *\*b<sup>h</sup>uH* ‘become’, which formed an exceptionally well-attested non-ablauting root aorist *\*b<sup>h</sup>úH-t* ‘became’ (Ved. *ábhūt* ‘id.’, Grk. *ἔφῶν* ‘grew’, Lat. *fūi* ‘was’ etc.) that was remade in Slavic to a sigmatic aorist *by-x-ъ* [3sg. *by-stъ*, *by*] (< *\*bū-š-un*).<sup>33</sup>

Though the present form OCS *bǫdǫ* is usually treated as something of a crux in Slavic historical linguistics,<sup>34</sup> this verb follows known patterns of derivational morphology and can be made adequate sense of when viewed in its proper historical and morphological context. Perfective *bǫdǫ* ‘become’ points to a preform *\*būnd̥e/o-* that is morphologically unique within Slavic. Historically viewed, it is doubly characterized, bearing both a dental suffix and a nasal infix (Vaillant *Gr.* III:183). This morphological constellation can be compared typologically with that of Germanic *\*standan* ‘stand’, which is discussed below in this chapter.

As there is no evidence that *-nd-* ever functioned as a composite suffix in Slavic or

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<sup>32</sup>It will further be noted that the Slavic verb also excludes an Indo-European “*d*-present,” as unaspirated *\*d* would have caused lengthening of the preceding vowel by Winter’s Law, giving hypothetical *jīdu\**.

<sup>33</sup>On the structure and aorist of this Indo-European verbal root, see especially (Jasanoff 1997).

<sup>34</sup>The editors of *LIV*<sup>2</sup> (99<sup>10</sup>), for instance, write “Völlig unklar ist die Entstehung des Präsens- bzw. Futurstammes *bǫde-*,” reflecting in this statement a prevailing attitude.

elsewhere, it is best to posit two chronologically distinct steps in the formation of this present stem. First, the root  $*b\bar{u}$  was outfitted with the presential suffix  $*-d^h-$  ( $> *-d-$ ) to create a new present  $*b^huH-d^h-$  ‘be’.<sup>35</sup> This  $d^h$ -present would have been typologically comparable to if not etymologically identical with the  $d^h$ -present that, as argued in the previous chapter (p. 95), underlies TochAB *p[y]utk* ‘be’ ( $< *b^huH-d^h-sk-$ ). The choice of the formant  $-d^h-$  for the present would have been in keeping with the intransitive semantics of the resulting formation. But there were likely formal grounds as well. Jasanoff (*HIEV* 112-3) argues that  $*bhuH$  formed an  $i$ -present  $*b^huH-i-$  in the protolanguage that is continued in Grk.  $\varphi\acute{\upsilon}\omicron\mu\alpha$  ‘grow’ (Aeol.  $\varphi\upsilon\iota\omega$ ), Lat. *fiō* ‘become’, OIr. *·bí* ‘is usually’ and PGmc.  $*b\bar{u}/a-$  (OEng. 1sg. *bēo* [= Anglian *bīo*] ‘am usually’). The existence of a present  $*b^huH-d^h-$  beside  $*b^huH-i-$  reiterates a morphological pattern to which attention has been repeatedly drawn throughout this study, while the persistent zero grade in both forms underscores the fact that this root, like  $*puH$  ‘rot’ discussed above (p. 25), was not capable of ablaut (cf. Jasanoff 1997).

It is likely that athematic pre-PSl.  $*b\bar{u}-d-$ , in keeping with the general profile of  $d^h$ -present, was imperfective and meant ‘am’ as opposed to ‘become’. In order to make a fientive-perfective verb to a stative present, (pre-)Slavic had a morphological strategy in place. This was the nasal-infix present. To  $*b\bar{u}-d-$  ‘am’, speakers formed a new verb  $*b\bar{u}-n-d-ə-$  ‘become’. This verb belongs to a small group of perfective Slavic verbs, all core vocabulary items and all with acute intonation of the root, of which the nasal infix was maintained into the historic period.<sup>36</sup> These are OCS *sedq* ‘sit down’  $< *sēnde-$  (PIE  $*sed$

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<sup>35</sup>The dental present must have preceded the nasal present. Slavic would have been perfectly capable of creating a nasal present *by-nq\** ‘become’ along the lines of *sta-nq* ‘get up’ without the addition of a final consonant to the root, but it is difficult to see how *by-nq\** could have been remade to *bqđq*. It is furthermore conceivable that the aorist 3sg. *bys-tb* ‘became’, usually said to be analogical to *dastb* ‘gave’, can be traced back to an old imperfect  $*b\bar{u}d-t$  to the Slavic  $d$ -present.

<sup>36</sup>In attested Slavic, it is the nasal suffix  $-nə-$  that is generally used in place of the infix. So for instance beside *b̄d-ě-ti* ‘be awake’ we find *b̄(d)-nq-ti* ‘wake up (intr)’ and beside *lp-ě-ti* ‘be stuck’ *lp(p)-nq-ti* ‘get stuck’. But it is known from the comparative evidence that the nasal suffix of Slavic goes back to a nasal infix in the protolanguage that was placed before the final consonant of the stem, and in the specific cases of these two verbs the forms were  $*b^hu-né-d^h-ti$  (OIr. *ad-boind* ‘proclaims’, Lith. *bundù* ‘wake up’) and *li-né-p-ti* (Ved. *límpāti* ‘besmears’, Lith. *límpù* ‘gets stuck’) respectively. In Slavic, nasal-infix presents were in general remade to nasal-suffix presents on the model of verbs like OCS *stanqti* ‘stand up’

‘sit’), *lego* ‘lie down’ < \**lēnge-* (PIE \**leg<sup>h</sup>* ‘lie down’) and *-reštq* ‘encounter’ < \**rēnt-je-* (PIE \**ret* ‘run’).<sup>37</sup>

The verb OCS *vladq* : *vlasti* ‘rule’ forms a three-way word equation with OLith. *veldmi*, *vladq* *veldėti* ‘id.’ and PGmc. \**wal-d-<sup>i</sup>/<sub>a-</sub>* ‘id.’ as mentioned in the previous section. This is significantly one of the strongest word-equations for any *d<sup>h</sup>*-present and ensures the relative antiquity of the formation. As noted above, the fortuitous existence of the Germanic cognate importantly shows that the suffix of the Baltic and Slavic verbs must be traced back to aspirate \**d<sup>h</sup>* and not \**d*. This word presents the oddity that it shows *o*-grade in both Slavic and Germanic rather than the *e*-grade that has been encountered again and again throughout this study. Because of the importance of this word for the history of *d<sup>h</sup>*-presents and because it recurs in all three “Northern Indo-European” branches, a discussion of these facts will be postponed until the final section of this chapter, where this verb will be treated in its broader comparative context.

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< \**ste[h<sub>2</sub>]-n-h<sub>2-</sub>* (OPr. *po-stānimai* ‘we will’) and OCS *drъz-nq-ti* ‘dare’ < \**d<sup>h</sup>rs-nu-* (Ved. *dhṛṣ-ṇo-ti* ‘dare’) that were made to laryngeal-final roots. On the larger issue of nasal presents in Baltic, Slavic and Germanic, see (Gorbachov 2007).

<sup>37</sup>Klingenschmitt (1982:129–30) traces Slavic *sedq* back to a nasal-infix present \**sēnde-*, made to a stem \**sīde-* that he argues existed already in Proto-Indo-European, having resulted from sibilant dissimilation and compensatory lengthening of the reduplicated present \**si-sd-e-ti* ‘sits’ (Ved. *sīdati* ‘sits’). But passing over the fact that a present \**sīd-e-ti* cannot be securely reconstructed for the protolanguage (cf. Grk. ἵζω ‘sit’ < \**si-sd-<sup>o</sup>-*), it is far more economical to take *sedq* from the known Balto-Slavic root \**sēd* (OLith. *sėdmi* ‘sit’, OCS *sěždq* : *sėd-ě-ti* ‘sit’). The long vowel in the root of this verb could reflect either an inherited Narten present (cf. LIV<sup>2</sup> 513–4) or phonological lengthening of the vowel before a voiced non-aspirated stop, and most likely reflects a combination of both factors. The vowel of OPr. *sindats/syndens/sīdans* ‘*sitzend*; *siting*’ can reflect either \**ē* or \**i* and does not add support to Klingenschmitt’s claims. In the case of *lēnge-*, length of the root syllable must likewise be reconstructed in order to account for the root accent in Russ. *l’águ* ‘lie down’ and for the accentuation of Sln. *lêžem* ‘id.’. This fact is difficult to explain etymologically as there is no persuasive evidence that this root ever formed a Narten present, and it also did not end in a voiced non-aspirate stop. But the same long vowel recurs in irregularly-formed iterative present OCS *lěžq* (: *lěg-a-ti*) ‘lie down repeatedly’ on which the nasal present is clearly based. Alternatively, the reason for the long vowel in the historic pair \**lēg-je-* ‘lie down (ipf)’ : \**lēnge-* ‘lie down (pf)’ could be ascribed to contamination with semantically and structurally similar \**sēd-je-* ‘sit (ipf)’ : \**sēnde-* ‘sit (pf)’ in which it was morphophonologically justified. Exactly the same pattern must have once obtained for *-reštq* ‘run up against’, but here expected *rěštq* (< \**rēt-je-*) ‘run (ipf)’ and *reṭq\** (< \**rēnte-* ‘start running (pf)’), both with analogical long vowel, became contaminated to give *-reštq*, a verb without morphological parallels in Slavic. The perfective and imperfective stems of this verb could more easily become contaminated because the simplex, which does not appear in any Slavic language, fell out of use in favor of the telicity-indifferent prefixed forms (i.e. there would have been very little difference semantically between hypothetical *ob-rěštq\** ‘encounter’ and *ob-reṭq\** ‘encounter’). LIV<sup>2</sup> (501) reconstructs a root \**reh<sub>1</sub>t* ‘meet’, separate from \**ret* ‘run’, just to account for the Slavic verb, but this is not justified.

\**ǔdǫ* A verb PSI. \**ǔdǫ* ‘am ripe’ is implied by dial. Russ. 3pl. *udut* ‘are ripe’ in a recently-discovered text (Yokoyama 2008: 1.179,282, at 730b.15 and 142.14). This verb is evidently the historical simplex on which the better-attested verb Russ. dial. *údit* ‘ripen’ (< iter. \**HouHd<sup>h</sup>-éje-ti*) was based.<sup>38</sup> Vine and Yokoyama (2010) propose tracing the new verb back to a derived present \**HéuH-d<sup>h</sup>*- ‘is swollen, is ripe’ on which the substantive \**HéuH-d<sup>h</sup>-r̥-/-n-* ‘udder’ (Ved. *údhar-/údh-n-* ‘id.’, Grk. *οὔθηρα* ‘id.’, Lat. *uber* ‘id.’ etc.) is ultimately based.<sup>39</sup> The newly-found Russian verb confirms a prescient proposal of Melchert (1986), who argued that Hitt. *uwa-* is a *tom-ó-s*-type thematic nominal derivative to a primitive root \**HeuH* ‘give milk’ that also underlies the word for ‘udder’. According to Melchert, the Hittite hapax Gsg. *uwaš* (KBo III 40 Rs. 15), found in the evidently archaic ‘Song of Nesa’ (CTH 16) in the same syntactic position as *anna-* ‘mother’ in a parallel line means ‘nurse’, and served as the derivational basis for the adjective *uwa-la-* ‘fertile(?)’. If these considerations are correct, as seems likely, Russ. 3pl. *udut* ‘are ripe’ < \**HéuH-d<sup>h</sup>*- ‘is swollen with liquid’ continues a particularly archaic *d<sup>h</sup>*-present, and it will further be noted that this verb’s intransitive semantics and lack of a corresponding aorist in any daughter language are in line with the general properties that this study reconstructs for *d<sup>h</sup>*-presents.

*kradǫ* The historical morphological status of the rhyming verbs OCS *kradǫ* ‘steal’ and *kladǫ* ‘place’ is unclear. The verb Latv. *krāju* : *krāt* ‘collect, amass’ is semantically similar enough to OCS *kradǫ* : *krasti* : *kradъ* ‘steal’ to be a likely cognate and suggest that the dental in Slavic is suffixal. The Bulgarian verb *kradá/kráda* ‘steal’ forms a dialectal athematic present 1sg. *kram* (Georgiev 1962 II:704; *ESSJa* XII:102). This surprising form could point to a genuine, athematically inflecting *d<sup>h</sup>*-present \**kra(d)-mъ* (< \**kréh<sub>2</sub>-d<sup>h</sup>-h<sub>2</sub>eǵ*) and suggest that transitive *krasti* ‘steal’ was arrived at secondarily through the pleonastic reflexive construction *krasti seǵ* ‘lurk’. This picture is further complicated by the existence

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<sup>38</sup>Vine and Yokoyama (2010:193) compare the morphological pair RussCS *gusti* ‘emit sound’ : Russ. *gudít* ‘id.’

<sup>39</sup>On the form and ablaut of the substantive, see (*EWAia* I:240–1).

of the similar verb Lith. *kráuti* ‘cover = Latv. *kŗaūt* ‘accumulate’ and OCS *kryti*, which collectively point to a root *\*kreHu* (cf. *IEW* 616) and could continue a *u*-present to the same root. Little can be said with certainty about the nature and origin of the dental suffix.

The rhyming verb OCS *kladŏ* : *klasti* : CS *klasъ* ‘put (ipf)’ presents a similar *kladŏ* morphological profile. This Slavic verb is usually compared with Lith. *kló-jū* : *kló-ti* : *kló-jau* ‘spread out (tr)’, but the semantics of the two verbs are only tolerably similar. Outside of Balto-Slavic, the only potential comparandum is PGmc. *\*hlaþan* ‘load’ (Goth. *af-hlaþan* ‘id.’ etc., see Seebold 1970 258), which also is a poor semantic match and also presents morphological and phonological difficulties. Once again, the transitive semantics of OCS *klasti* set it apart from other *d<sup>h</sup>*-presents and one must wonder whether this *-d-* does not have some other source, such as an imperative *kla-di* (so *LIV*<sup>2</sup> 362<sup>3</sup>).

To conclude this review of the Slavic material, although the phonology of Slavic makes it difficult to determine the nature of the dental suffix in verbal formations, OCS *vladŏ* ‘rule’ beside Goth. *waldan* ‘id.’ constitutes one sure instance of an inherited *d<sup>h</sup>*-present and renders likely the possibility that other Slavic verbs that show a dental suffix continue *d<sup>h</sup>*-present formations as well. The verbs *jadŏ* ‘go’ and *bŏdŏ* ‘become’ (< *\*bū-n-d-ŏ-* ← pre-PSl. *\*bū-d-* ‘be’) fit well the intransitive semantic profile of *d<sup>h</sup>*-presents and very likely belong to this morphological type. The Baltic evidence reviewed in the previous section revealed that *d<sup>h</sup>*-presents inflected athematically in Proto-Balto-Slavic, and when viewed in this light, the athematic imperative OCS *jaždъ* ‘go by vehicle!’ provides important additional evidence that this verb truly does continue a *d<sup>h</sup>*-present.

### 4.3 Germanic

Internal evidence from Germanic shows that this branch also inherited *d<sup>h</sup>*-presents. The *-d-* of the verb PGmc. *\*wal-d-ŏ-* ‘rule’ was still treated as suffixal in the period of Germanic unity, an important fact that has not received due attention in the secondary literature on

Indo-European verbal morphology. The demonstrable existence of this one, unambiguous  $d^h$ -present in Germanic gives grounds to see a  $d^h$ -present in the derivational preform of the basic vocabulary item PGmc. *\*sta-n-d- $\frac{i}{a}$ -* ‘stand’, which like OCS *bǫdǫ* ‘become’, adds to the dental suffix a nasal infix. The current study provides the necessary comparative context by which to evaluate these two verbs.<sup>40</sup>

*\*wal-d- $\frac{i}{a}$ -* The verb PGmc. *\*wald $\frac{i}{a}$ -* ‘have power, rule’ is continued in all branches of Germanic. In the Gothic corpus, (*ga-*)*waldan* ‘ἄρχεῖσθα; rule over’ is used only in the present and takes a dative object. OIc. *valda* ‘rule’ likewise takes the dative. In West Germanic, this verb is continued in OEng. *wealdan* ‘rule’, OHG *waltan* ‘id.’, OS *waldan* ‘id.’ and OFr. *walda* ‘id.’. In these languages, the verb is used both absolutely (‘have power’) and with a genitive ‘have power over’ (in Old Saxon also dative). The consistent oblique rection across the Germanic languages suggests that this verb was historically intransitive.

Whereas the continuants of *\*wald $\frac{i}{a}$ -* in the West Germanic languages all form strong preterits that are attested in the earliest period, the North Germanic languages adopt a morphological strategy that is unique within the Germanic verbal system. In Norse, the preterit runs *olla*, *ollir*, *olli*, *ollum* (once 1pl. *ullum*), *olluþ*, *ollo* (sbj. *ylli*), showing the endings of the weak preterit but without the visible dental that is characteristic of this formation (Noreen 1904:447–8, 1923:352). The standard interpretation of this morphological fact is that the preterit continues *\*wul-þǭ*, *\*wul-þǣs*, *\*wul-þǣ*, consisting of the zero grade of the dental-less root plus the endings of the weak preterit in their rare, voiceless allomorphs.<sup>41</sup> Only two other Norse verbs form weak preterits of this type. These are OIc. *kunna* ‘knew, could’ (< *\*kunn-þǭ*, Goth. *kunþa*) and *unna* ‘granted’ (< *\*unn-þǭ*).<sup>42</sup> Why these verbs introduced an etymologically unjustified voiceless allomorph

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<sup>40</sup>On  $d^h$ -presents in Germanic, see especially (Lehmann 1942).

<sup>41</sup>The *o* in the root in attested Norse is due to leveling of the *a*-umlaut that was proper to the first person singular. Evidence for original *u* can be seen in the subjunctive *ylli* (< *\*wull- $\bar{i}$ -*).

<sup>42</sup>In these words, *a*-umlaut of *u* to *o* would likely have been blocked by the intervening geminate nasal (cf. Noreen 1923:54).



of the weak preterit suffix is not known.<sup>43,44</sup> If the correct historical account of the anomalous Norse preterit *olla* remains problematic in its details, the absence of stem-final *-d-* in these forms cannot easily be explained on Norse-internal grounds and therefore almost certainly reflects the situation in Proto-Germanic, where the *-d-* was treated as suffixal in the present and the basic root was *\*wel(l)*.

The primitive root without final dental can also be seen in the *tu*-stem substantive PGmc. *\*wul-bus* ‘power, glory’ that is continued in Goth. *wulþus* ‘δόξα; glory, fame’, in the Norse theonym *Ullr*<sup>45</sup> (the step-son of Thor) and in OEng. *wuldor* ‘glory’. Despite the semantic proximity of the two words, scholars have been reluctant to connect *\*wulþu-* with *\*waldi/a-* because of the *-d-* in the verb. The standard etymology sees in this form the root *\*uel* ‘see’ of OIr. *fil* ‘voilà’, and Lat. *voltus* ‘face’ (so Neri 2003:339–40; *LIV*<sup>2</sup> 675; Lehmann 1986:413) and von Grienberger (1900:247–8) has proposed derivation from *\*uelh<sub>1</sub>* ‘desire’ of Goth. *wili* ‘want’ and Lat. *volō* ‘id.’. But these explanations are hardly compelling when compared with the possibility of derivation from the semantically more apposite root *\*wel(l)* of *\*wal-d-i/a-* ‘be powerful’.

The verb *\*waldi/a-* is taken up again in the next section of this chapter, where its morphological structure is examined in its comparative context. As a clear example of a *d<sup>h</sup>*-present within Germanic, this word provides justification for seeking traces of *d<sup>h</sup>*-presents in other Germanic verbs in final *d*, even if these do not form a *d*-less preterit. The

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<sup>43</sup>The voiceless endings must depend in some way on the participle in *\*-tó-* (with retracted accent?), but this is only the beginning of an explanation.

<sup>44</sup>Other proposals have been advanced as well to explain the Norse preterit, but none offer significant advantages over the traditional explanation. Kroonen (2013:569) argues that the Norse forms directly continue a “primary aorist form *\*ulh<sub>2</sub>-t-*.” Ignoring the questionable nature of the proposed preform, there is no good evidence for inherited aorists in Germanic, and the explanation is entirely ad hoc. Seebold (1967) has argued that Germanic originally formed a strong preterit *\*wall<sup>i</sup>* : *\*wullun* without final dental, that the zero-grade of the plural was introduced to the singular and that pre-Norse *\*ull* : *\*ullo* was subsequently remade as a weak verb by addition of the endings *-a*, *-ir*, *-i*, as was also done in the case of the originally strong, reduplicating preterits *sá*, *ser-a* ‘sowed’, *róa*, *rer-a* ‘rowed’. Under this scenario, it is unclear how and when *a*-umlaut could have taken effect at the necessary stage in the chronology. But the difficulties inherent in explaining these forms notwithstanding, it is amply clear that the preterit reflects a root *\*wal*, NOT *\*wald*. This fact is impossible to explain on inner-Germanic terms and must reflect an older state of affairs.

<sup>45</sup>Cf. Runic Norse **[o]w|þu-þewar** (Thorsberg, ca. 200BCE, see Düwel 2008).

candidate that most immediately presents itself is the problematic verb PGmc. *\*sta-n-d-ŷ/a-* ‘stand’.

*\*sta-n-d-ŷ/a-* The verb PGmc. *\*standŷ/a-* ‘stand’ is commonly agreed to be derived in some way from the root *\*steh<sub>2</sub>* ‘stand’. This root formed a reduplicated present *\*sī-sth<sub>2</sub>-e* in the protolanguage that is continued in Grk. ἵσταμαι ‘stand’, Ved. *tíṣṭhati* ‘id.’, Lat. *sistō* ‘id.’ etc. (see *LIV*<sup>2</sup> 590).<sup>46</sup> The two features of the Germanic verb that immediately call for explanation are the nasal infix, unique within the Germanic lexicon, and the dental suffix. The combination of these two elements recalls the case of OCS *bŏdŏ*, discussed above (p. 119).

There would have been no obstacle to Proto-Germanic forming a nasal present *stanŷ/a-*\* or *\*sta-nō-*, but it is unclear how either preform could stand behind *\*sta-n-d-ŷ/a-*. It is therefore likely, as in the case of OCS *bŏdŏ*, that a dental present existed prior to the creation of the nasal-infix formation. The present in question can be reconstructed as *\*stōd-* ‘stand’, as though from a preform *\*stéh<sub>2</sub>-d<sup>h</sup>-*. To *\*stōd-* ‘stand’ could then be formed, using productive morphology, a nasal-infix present *\*stō-n-dŷ/a-* ‘stand up’ with inchoative semantics.<sup>47</sup> This then either gave *\*sta-n-dŷ/a-* by the Germanic version of Osthoff’s Law (cf. *\*mēmso-* ‘meat’ > *\*mimza-*) or via its preterit *\*stōd* by analogy with class VI strong verbs (type: *faran* : *fōr*).

While there is no standard explanation of the historical morphology of Germanic *\*standŷ/a-*, there is a prevailing opinion that its dental suffix must continue a *\*-t-* rather than *\*-d<sup>h</sup>-* (Seebold 1970:461; Ringe 2017:96). Seebold specifically compares the Germanic verb with Lith. *statyti* ‘put in place’, suggesting that this is a parallel formation built with the same suffix *\*-tŷ/o-*. But the connection of the Germanic with the Baltic verb is illusory. Lithuanian *statyti* transparently continues a denominative *\*stat(i)jŷ/o-* to *\*sta-ti-*

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<sup>46</sup>For the reconstruction of *i*-reduplicating presents as *h<sub>2</sub>e*-conjugation verbs, see (Jasanoff *HIEV* 128–132).

<sup>47</sup>In Germanic, as in Slavic (but unlike in Baltic), nasal-infix presents were in general mechanically remade to nasal-suffix presents, and *\*standŷ/a-* : *\*stōd* under any analysis can only be a relic from a time when infixation (as opposed to suffixation) of the nasal was regular. On nasal presents in Germanic, see especially (Gorbachov 2007:63–149).

< *\*sth<sub>2</sub>-ti-* (Ved. *sthí-ti-* ‘standing,’ Grk. *στάσις* ‘id.’), and the Germanic data must be evaluated on their own terms rather than as part of this putative word equation.

In Germanic, the historical identity of the final dental appears, at first glance, to be ambiguous between Proto-Indo-European *\*t* and *\*d<sup>h</sup>*. Within the verbal system of Germanic, all non-ambiguous forms point to PGmc. *\*d* < *\*d<sup>h</sup>*. The clearest evidence for *\*d* < *\*d<sup>h</sup>* comes from the West-Germanic preterit *\*stōd* (pret. OEng. *stōd*, OS *stōd*, OHG *stuo[n]t*, OFr. *stōd*), which unambiguously points to the voiced fricative. The Norse preterit *stóð* ‘stood’ is by nature phonologically ambiguous, as is Gothic with its paradigm *standan* : *stop* : *stopun* with *-p-* in the preterit plural that has been leveled from the singular, where it was regular by the Gothic rule of final devoicing. The *p* of the plural does not provide any evidence for an original voiceless fricative, as even inherited *-p-* would regularly have been voiced to *-d-* in this position the phonological or morphological application of Verner’s law. There is furthermore no reason to think that inherited final *\*p* < *\*t* could ever have produced the present stem *\*stand<sup>i</sup>/<sub>a</sub>-* (NOT *stanp<sup>i</sup>/<sub>a</sub>-\**) that is reflected in all three branches of Germanic. In short, the verbal paradigm demands the reconstruction of a verbal root *\*stad*/*\*stōd*.

It is only in nominal domain that an apparent alternation between *\*-p-* and *\*-d-* might seem to cast doubt on the identity of the fricative, pointing to original *\*stab-*. But in the case of this Germanic “root,” there is a special, confounding factor; though the verbal root of Proto-Germanic was *\*stad*/*\*stod*, many of the nominal forms depend instead on the inherited pre-suffixal root *\*sta*/*\*stō* < *\*st(e)h<sub>2</sub>-*. Prominent among these is PGmc. *\*sta-pa-* (OEng. *stæð* ‘bank, shore’, OS *stað* ‘id.’, OHG *stad* ‘id.’, Goth. Dsg. *stapa* ‘shore’, OIc. adj. *staðr* ‘standing’), which continues the verbal adjective PIE *\*sth<sub>2</sub>-to-* ‘the one that stands’ (with substantivizing accent retraction), and this is not derivable within Germanic from the verb. A similar case is PGmc. *\*sta-pla-* ‘thing that stands’ (OEng. *staðel* ‘foundation’, OHG *stadal* ‘barn’). These nominal forms in no way undermine the strong evidence from the verbal system for the voiced fricative.

I would suggest that the reconstruction of a *d<sup>h</sup>*-present *\*stéh<sub>2</sub>-d<sup>h</sup>-* is a highly attractive

solution to the old problem of accounting for the shape of the Germanic verb. It explains the language data effectively, and the posited form fits the larger trends that have here been established for  $*d^h$ -presents;  $stand/_a$ - is intransitive, as would be expected of both a  $d^h$ -present and of a nasal-infix present in the Germanic context. Moreover, the present  $*stéh_2-d^h$ - that can be reconstructed on the basis of the Germanic verb would have stood beside the  $i$ -present  $*stéh_2-i$ - that is continued in PGmc.  $sta(j)_a$ - ‘stand’ (OHG  $stān/stēn$  ‘stand’, OS  $stān$  ‘id.’, OFr.  $stān$  ‘id.’), Lith.  $stóju$  ‘stand’ and OCS  $stajō$  ‘stand’, repeating a pattern that has pervaded this study. Furthermore, the existence of  $*stéh_2-d^h$ - beside  $*sí-sth_2$ - (Grk. ἵσταμαι ‘stand’, Ved.  $tíṣṭhati$  ‘id.’, Lat.  $sistō$  ‘id.’) recalls the relationship between  $*pléh_2-d^h$ - (Grk. πλήρω ‘am full’, OYAv.  $frada^i ti$  ‘furthers’, TochB  $plyetk-e-tār(?)$  ‘arise’) and  $*pí-plh_1$ - (Grk. πίμπλημι ‘fill’, Ved. 3sg.  $ápīprata$  ‘filled’).

$*hald-/_a$ - It has sometimes been suspected that PGmc.  $hald/_a$ - ‘protect, bring to pasture, hold’ continues a derived form of the root  $*kel$  of Grk. κέλομαι ‘urge on’ and late Vedic  $kālayati$  (also  $kalayati$ ) ‘impel, persecute’ (Brugmann 1913b:181; *WP* I:443; Seebold 1970:249; *LIV*<sup>2</sup> 348). The Germanic verb is continued in Goth.  $haldan$  ‘βόσκειν, ποιμαίνειν; pasture’ (+A), OIc.  $halda$  ‘hold fast to, preserve, pasture’ (+D/A),<sup>48</sup> OEng.  $healdan$  ‘protect, hold’ (+A), OHG  $haltan$  ‘hold fast, protect’ (+A), OS  $haldan$  ‘protect, hold’ (+A) and OFr.  $halda$  ‘hold fast to’ (+A).<sup>49</sup> Though the early Germanic languages do show that this verb originally belonged, at least in part, to the pastoral sphere and though a semantic development from ‘urge on’ → ‘herd’ (→ ‘hold, protect’) is not implausible,<sup>50</sup> this etymology leaves considerable room for doubt. Unlike  $wal-d-/_a$ - and  $*sta-n-d-/_a$ -,  $*hald/_a$ - appears to have been a transitive verb with accusative rection in Proto-Germanic.

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<sup>48</sup>By-form OSwed.  $halla$ , Modern Swed.  $hälla$  as though from  $*halpan$ . This is likely secondary (Seebold 1970:249, 184).

$*skald-/_a$ - <sup>49</sup>The exclusively West-Germanic verb  $*skaldan$  (OHG  $skaltan$  ‘push’, OS  $skaldan$  ‘push off (of a boat)’) lacks a clear etymology. Seebold (1970:406) tentatively proposes that this verb could be an  $s$ -mobile variant of  $*haldan$ .

<sup>50</sup>Cf. the semantic development of Lat.  $mināri$  ‘threaten’ → Vulg. Lat.  $minō$  ‘drive animals’ > Fr.  $mener$  ‘guide’, cf. App.M.3.28 *nos duos asinos et equum meum productos e stabulo, . . . minantes baculis exigunt* ‘They brought the two of us asses and my horse out of the stable and drove us away by threatening us with sticks.’

There is also no evidence for the dental-less primitive root in any nominal or verbal forms. Though no preterit forms are attested in Gothic, the array of “reduplicated” preterit forms of the other ancient languages (Oic. *helt*, OEng. *hēold*, OFr. *helt*, OS *held*, OHG *hialt*, all quasi *\*hegald*) provides no positive indication that the dental was ever confined to the present. It must further be taken into account that *\*hald̥/a-* belongs to a small but notorious group of verbs, most of which lack good etymologies, that show *a*-voclaim of the root and end in *\*<sup>o</sup>ld*. These are *\*fald̥/a-* ‘fold’, *\*stald̥/a-* ‘get’, *\*spald̥/a-* ‘split (tr)’, *\*skald̥/a-* ‘push off’ and the confirmed *d<sup>h</sup>*-present *\*wald̥/a-* ‘rule’ itself. For lack of further, positive evidence, neither *\*hald̥/a-* nor any of these other verbs can be taken into consideration in the current study.

#### 4.4 “Northern Indo-European” *\*(h<sub>2</sub>)uólH-d<sup>h</sup>-* / *\*(h<sub>2</sub>)uélH-d<sup>h</sup>-* ‘be powerful’ and the ablaut of *d<sup>h</sup>*-presents

Word equations are one of the most powerful tools in historical comparative linguistics because they reveal not only morphology, but morphology anchored to a concrete lexical context. The three-way word equation PGmc. *\*wal-d-<sup>i</sup>/a-* ~ PSl. *\*vol-d-<sup>o</sup>/o-* ~ PB *\*vél-d-* ‘be powerful, rule’ is one of the strongest word equations for any *d<sup>h</sup>*-present. A discussion of this verb has been reserved for the conclusion of this chapter in order that the individual Germanic, Baltic and Slavic forms can be examined with reference to each other, and also because these provide a useful point of departure for a discussion of the ablaut patterns associated with *d<sup>h</sup>*-presents in the parent language.

It will first be noted that, whereas the historical identity of the dental suffix is ambiguous phonologically ambiguous in each of Germanic, Baltic and Slavic, a historical voiced aspirate *\*-d<sup>h</sup>-* is guaranteed when these are compared with each other; *\*-d-* is excluded by Germanic and *\*-t-* by Baltic and Slavic. The root in question is generally agreed to be that of Lat. *valeō* ‘am strong’, OIr. *fall[n]aithir* ‘rules’ and TochB *walo* = TochA *wäl* ‘king’. The editors of *LIV*<sup>2</sup> (676) set this root up as *\*uelH*. If Kloekhorst (2008:358–360) is

correct in connecting Hitt. *hull(ē)-zi* ‘smash’ (also *hulla<sup>-i</sup>*) with this etymological complex, the root can instead be reconstructed *\*h<sub>2</sub>uelH* with initial laryngeal.<sup>51</sup>

This would all paint a very clean picture were it not for the fact that Slavic and Germanic agree in showing *o*-vocalism of the root, a fact which seemingly flies in the face of the formal schema *\*R(é)-d<sup>h</sup>-e* that has been developed up to this point in the current work. This unexpected ablaut grade could in principle have three explanations: (1) It could be a chance innovation of both Germanic and Slavic. (2) It could reflect an old *o*-grade *\*(h<sub>2</sub>)uólH-d<sup>h</sup>-*. (3) It could point to *a*-timbre of the Indo-European root.

The possibility of parallel innovations in both Germanic and Slavic violates principles of economy in historical reconstruction and can be dismissed out of hand. There is no clear source in either branch for the analogical introduction of *o*-grade vocalism into an inherited *e*-grade verb, and the idea that this could have happened in both branches independently strains credulity. A modified variant of this view, however, has found surprising currency in the secondary literature on Slavic. This line of reasoning implicitly locates the innovation within Germanic and maintains that the Slavic verb was borrowed from Germanic and so received its root-vocalism second-hand (so as a possibility *LIV*<sup>2</sup> 677<sup>6</sup>; Seebold 1970:537). This approach was rightly rejected already by Trautmann (1923:342). It is a well-known fact that a number of words were borrowed into Proto-Slavic from the Germanic languages (Pronk-Tiethoff 2013:77ff. counts 76), but of these the vast majority are nouns. Of verbs, Common Slavic borrowed *\*gotoviti/\*gotovati* ‘make ready’ (PGmc. *\*ga-tawj/a-* ‘id.’), *\*kupiti* ‘buy’ (PGmc. *\*kaupoj/a-*, *\*kaupij/a-*)<sup>52</sup> *\*kusiti* ‘taste’

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<sup>51</sup>Kümmel (2000:472–3) weighs the possibility of taking the Germanic, Baltic and Slavic verbs from a root *\*H<sub>2</sub>eld<sup>h</sup>* ‘grow’ of etymologically isolated Ved. *várdha-ti* ‘make grow’. Speaking against this approach are the much poorer semantic fit and the lack of a laryngeal in Vedic (zero-grade *vr̥dh-*) that is required by Baltic. Kümmel tentatively explains the acute in Baltic as resulting from a Narten present *\*H<sub>2</sub>éld<sup>h</sup>-* but implausibly explains the Germanic and Slavic verbs as going back to perfects. In Germanic, the most salient feature of this verb is that it lacks final dental in the perfect, which is where it might have been most at home if the verb were a perfect in origin.

<sup>52</sup>The most prevalent form in Germanic is *\*kaupojan* (Goth. *kaupon*, OIc. *kaupa*, OHG *koufon*, OEng. *cēapian* etc.), a denominal verb to the substantive Lat. *caupo* ‘innkeeper’. The variant *\*kaupijan* appears only in some dialects of West Germanic (OE *cēapan*, MHG *käufen*) and is unlikely to have been the direct source of Slavic *\*kupiti* as is often assumed.

(PGmc. *\*kauzij/a-*), *\*lěčiti* ‘cure’ (PGmc. *lĕkinōj/a-*),<sup>53</sup> *\*gonoziti* ‘save’ (PGmc. *\*ga-nazj/a-*), *\*postiti se* ‘fast’, (PGmc. *fast-ai-*),<sup>54</sup> *\*xuliti* ‘insult’ (PGmc. *\*hōlōj/a-*, *\*hōlijan*) and *\*užasiti* ‘frighten’ (PGmc. *\*uz-gaizij/a-*).<sup>55</sup>

It is immediately striking that almost all of these verbs form stems in *\*-j̄/o-* : *\*-ī-*, the suffix regularly used for making denominals in Slavic (e.g. adj. *čistъ* ‘clean’ → vb. *čistiti* ‘clean’). This present type was evidently the default for denominal verbs to nouns of foreign origin and then to borrowed verbs in general (cf. typologically similar Russ. *-uj/o-* : *-ova-* in borrowed verbs like *tancevat’* ‘dance’, *analizirovat’* ‘analyze’). The only possible morphological parallel for the borrowing of PGmc. *\*waldan* as simple thematic *\*voldo*, *\*vols-ti* is *\*želdo*, *\*žels-ti* ‘repay’, conventionally equated with PGmc. *\*geldan* ‘id.’. But the Slavic verb is only attested in OCS *žlěsti/žlasti* and in ORuss. *želěsti*. The variation in form and geographically-restricted attestations suggest that this was a late and dialectal borrowing, as Pronk-Tiethoff (2013:173f.) argues.

An early borrowing of PGmc. *\*wald/a-* into Slavic as a simple thematic verb *\*volde-* would therefore be without parallel and is morphologically suspect, while the existence of a cognate verb in Baltic guarantees the existence of this etymon in Proto-Balto-Slavic and renders the possibility of a borrowing even less appealing. The borrowing approach merely serves to shift the debate about a genuinely problematic form off of Slavic territory and into the realm of Germanic linguistics, where the *o*-grade present is no less problematic. There is no phonological process within Germanic that could have transformed the reflex of an *\*e* into the reflex of an *\*o* and no obvious analogical solution to this problem either. Had a preterit *\*wewald* existed at an early date in Germanic, analogy with class VII strong verbs like pret. *\*febald* ‘folded’ (Goth. *faiþalþ*) : pr. *\*falþiþ* ‘fold’ could have produced a

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<sup>53</sup>The Slavic verb is likely not a borrowing of the Germanic verb, but rather a denominative formation to *\*lěkbъ* (*/\*lěkьba*) ‘medicine’, also of Germanic origin.

<sup>54</sup>The Slavic verb is more likely denominative to the borrowed substantive *\*postъ* ‘fast’ than a direct borrowing of the verb.

<sup>55</sup>In Goth. *usgaisjan* ‘scare’. The *a* of Slavic goes back to a *\*ĕ* that likely indicates a late borrowing from Gothic (Pronk-Tiethoff 2013:164).

new present *\*waldib*, but no such preterit existed in Proto-Germanic as OIc. *olla* clearly shows.

Once the possibility of an inheritance in both Germanic and Slavic is taken seriously, the vocalism shared by these two languages could, in principle, be explained in two different ways. One option is that the root itself was *\*(h<sub>2</sub>)u<sub>l</sub>alH*, with *a*-timbre in the protolanguage. This is the approach taken by Walde and Pokorny (*WP* I:219; *IEW* 1111–2), whose reconstruction is in fact compatible with most of the language data. Latin *valeō* ‘am strong’ (cf. *valē-tūdō*) can be traced back either to full-grade *\*(h<sub>2</sub>)u<sub>l</sub>alH-eh<sub>1</sub>-ǵ%* or to zero-grade *\*(h<sub>2</sub>)u<sub>l</sub>H-eh<sub>1</sub>-ǵ%*, while OIr. *fallnaithir* ‘rules’ most likely continues zero-grade *\*(h<sub>2</sub>)u<sub>l</sub>-né-H-* (though *\*(h<sub>2</sub>)u<sub>l</sub>al-né-H-* is phonologically possible). Further, the Gaulish name *Katouualos* [= OIr. *Cathal*, OW *Catqual*] and the Old Brittonic (“Mên Scryfa” stone) name Gsg. *Cuno-vali* [= MW *Cynwal*, OIr. *Conall*] bear early witness to a thematic noun PCelt. *\*u<sub>l</sub>al-o-* that is continued in MIr. *fal* ‘rule’ (Matasović 2008:402). Finally, TochB *walo* = TochA *wäl* < PToch *\*wəłā* must continue zero-grade *\*(h<sub>2</sub>)u<sub>l</sub>Hō* (for *\*(h<sub>2</sub>)u<sub>l</sub>Hōnts*, see Jasanoff 2018).

Speaking against the reconstruction of a root with *a*-quality are two considerations, one trifling and the other significant. The minor consideration is the fact that *a*-timbre roots have a tendency to show *\*ǣ* : *\*ā* ablaut but to shun the zero grade in the daughter languages.<sup>56</sup> It is hard to point to another root that behaves like putative *\*(h<sub>2</sub>)u<sub>l</sub>alH*. But the more major problem is the *e*-grade of Baltic. A theory that starts from an *a*-timbre root must account for this *e*-grade through a secondary process within Baltic, and this is not easily accomplished.

The *e*-grade of OLith. 3sg. *velst* (Daukša 1595) must be Proto-Baltic, because it is also reflected in Old Prussian, where the situation is more complex. The substantive OPr. Asg. *weldisnan* ‘*Erbe*; inheritance’, is likely a nominal derivative to a verb *\*weldīt*, which phonologically could continue either *\*u<sub>l</sub>eldīti* or *\*u<sub>l</sub>eldēti*, the latter being much more likely as this would form an exact word equation with Lith. *veldėti* ‘rule’ (Smoczyński

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<sup>56</sup>On ablaut in roots with *a*-timbre, see recently (Melchert 2022).



2005:400).<sup>57</sup> But beside this, we find a substantive OPr. *waldnik-* ‘*König*, king’, which all things being equal is more likely to continue a nominal derivative *\*uald(e)-nī-ka-* to a verb *\*uald-* than to stative *\*weld-ē-*, iterative-causative *\*wald-ī-* or similar (cf. Smoczyński 2005:393). Finally, the doublet OPr. Dsg. *sen-draugi-wēldnikai* ‘*Miterbe*; co-heir’<sup>58</sup> and A sg. *draugi-waldūnen* ‘id.’ presents an alternation of vowels that might surprise.

While writing errors are usually invoked in the scholarship on Old Prussian to explain this and similar cases of apparent vowel alternation, an explanation of OPr. *wald-* ~ *weld-* as a random error would ignore the larger apophonic picture of this verb. The discrepancy between verbal reflexes of *\*(h<sub>2</sub>)uólh-d<sup>h</sup>-* and *\*(h<sub>2</sub>)uélh-d<sup>h</sup>-* within Baltic and across the “Northern Indo-European” languages recalls the distribution of ablaut grades in *h<sub>2</sub>e*-conjugation root presents like those in Table 4.3. Jasanoff (*HIEV* 64–90), drawing inspiration from (Meillet 1916), has influentially argued that this alternation of *o-* and *e-* grade in the reflexes of these and other verbs points to original ablauting paradigms that showed *o*-grade root vocalism in their strong stem and *e*-grade root vocalism in their weak stem. It is highly likely that inner-paradigmatic ablaut alternation was still a regular feature of these verbs in Proto-Balto-Slavic, as this seems necessary to explain the apophonically divergent outcomes of individual lexemes in the two subbranches.

Though the majority of presents with *\*o* : *\*e* ablaut that can be recovered from the historical comparative record are root presents (i.e. “*molō*-presents”), there is also evidence for suffixal presents of the structure *\*R(ó)-s-/\*R(é)-s-* (*HIEV* 75). The clearest example of this type is the *s*-present *\*h<sub>2</sub>uóg-s-/\*h<sub>2</sub>uég-s-* ‘grow’. The *o*-grade stem of this ablauting verb is continued in Germanic *\*wahs-j<sup>h</sup><sub>a</sub>-/\*wahs-<sup>h</sup><sub>a</sub>-* ‘grow’ (Goth. *wahsjan* ‘id.’, OIc. *vaxa/vexa* ‘id.’, OEng. *weaxan* ‘id.’, OHG *wahsan* ‘id.’ etc.), while the *e*-grade is continued in Grk. ἀέξομαι ‘grow’. Similarly, the dialectal variation within Greek of Att. βούλομαι ‘want’, Dor. βώλομαι ‘id.’ on the one hand and Dor. δήλομαι ‘want’, Thess. βέλλομαι on the other suggest an alternating paradigm *\*g<sup>u</sup>ol-h-/\*g<sup>u</sup>el-h-* (< PIE

<sup>57</sup>Cf. Lith. *paveldėjimas* ‘inheritance’.

<sup>58</sup>For the semantic development ‘rule’ → ‘inherit’ cf. Lat. *potior* ‘become master of, acquire’.

**Table 4.3:**  $h_2e$ -conjugation root presents (after HIEV)

	<i>o</i> -grade	<i>e</i> -grade
* $b^h edh(h_1)$	OCS <i>bodŋ</i> ( <i>bosti</i> ) ‘stab’, Lat. <i>fodiō</i> ‘dig’	Lith. <i>bedù</i> ( <i>bèsti</i> ) ‘implant’
* $b^h erH$	OLith. <i>barmi</i> ( <i>bárti</i> ) ‘scold’, OCS <i>borjŋ</i> ( <i>sę</i> ) ( <i>brati</i> ( <i>sę</i> )) ‘fight’, Oic. <i>berjask</i> ‘fight’	Lat. <i>feriō</i> ‘strike’
* $ġ^h eng^h$	Goth. <i>gaggan</i> ‘go’	OLith. <i>žengmi</i> ‘stride’
* $ġ^h reb^h$	Goth. <i>graban</i> ‘dig’	Latv. <i>grebju</i> ( <i>grebt</i> ) ‘hollow out’, OCS <i>po-grebŋ</i> ( <i>-greti</i> ) ‘bury’
* $\hat{k}enk$	Hitt. <i>kānki</i> ‘hangs (tr)’, Goth. <i>ha-</i> <i>han</i> ‘hang (intr)’	—
* $melh_2$	Hitt. <i>malli</i> ‘grinds’, Goth. <i>malan</i> ‘grind’, Lith. <i>malù</i> ( <i>málti</i> ) ‘id.’	OCS <i>meljŋ</i> ( <i>mlěti</i> ) ‘id.’, OIr. <i>melid</i> ‘id.’

\* $g^u ol-s-$ /\* $g^u el-s-$ ) for Proto-Greek.

The clear evidence for \* $o$  : \* $e$  ablaut both in root presents and in  $s$ -presents suggests that there is nothing morphologically suspect about a suffixal present formed according to a template \* $R(\acute{o})-d^h-$ /\* $R(\acute{e})-d^h-$ , specifically \* $(h_2)\underline{u}ólH-d^h-$ /\* $(h_2)\underline{u}élH-d^h-$ . This, I posit, is the most straightforward way to explain the discrepancy in root vowel in the clear word equation PGmc. \**wal-d-<sub>a</sub>* ~ PSll. \**vol-d-<sub>o</sub>* ~ PB \**vél-d-* ‘be powerful, rule’. The strong stem \* $(h_2)\underline{u}ólH-d^h-$  was generalized in Germanic and Slavic, while the weak stem \* $(h_2)\underline{u}élH-d^h-$  was generalized in Baltic.

A systemic consideration adds further validity to the reconstruction of ablauting \* $(h_2)\underline{u}ólH-d^h-$ /\* $(h_2)\underline{u}élH-d^h-$ , which was arrived at purely through mechanical application of the comparative evidence. There is good reason to think that \* $o$  : \* $e$  ablaut in verbs was specifically and exclusively associated with  $h_2e$ -conjugation inflection. This correlation holds not only for \* $o$  : \* $e$  ablauting root presents (“*molō*-presents”) and  $s$ -presents, but also for  $h_2e$ -conjugation aorists of the type \**pód-e*/\**péd-nt* ‘fell’ (OCS *pad-e*

‘id.’, Ved. *pād-i* : *apadran* ‘id.’)<sup>59</sup> and in the perfect, where the historic *e*-grade had given way to the zero grade in the primary tense by the time of the late protolanguage but was retained as a morphological archaism in the pluperfect (Ved. 3pl. *ádīdhayuh* ‘looked (intr)’, OAv. 3pl. *cikōitərəš* ‘appeared’).<sup>60</sup> One of the central claims of the current chapter has been that it is necessary to reconstruct original *h<sub>2</sub>e*-conjugation inflection for *d<sup>h</sup>*-presents in Proto-Indo-European in order to account for their athematic inflection in Baltic. Thus, two independent factors—the athematic inflection of Baltic and the \**o* : \**e* ablaut of \*(*h<sub>2</sub>*)*uélH-d<sup>h</sup>*—point to original *h<sub>2</sub>e*-conjugation inflection 3sg. \*(*h<sub>2</sub>*)*uólH-d<sup>h</sup>-eġ* / 3pl. \*(*h<sub>2</sub>*)*uélH-d<sup>h</sup>-nti*.

The implications of the reconstruction of an ablauting \*(*h<sub>2</sub>*)*uólH-d<sup>h</sup>-*/\*(*h<sub>2</sub>*)*uélH-d<sup>h</sup>-* ‘be powerful’ for the larger class of *d<sup>h</sup>*-presents remain to be clarified. It is a priori rather likely that *d<sup>h</sup>*-presents, like the vast majority of non-thematic verbal formations in Proto-Indo-European, did originally show some type of vowel alternation. While an \**o* : \**e* ablauting type can be reconstructed from the comparative evidence, it is somewhat surprising that there is no unambiguous evidence for *o*-grade in *d<sup>h</sup>*-presents outside of this one lexical item. The reason for this could possibly be that *d<sup>h</sup>*-presents had access to ablaut patterns as well, such as \**e* : *z* ablaut or \**ē* : \**e* ablaut.<sup>61</sup> These questions, though important, cannot be answered definitively using the data gathered for this study, and it remains to be seen whether future research will find other ways to shed further light on this problem.

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<sup>59</sup>On the Slavic continuants of *h<sub>2</sub>e*-conjugation aorists, see (Villanueva Svensson 2006).

<sup>60</sup>For a comprehensive treatment of each of these verbal categories and a discussion of the evidence linking these with the *h<sub>2</sub>e*-conjugation, see (Jasanoff *HIEV*).

<sup>61</sup>One possible trace of a long vowel could perhaps be seen in the acute intonation of Lith. *mérdu* ‘die’ if from \**mēr-d-mai*, as the root \**mer* ‘die’ did not end in a laryngeal (cf. Ved. *mṛtyú-* ‘death’). But it could also be due to analogy with verbs like *véldu* ‘rule’ and *vérdu* ‘boil’ where it was phonologically justified.

## Chapter 5

# Conclusion

### 5.1 Summary of results

In this dissertation, an argument has been developed for the reconstruction of a type of deradical present in Proto-Indo-European that was characterized by the suffix  $*-d^h-$ . Verbs built with this suffix inflected using the  $h_2e$ -conjugation endings. Traces of athematic inflection are clearly preserved in the Baltic languages and these cannot, in aggregate, be explained as innovations. In most of the daughter languages, however, these verbs came to be thematized via the third person singular injunctive in  $*-d^h-e[-t]$ . This led to the reinterpretation of the suffix as thematic  $*-d^he-$  in a majority of the daughter languages. This late and formally-motivated thematization is ultimately the reason for the mismatch between active inflection and middle-like semantics in Greek and to a lesser extent in Indo-Iranian.

It has further been tentatively argued that verbs in suffixal  $*-d^h-$  showed ablaut of the root. An ablaut pattern  $*R(\acute{o})-d^h-/*R(\acute{e})-d^h-$  can be inferred from the word equation PGmc.  $*wal-d-i/a-$   $\sim$  PSl.  $*vol-d-/-$   $\sim$  PB  $*v\acute{e}l-d-$  ‘be powerful, rule’. This distribution recalls that of PGmc.  $mal-i/a-$   $\sim$  Lith.  $m\acute{a}l-ti$   $\sim$  OCS  $mel-j-/-$  ‘grind’, which most scholars now trace back to an ablauting paradigm  $*m\acute{o}lh_2-/*m\acute{e}lh_2-$  following Jasanoff (1979b, *HIEV* 65–90). The fact that some  $d^h$ -presents employed  $*o : *e$  ablaut need not imply

that this was the only apophonic alternation associated with this present type. Other possibilities include a schema  $*R(\acute{e})-d^h-/*R(\acute{e})-d^h-$ , which would help account for the persistence of *e*-grade throughout the daughter languages and the total absence of zero-grade forms, or hypothetically also  $*R(\acute{e})-d^h-/*R(z)-d^h-$ ; but neither can be positively proven. It is likely that any vowel alternations within the root were abandoned as part of the thematization process.

It has also been shown that  $d^h$ -presents were prototypically intransitive. The reason for this lies within the internal history of the protolanguage and cannot be recovered using the comparative method. It is likely no coincidence that a derivational suffix with inherently intransitive semantics took the  $h_2e$ -conjugation endings, which bear an obvious formal similarity to the medial endings of Proto-Indo-European and have long been thought to derive from the same source. It bears emphasizing, however, that the  $h_2e$ -conjugation inflectional endings were not themselves responsible for assigning intransitivity, which was rather a feature of the suffix  $*-d^h-$  within the phase of the protolanguage that is recoverable using the comparative method.

The fact that  $d^h$ -presents were intransitive in the protolanguage is a significant and perhaps surprising result. It is rare for verbal formants reconstructed for Proto-Indo-European to show such clear semantic profiles; this fact invites speculation. It could suggest that the  $d^h$ -presents offer a glimpse into a time deeper in the history of the protolanguage when the work of marking intransitivity was done not via inflectional morphology (i.e. the middle voice), but rather using stem formants. Such a scenario would help to explain how, with the rise of medial inflection,  $d^h$ -presents, which are evidently an old feature of the language, came to be marginalized to the point that they no longer cut a sharp and clearly identifiable profile in most of the daughter languages.

Semantically, nothing more precise can be recovered about the “meaning” of the suffix. It will be observed, however, that several rough semantic types do recur in the reflexes of  $d^h$ -presents in the daughter languages. Stative and state-oriented verbs are common and include Grk.  $\pi\lambda\acute{\eta}\theta\omega$  ‘am full’, PGmc.  $*stand/a-$  ‘stand’ and PGmc.  $*wald/a-$  ‘be powerful’.

Verbs describing emotional states like TochAB *kātk-* ‘rejoice’ [ $\approx$  Grk.  $\gamma\eta\theta\acute{\epsilon}\omega$  ‘rejoice’] and Grk.  $\acute{\alpha}\chi\theta\omicron\mu\alpha\iota$  ‘am grieved’ can be considered a subclass of the former. A number of verbs describe processual actions akin to statives. These include Grk.  $\pi\acute{\upsilon}\theta\omicron\mu\alpha\iota$  ‘rot’, MW *tođi* ‘melt’, Lith. *ėrdu* ‘disintegrated’ and Grk.  $(*)\acute{\alpha}\lambda\theta\omega$  ‘shine, burn’ [= Ved. *édhate* ‘thrives’, Arm. *ayrem* ‘burn’]. Verbs expressing translational motion are also represented, and examples include Ved. *sádhati* ‘proceeds in a straight line, succeeds,’ OCS *jadǫ* ‘go by conveyance’ and Grk.  $\pi\epsilon\lambda\acute{\alpha}\theta\omega$  ‘approach’. Finally, there are activity and action verbs like Grk.  $\acute{\epsilon}\mu\acute{\epsilon}\theta\omega$  ‘vomit’, Lith. *sverdù* ‘totter’, Lith. *skėldu* ‘burst’ and MW *cwyđaw* ‘fall’. Many verbs do not fit neatly into these categories.

No attempt as been made to etymologize the suffix in question. The comparative method clearly permits the reconstruction of a deradical morpheme  $*-d^h-$  for Proto-Indo-European. Any connection of this  $*-d^h-$  with the root  $*d^heh_1$  ‘put’ or with the  $*d^h$  of the athematic imperative ending 2sg.  $*-d^hi$ , the medial endings 1pl.  $*-med^hh_2$  and 2pl.  $d^h_{(u)}ye$  or the infinitive ending  $*-d^h\bar{i}\bar{o}\bar{i}/*-d^h\bar{i}\bar{e}\bar{i}$  belongs to the realm of internal reconstruction and to glottogenic speculation, and must remain an open question.

## 5.2 $d^h$ -presents and the Anatolian languages

No  $d^h$ -presents can be reconstructed for the Anatolian languages. This fact could, in principle, have two logical explanations. The first is that Anatolian inherited presents of this type but that they were lost. The second is that the Anatolian languages split off from Proto-Indo-European before this type of present came into existence. This question echoes other debates about the historical morphology of the Anatolian languages. As is well known, this branch of Indo-European conspicuously lacks the feminine gender and a verbal category corresponding to the perfect, both of which have standardly been reconstructed for the protolanguage.

Though no definite conclusion can be reached on this point, at least one factor speaks for the loss-hypothesis. As an  $h_2e$ -conjugation verbal category that stood in a special

relationship to another  $h_2e$ -conjugation category (i.e.  $i$ -presents),  $d^h$ -presents almost certainly belong to an old layer of Proto-Indo-European verbal morphology. It is not at all likely that a new class of  $h_2e$ -conjugation verbs would have been created at a time, post Anatolian, when the  $h_2e$ -conjugation was, by all indications, on the decline and when  $i$ -presents were in the process of being remade to  $\acute{i}\%$ -presents. To posit the creation of a new, archaic-looking present formation within the history of the protolanguage would be much more costly than to posit its elimination in a single branch.

### 5.3 The place of $-d^h-$ in the verbal system of PIE

Throughout this dissertation, attention has been given to the averbo relations of  $d^h$ -presents. Though  $d^h$ -presents appear not to have formed associated aorists, it is a significant finding of this study that they frequently do co-occur with  $i$ -presents made to the same root. With time, as  $i$ -present came to be remade as  $\acute{i}\%$ -presents, this relationship would naturally have come to be seen as a special relationship between  $d^h$ -presents and  $\acute{i}\%$ -presents. A conspectus of the data reviewed in the preceding chapters is given in Table 5.1.

**Table 5.1:**  $d^h$ -presents beside  $i$ -presents

$d^h$ -present	$i$ -present	mixed present
$*b^h\acute{u}H-d^h-$	$*b^h\acute{u}H-\acute{i}-$	
OCS $b\theta d\theta$ ‘become’	Grk. $\varphi\acute{\upsilon}\omicron\mu\alpha$ ‘grow’	
TochAB $p[y]utk$ ‘arise’	Lat. $fi\bar{o}$ ‘become’	
	OIr. $\cdot bi$ ‘is usually’	
$*\acute{g}\acute{e}h_2-d^h-$	$*\acute{g}\acute{e}h_2-\acute{i}-$	
Grk. $\gamma\acute{\eta}\theta\omega$ ‘rejoice’	Grk. $\gamma\acute{\alpha}\omega$ ‘rejoice’	
TochAB $k\bar{a}tk$ ‘rejoice’		
	$*g\acute{e}H-\acute{i}-$	$*g\acute{e}H-i-d^h-$

Table 5.1 (Continued)

	ORuss. <i>gaju</i> ‘lament’ Ved. <i>gāyati</i> ‘sings’ [Ved. <i>gīthā-</i> ‘song’]	Lith. <i>gíedu</i> ‘sing’
* $\dot{\lambda}éh_2-d^h-$ OCS <i>jadǫ</i> ‘go’	* $\dot{\lambda}éh_2-\dot{\lambda}-$ Lith. <i>jóju</i> ‘go’	
	* $\hat{k}éH-\dot{\lambda}-$ [/* $\hat{k}[i]H-\dot{\lambda}-$ ] MW <i>na-chiawr</i> ‘falls’ OIr. ? <i>ciid</i> ‘cries’ Ved. <i>śīyate</i> ‘falls’	* $\hat{k}éH-i-d^h-(?)$ MW <i>cwyðaw</i> ‘fall’
	* $k^{(u)}léh_2-\dot{\lambda}-$ Lith. <i>klajóju</i> ‘wander’	* $k^{(u)}léh_2-i-d^h-$ OLith. <i>klie(d)mi</i> ‘rave’
* $léh_2-d^h-$ Grk. <i>λήθω</i> ‘am hidden’ OCS <i>lajǫ</i> ‘am hidden’	* $léh_2-\dot{\lambda}-$ Grk. ? <i>λήθο- ἐπελάθετο</i> OCS <i>lajǫ</i> ‘am hidden’	* $léh_2-\dot{\lambda}-d^h-$ [Grk. <i>λαίθ-αργος</i> ‘deceitful’]?
* $pléh_1-d^h-$ Grk. <i>πλήθω</i> ‘am full’ OYAv. <i>frada<sup>i</sup>ti</i> ‘furthers’ [Lat. <i>plēbēs</i> ‘multitudo’]	* $pléh_1-\dot{\lambda}-$ Lat. ( <i>im</i> )- <i>pleō</i> ‘fill (tr)’ Ved. <i>pūryate</i> ‘fill (int)’	
* $púH-d^h-$ Grk. <i>πύθομαι</i> ‘rot’ [Lith. <i>pūdyti</i> ‘make rot’]	* $púH-\dot{\lambda}-$ Ved. <i>pūyati</i> ‘stink’ YAv. <i>pwīeti</i> ‘stink’ [Oic. <i>fúinn</i> ‘rotten’]	
* $séh_1-d^h-$ Ved. <i>sādhati</i> ‘succeeds’	* $séh_1-\dot{\lambda}-$ Hitt. <i>šāi/šīyanzi</i> ‘seal’	* $séh_1-i-d^h-$ Ved. <i>sédhati</i> ‘repels’



Table 5.1 (Continued)

	CLuw. <i>šāi</i> ‘releases’	[Grk. ῥῆύς ‘straight’]
	Lith. <i>sėjū</i> ‘sow’	
	Goth. <i>saian</i> ‘sow’	
	etc.	
<i>*stéh<sub>2</sub>-d<sup>h</sup>-</i>	<i>*stéh<sub>2</sub>-i-</i>	
Goth. <i>sta[n]dan</i>	OHG <i>stān/stēn</i> ‘stand’	
	Lith. <i>stóju</i> ‘stand’	
	OCS <i>stajǫ</i> ‘stand’	
<i>*téh<sub>2</sub>-d<sup>h</sup>-</i>	<i>*téh<sub>2</sub>-i-</i>	
MW <i>tođi</i> ‘melt’	OIr. (*) <i>taïd</i> ‘decay’	
	OCS <i>tajǫ</i> ‘melt’	

This robust correlation between  $d^h$ - and  $i$ -presents shows that  $d^h$ -presents were integrated into the verbal system of the protolanguage at an early stage, and it is likely no coincidence that both  $d^h$ -presents and  $i$ -presents originally inflected using the  $h_2e$ -conjugation endings. The reality of this correlation and the fact that it was  $i$ -presents (and not  $i\%_0$ -presents) that originally participated in this morphological alternation is born out by the existence of the contaminated “ $i$ - $d^h$ -presents” given in the third column of Table 5.1. The  $*-i-$  in these odd formations can hardly be derived from the glide in  $i\%_0$ -presents and can most straightforwardly be seen as continuing the suffixal vowel of an  $i$ -present that had come to be closely associated with the root.

What the original semantic or phonological rationale for the distribution  $d^h$ -present :  $i$ -present was cannot be recovered. Whereas  $d^h$ -presents were regularly intransitive, no generalizations about the valency or semantic properties of  $i$ -presents can be plausibly reached. Presents in  $*-i-$  seem only to have been made to roots of the shape  $*CeH$ , but

**Table 5.2:**  $d^h$ -presents beside  $i$ -reduplicated presents

$d^h$ -present	redupl. present	$i$ -present
* $pléh_1-d^h$ - Grk. πλήθω ‘am full’ OYAv. <i>frada<sup>i</sup>ti</i> ‘furthers’ ?TochB <i>plyetk-e-tär</i> ‘arise’	* $pí-plh_1$ - Grk. πίμπλημι ‘fill’ Ved. 3sg. <i>ápiprata</i> ‘filled’	* $pléh_1-i$ - Lat. <i>(im)-pleō</i> ‘fill’ Ved. <i>púryate</i> ‘fill’
* $íéh_2-d^h$ - OCS <i>jadǫ</i> ‘go’	* $íi-íh_2$ - TochB <i>iyam</i> ‘goes’ Ved. <i>íyate</i> ‘speeds’ <sup>1</sup>	* $íéh_2-í$ - Lith. <i>jóju</i> ‘go’
* $steh_2-d^h$ - Goth. <i>sta/n/dan</i>	* $sí-sth_2$ -	* $steh_2-í$ - OHG <i>stān/stēn</i> ‘stand’ Lith. <i>stóju</i> ‘stand’ OCS <i>stajǫ</i> ‘stand’

no clear structural restrictions govern the use of  $*-d^h$ -, though it is certainly true that  $d^h$ -presents to obstruent-final roots are rare and do not participate in multi-language word equations.

There are also several instances in which  $d^h$ -presents stood beside  $i$ -reduplicated presents, though the correlation here is not nearly as robust as that connecting  $d^h$ -presents and  $i$ -presents. These are reproduced in Table 5.2. Jasanoff (*HIEV* 128–132) has argued that reduplicated presents in  $i$ , unlike  $e$ -reduplicated presents, originally inflected using the  $h_2e$ -conjugation endings, as can be seen in Hitt. *mimma-<sup>i</sup>* ‘refuse’ <  $*mí-mn-e$  [= Grk. μίμνω ‘stand fast, remain’]. This feature of their inflectional morphology links  $i$ -reduplicated presents with the other two present classes under discussion here, and this is likely no coincidence. Such relationships within the averbos of  $h_2e$ -conjugation verbs are still poorly understood and remain a promising topic for future research.

<sup>1</sup>See *VIA* (407) with references to earlier literature and see further the insightful discussion in (Höfler 2023).

# Appendix I: Greek aorist in $-\vartheta\eta-$

Greek possesses an intransitive aorist stem formant  $-(\vartheta)\eta-$  that is found in all periods, from Homer to Modern Greek (though not in Mycenaean), and with a wide variety of verbs.<sup>1</sup> These bear a striking resemblance in form and function to  $\vartheta\%-$  presents. Both contain an element  $\vartheta$  and both are “active deponent” types, the present formant usually and the aorist without exception. And yet, it is difficult to draw a straight line from the one to the other. Taking the stance that a connection between the present formant and the passive aorist is in principle attractive, this appendix contains a survey and evaluation of the scholarly literature as well as some suggestions about the origin and spread of this aorist type.

It will first be useful to review the synchronic facts concerning the Greek “passive” aorist. There are two distinct but clearly connected morphological formations to be considered, the aorist in  $-\eta-$  and the aorist in  $-\vartheta\eta-$ . The aorist in  $-\eta-$  gives the impression of being the older of the two formations. It is formed to some 23 verbs in the Homeric epics, and though it persists into later Greek, it remains much less common than the  $\vartheta\eta$ -aorist, which Homer employs for roughly 130 verbs. The chief differences between the two formations are four. First, the  $-\eta-$  aorist is associated with zero grade of the root, while the  $-\vartheta\eta-$  aorist appears with both full-grade and zero-grade vocalism. Second, the  $-\vartheta\eta-$  aorist is predictably used to supply the passive aorist to vowel-final roots (including

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<sup>1</sup>On the passive aorist, see especially (Wackernagel 1890:302ff.; Meister 1921:110f.; Prévot 1935; Benveniste 1935:196f.; Schwyzler *Gr.Gr.* I:756ff.; Risch 1974:250–54; Ruijgh 1992:461<sup>75</sup>; Jasanoff 2002; Peters 2004).

contract verbs), never the  $-\eta$ - aorist. Third, the  $-\vartheta\eta$ - aorist is often preceded by paragogic  $-\sigma$ - ( $-\sigma-\vartheta\eta$ -) in verbs that form sigmatic aorists. This is never the case for simple  $-\eta$ -. Fourth, the subjunctive of the  $\eta$ -aorist usually appears in Homer as uncontracted  $-\epsilon\iota\omega$ ,  $-\acute{\eta}\eta\varsigma$ ,  $-\acute{\eta}\eta$  whereas the  $\vartheta\eta$ -aorist is always contracted to  $-\vartheta\tilde{\omega}$ ,  $-\vartheta\tilde{\eta}\varsigma$ ,  $-\vartheta\tilde{\eta}$  (Meister 1921:116, 161ff.).

Many researchers have sought to establish a difference of meaning between the formations in  $-\eta$ - and  $-\vartheta\eta$ -. Wackernagel (1890:304) argues that  $-\eta$ - is properly active-intransitive while  $-\vartheta\eta$ - is semantically middle. He seeks to justify this claim morphologically, pointing out that in the case of pr.  $\acute{\rho}\acute{\epsilon}\omega$  ‘flow’ : aor.  $\acute{\epsilon}\rho\rho\acute{\upsilon}\eta$ , the  $\eta$ -aorist correlates with an active present. He compares this with  $-\vartheta\eta$ -, which regularly pairs with medio-passive presents. Wackernagel ultimately proposes that PIIr. 2sg. mid.  $*-th\bar{a}s$  had a cognate in Greek 2sg. mid.  $*-\vartheta\eta\varsigma$ , which spawned a full paradigm  $-\vartheta\eta\nu$ ,  $-\vartheta\eta\varsigma$ ,  $-\vartheta\eta$  ...  $-\vartheta\epsilon\nu$ . This theory is taken up by Brugmann (1900:284), Schwyzer (*Gr.Gr.* I:762), Rix (1976:219 with reservations), Klingenschmitt (1982:304) and Tichy (1983:366).

But for all its cleverness, Wackernagel’s theory suffers from a number of inadequacies. For one thing,  $\acute{\epsilon}\rho\rho\acute{\upsilon}\eta$  is the only  $\eta$ -aorist that corresponds with an active present, and therefore hardly constitutes a robust basis for determining that  $-\eta$ - is fundamentally semantically active. The typical morphological pairing is middle present :  $\eta$ -aorist ( $\mu\acute{\alpha}\iota\nu\omicron\mu\alpha\iota$  :  $\acute{\epsilon}\mu\acute{\alpha}\nu\eta\nu$ ). This theory further requires that the new middle endings  $-\vartheta\eta\nu$ ,  $-\vartheta\eta\varsigma$ ,  $-\vartheta\eta$  ...  $-\vartheta\epsilon\nu$  coexisted with inherited  $-\mu\eta\nu$ ,  $-\sigma\omicron$ ,  $-\tau\omicron$  ...  $-\nu\tau\omicron$  as middle endings, and Wackernagel does not attempt to explain what the difference between the two sets would have been that prevented one from out-competing the other. As for the ending 2sg.  $-\vartheta\eta\varsigma$  on which Wackernagel’s theory rests, it is doubtful whether the protolanguage had an ending  $*-t^h\bar{e}s$ . Ved.  $-th\bar{a}s$  most likely reflects a late contamination of  $*-th_2a$  with thematic  $*-e-s$ , and there is no guarantee that this sequence of vowels would have given PGrk.  $-t^h\bar{e}s^*$  (Dor.  $-\vartheta\eta\varsigma$ ) rather than  $-t^h\bar{a}s^*$  (cf. OIr. 2sg. ipf.  $-tha$ , which cannot continue  $*-th_2\bar{e}s$  due to lack of palatalization). It is also typologically somewhat unlikely that the ending of the second singular preterit would have been so pragmatically salient within its paradigm as to create

a novel series of endings in the first place. And finally, Wackernagel makes no attempt to explain the origin of the -η- aorist itself.

A second line of reasoning, ultimately going back to Bopp, sees in the θη-aorist a univerbation of inflected forms of the aorist  $*d^h \acute{e}h_1-$ / $*d^h h_1-$  ‘put’ with a preceding nominal element (so still Meister 1921:110ff.). This account is more acceptable from a formal standpoint than any of its early proponents could have known; not only would -θην, -θης and -θη unproblematically continue the original shape of the root aorist that in Greek appears extended as θῆξα, θῆξας, θῆξε, but also the 1–2pl. -θημεν, -θητε of the passive aorist show the full grade that Hoffmann (1968:249f.) has demonstrated was a regular feature in Indo-Iranian and which must go back to the protolanguage. Furthermore, many contract verbs, as for example χολόω ‘anger’ are now known to be derived from instrumentals noun, continuing in this case  $*\acute{g}^h oloh_1-je-$ . It would not be surprising if early  $*\chi\acute{o}\lambda\omega \theta\acute{\eta}\nu$  were univerbated to  $\chi\acute{o}\lambda\acute{\omega}\theta\eta\nu$  in a way similar to how Lat.  $\bar{a}r\bar{e} \bar{f}aci\bar{o}$  was univerbated to  $\bar{a}refaci\bar{o}$ . But despite all this, the univerbation theory is untenable on semantic grounds. A hypothetical  $*\chi\acute{o}\lambda\omega \theta\acute{\eta}\nu$  could only have meant ‘anger (tr)’ (lit. ‘make (to be) with anger’). The factitive meaning implied by an active root aorist  $*\theta\acute{\eta}\nu$  could not be further from the actually attested medio-passive semantics of  $(\acute{\epsilon})\chi\acute{o}\lambda\acute{\omega}\theta\eta\nu$  ‘became angry, was made angry.’ This theory also leaves unanswered the question of the origin of the -η- aorist.

A third possibility is raised by Prévot (1935) in a monograph-length study of the passive aorist(s). Following a lengthy and careful philological examination of verbs that form both an -η- and a -θη-aorist in attested Greek, this scholar concludes that -η- in general (but not always) shows atelic (“aspect indéterminé”), -θη- telic (“aspect déterminé”) semantics. But Prévot’s examples fail to convince. It is exceedingly difficult to detect any consistent difference in meaning whatsoever between the two suffixes. This fact is best demonstrated by example. The following two passages, the first from Herodotus, the second from Thucydides, are claimed by Prévot (1935:32–3) to clearly show telic and atelic semantics respectively:

Hdt.2.81 ὁμολογέουσι δὲ ταῦτα τοῖσι Ὀρφικοῖσι καλεομένοισι καὶ Βακχικοῖσι, ἐοῦσι δὲ Αἰγυπτίοισι, καὶ Πυθαγορείοισι. οὐδὲ γὰρ τούτων τῶν ὀργίων μετέχοντα ὄσιόν ἐστι ἐν εἰρινέοισι εἶμασι θαφθῆναι.

“They agree in this with practices called Orphic and Bacchic, but in fact Egyptian and Pythagorean: for it is impious, too, for one partaking of these rites to be buried in woolen wrappings.” (trans. Godley)

Th.3.58.4 ἀποβλέψατε γὰρ ἐς πατέρων τῶν ὑμετέρων θήκας, οὓς ἀποθανόντας ὑπὸ Μήδων καὶ ταφέντας ἐν τῇ ἡμετέρᾳ ἐτιμῶμεν κατὰ ἔτος ἕκαστον δημοσίᾳ ἐσθήμασί τε καὶ τοῖς ἄλλοις νομίμοις.

“For look upon the sepulchres of your fathers whom, slain by the Medes and buried in this territory of ours, we have yearly honoured at the public charge both with vestments and other rites.” (trans. Hobbes)

Leaving aside the methodological problem of comparing the languages of two different speakers of two different dialects of Greek, removed from each other in time and hailing from different parts of the Mediterranean world, Prévot’s claim that “le voisinage de θήκας garantit dans cet exemple [sc. Th.3.58.4] la valeur d’ état de ταφέντας” seems entirely arbitrary. No less arbitrary is the assertion of Debrunner (1935:855) that “-ην ist terminativ, effektiv, konstatierend, komplexiv, -θην erzählend, ingressiv.” But most importantly, even if there were a subtle distinction in meaning between the two aorist formations that could be established through close and careful reading, there is no guarantee that this minute distinction bears at all on the origins of the two suffixes and is not some secondary nuance of usage.

Given the absence of credible sources for -θην- in Proto-Indo-European and its near, if not total, semantic identity with -ην-, it is clear that a correct understanding of the latter is crucial to a successful explanation of the former. Much has been written about the morpheme -ην- and its Indo-European retroject \*-eh<sub>1</sub>- in recent decades. Harðarson (1998), following a proposal by Bennett (1962; also Cowgill 1963:265f.; Hock 1973:323f; Rix

1976:218; Ringe 1988:97ff.; 1996:56ff., 119ff.), argues for the reconstruction of an ablauting suffix  $-\acute{e}h_1-/-h_1\acute{c}$ . According to these authors, Greek  $\acute{\epsilon}\mu\acute{\alpha}\nu\eta\nu$  ‘went crazy’, OCS  $m\bar{b}n\acute{e}-x\bar{b}$  ‘believed’ and Lith.  $min\acute{e}-jau$  ‘had in mind’ continue an aorist  $*mn(\bar{n})-\acute{e}h_1-$  with zero grade of the root and full grade of the suffix. Evidence for the zero-grade suffix is supplied by a present of the shape  $R(z)-h_1-\acute{i}\acute{o}$ , which is said to stand behind the Indo-Iranian passive in  $*-\acute{i}\acute{a}$ , irregular class iii weak presents of Germanic in which  $*-ai-$  alternates with  $*-ja-$  as a present formant, Greek statives in  $-\acute{\epsilon}\omega$  (said to be from  $*-h_1\acute{i}\acute{o}$ ), Balto-Slavic  $\acute{i}\acute{o}$ -presents that are paired with  $\bar{e}$ -aorists, Tocharian presents in  $-o-$  (class III/IV) and Armenian presents  $-a-$ .

But this theory explains the “ $\bar{e}$ -preterit” at an unacceptable cost, as Jasanoff (1978b; 2002) has argued at length. The existence of an ablauting stem formant  $-\acute{e}h_1-/-h_1\acute{c}$  is a priori unlikely; while an ablauting suffix of this shape might in the abstract recall the optative marker  $*-\acute{i}\acute{e}h_1-/*-ih_1\acute{c}$  or the ablauting nasal-infix  $*-n\acute{e}-/*-n\acute{c}$ , these do not constitute an exact parallel, as they ablaut within their verbal paradigm, whereas  $-\acute{e}h_1-/-h_1\acute{c}$  is stable within its paradigm but shows ablaut across its averbo. There is furthermore no strong evidence for the zero-grade present formant  $*-h_1\acute{i}\acute{o}$  with laryngeal that can be arrived at directly by historical reconstruction. Harðarson’s best argument for this is drawn from a small subset of North- and West-Germanic class iii weak verbs that show an alternating suffix  $*-ja-/*-ai-$  in precisely those persons where the thematic vowel showed  $*-o-$  and  $*-e-$  respectively. Harðarson posits the unproblematic phonological progression  $*(C)h_1\acute{i}\acute{o} > *(C)ja-$  for the former and the unparalleled progression  $*(C)h_1\acute{i}\acute{e} > *(C)\acute{\alpha}\acute{i} > *(C)ai-$  for the latter. As Jasanoff (2002:139f.) points out, the verb  $*ar\acute{j}\acute{a} < *h_2erh_3-\acute{i}\acute{o}$ , which conjugates as a regular class i weak verb, directly falsifies this claim.<sup>2</sup>

Jasanoff’s own theory, building on observations made by Watkins (1971), traces the suffix  $-\bar{e}$  back to the instrumental of root nouns of the shape  $R(z)-\acute{e}h_1$ . These instrumentals were originally used as adverbial predicates and are a reconstructable syntactic feature of the protolanguage. As Hoffmann (1969, 1956:23) has recognized, the

<sup>2</sup>On the phonology of the sequence  $*CH\acute{i}$  in Proto-Indo-European, see especially (Pinault 1982).

phrase *haoma yō gauua*, recurring in various Yašts, is to be translated “(we worship) with haoma who [is] with milk,” so also likely *yōi vohu* (Vr. 11,12) “(the Aməša Spəntas) who [are] with goodness” are instances of instrumental predication.<sup>3</sup>

The Avestan predicate instrumental has a counterpart in Vedic, where the instrumental is generally accompanied by a helping verb (*bhū* ‘be’, *as* ‘be’, *kar* ‘do’, *dhā* ‘put’; see Jasanoff 1978b:123f.; Schindler 1980; cf. Hoffmann 1952b,a). A trace of the older, absolute construction can be seen in adverbial *utī* ‘with help’, historically the instrumental of a *ti*-stem noun *uti-* ‘help’ in e.g. *t<sub>u</sub>vám na ūtī t<sub>u</sub>vam in na ápiyam* (RV VIII 91,1c) “you are with help for us, you are friendship for us” and in adverbial *mṛṣ-ā* ‘in vain’, an instrumental to a root noun *\*mṛṣ-* ‘forgetting’ in e.g. *ná mṛṣā śrāntám yád ávanti devá* (RV I 179,3a) “The exertion that the gods further is not done in vain.” Other instrumental root nouns with quasi-verbal force in Vedic are *gúhā* ‘with concealment’, *dívā* ‘with day’. The evidence is thoroughly reviewed by Balles (2006:245ff.).<sup>4</sup>

In Greek, aorists in *\*-ē-* must have had their start in a relatively small group of root nouns and from here spread analogically until becoming fully productive. In all likelihood, this would have occurred long before the historical period. Nevertheless, a critical examination of the historical record paired with inferences based on known patterns of Indo-European derivational morphology proves revealing. Though the individual core vocabulary items that served as the starting point for the  $\eta$ -aorist are not recoverable (one good candidate is  $\epsilon\mu\acute{\alpha}\nu\eta$  ‘went mad’), it is a priori likely for two reasons that the formation would have first gained footing among roots designating property concepts. The first reason is that root nouns are a typical component of “Caland” derivational systems (Rau 2009:73). The second is that the instrumentals of these root nouns would semantically

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<sup>3</sup>Hoffmann (1969:18) wishes to see the instrumental as attributive rather than predicative. Both were likely possible.

<sup>4</sup>The main difficulty for a theory of nominal origin comes in explaining how forms that were nominal came to function as a finite verb and to bear inflectional endings. Jasanoff (2002:161ff.) proposes a scenario whereby verbal nouns (i.e. infinitives) in *\*-sen* and verbal adjectives in *\*(é)nt-* were formed to adverbially used substantives in *\*-éh<sub>1</sub>*, the result being *\*-eh<sub>1</sub>-sen* (>  $-\eta\nu\alpha$ ) *\*-éh<sub>1</sub>-nt-* (*\*-ē-nt-* >  $-\epsilon\acute{\iota}\zeta$ ,  $-\acute{\epsilon}\nu\tau\omicron\varsigma$ ). To these nominal forms were back-formed finite  $-\eta\nu$ ,  $-\eta\varsigma$ ,  $-\eta$  ...  $-\epsilon\nu$  of attested Greek.



have lent themselves to use as adjectival predicates.

This inference entails the testable hypothesis that that  $\eta$ -aorists, especially those attested in the oldest period, are likely to stand beside other “Caland” derivatives, such as *ro*-adjectives, *s*-stem substantives and *i*-stem nouns. This prediction is born out by the language data, and clear examples include ἐσάπη ‘became rotten’, ἐτράφη ‘congealed, grew strong’ ἐθέρη ‘became hot’, ἐτάρη ‘rejoiced’, ἐτέρση ‘became dry’ (for \*ἐτάρση), ἐδάη ‘learned’ (← \*‘became thick’) and ἐπάγη ‘became frozen, became fixed’, the derivational families of which are given in Table 5.3. And anticipating the conclusions of this appendix, the verb ἐπλή[σ]θη ‘became full’ (pr. πλήθω ‘am full’, πληθύνω ‘make full’, *u*-stem adjective \**pleh<sub>1</sub>-d<sup>h</sup>-ú-* ‘full’ in Ion. πληθύς ‘throng’, *s*-stem substantive Grk. πλήθος ‘crowd’, *ro*-adjective πλήρο- ‘full’, see below) fits this core profile as well.

The extent to which  $\eta$ -aorists participate in systems of nominal derivation is a subtle but important fact that has largely been overlooked. It provides additional, circumstantial evidence that the nominal-origin theory of the morpheme  $-\eta$  is, in fact correct. But, of course, not all attested  $\eta$ -aorists fit this profile, and the reason for this is that the morpheme became productive outside of the “Caland” derivational system, though especially in state-oriented roots with a palpable adjectival character. Because root noun instrumentals were specialized as aorists in Greek, they automatically took on the telic semantics proper to this tense-aspect stem (‘became dry’, ‘became rotten’ etc.). This had the effect of blurring the line between property concepts proper, which denote a relatively stable or permanent state, and state-oriented verbs in general, which might have telic semantics as a lexical property rather than as a function of tense-morphology. This situation would have allowed the ending  $-\eta$  to spread to other, resultative verbs like ἐάγη (Hom.+) ‘broke (intr)’ (: ἄγνυμι ‘break (tr)’, substantivized “Caland” adjective Ved. RV+ *váj-ra-* ‘thunderbolt’), ἐκάη (Hom.+) ‘burned up’ (: καίω ‘burn (tr)’, [ὑπερ]ράγη (Hom.+) ‘was broken’ (: ῥήγνυμι ‘break (tr)’), ἐχάρη (Hom.+) ‘became happy’ (: χαίρομαι), ἐτάρη (Hom.) ‘rejoiced’ (: τέρπω), ἔφάνη (Hom.+) ‘appeared’ (: φαίνομαι, adj. φανερός ‘visible’) and finally to verbs

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<sup>5</sup>With restored \**s* for \**h*, cf. Hsch. δασκόν· δασύ and δασπέταλον· πολύφυλλον.

**Table 5.3:** *η-aorists that participate in a “Caland” system within Greek*

η-aor.		pr.	Caland derivatives
ἐσάπη Hom.+ ‘became rotten’		σήπομαι Hom.+ ‘rot’	adj. σαπρός Ar., Theogn.+ ‘rotten’, root noun σήψ Hp.+ ‘putrifying soar’, Arist.+ ‘venomous serpent’, subs. σηπέδων Hp.+ ‘petrification’
ἐτρέφη (v.l.)+‘congealed, grew strong’	Hom.	τρέφω Hom.+ ‘make thick, rear’	adj. ταρφύς Hom.+ ‘thick’, τραφερός Hom.+ ‘fat’, <i>s</i> -stem subs. τάρφος Hom.+ ‘thicket’, <i>i</i> -stem τρόφικς Hom.+ ‘stout’)
ἐθήρη Hom. ‘became hot’		θέρομαι Hom.+ ‘am warm’	adj. θερμός Hom.+ ‘hot’, <i>s</i> -stem subs. θέρος Hom.+ ‘summer’
ἐτάρη Hom. ‘rejoiced’		τέρπω Hom.+ ‘make rejoice’, τέρομαι Hom.+ ‘rejoice’	adj. τερπνός Hom. (v.l.)+ ‘delightful’, <i>i</i> -stem Hom.+ τερπικέραυνος ‘delighting in the thunderbolt’
τερσηῖναι Hom. ‘dried up’		τέρσομαι Hom.+ ‘become dry’, τερσαίνω Hom. ‘make dry’	τραυλος ‘lispings’ (Lamberterie 1990:701–5), [Ved. <i>tr̥ṣú-</i> ‘dry’, Goth. <i>haur̥sus</i> ‘id.’]
ἐδάη ‘learned’		διδάσκω ‘teach’	adj. δασύς ‘thick’, <sup>5</sup> δαυλός ‘shaggy’, [Lat. <i>densus</i> ‘thick’], <i>i</i> -stem δαί-φρων Hom.+ ‘prudent’, δάσος Men.+ ‘thicket’
ἐπάγη Hom.+ ‘became stiff, became fixed’		πήγυνμι Hdt.+ ‘make solid, fix’	adj. πάγερός D.+ ‘frozen, coagulated’, [Ved. <i>pajrá-</i> ‘fixed’, TochA <i>pākār</i> ‘clear’], ὁ παγετός Hp., Pi.+ ‘ice’, subs. πάγος Hom.+ ‘rock, frost, coagulation’, <i>i</i> -stem παγίς ‘snare’ (cf. πάγι-ο-ς ‘solid’) and subs. πάγη ‘snare’ (cf. πάξ ‘enough!’)
ἐμίγη ‘became mingled’		μίσγω (Hom., Hdt., Pi.) ‘mix’, Att. μείγνυμι ‘mix’	adj. μικτός ‘mixed’, [Ved. <i>mīśra</i> RV+ ‘mixed’, Lith. <i>mīšras</i> ‘id.’], <i>s</i> -stem subs. in ἀ-μιγής ‘unmixed’

Table 5.4: Greek η-aorists by period

χ/-present	nasal present	simple thematic present	other present
ἐβλάβη Hom. + 'was damaged'	βλάβτω	ἐβλάττω	τιμῶτω
διαιτρώμεν Hom. 'broken'	διαιτρώμεν	ἐδάμην Hom. + 'rot'	σπρώμεν
ἐκάτη Hom., Hp., Hdt. 'burned'	κατέω	ἐκάτη Hom. 'rejoiced'	τέρωτω
πλήρη Hom. + 'was struck'	πλήρωσω	ἐπλήρη Hom. 'became hot'	πλήρωμαι
ἐτύτη Hom. + 'was struck'	τύπτω	τεροσήμενα Hom. 'dry up'	τέρομαι
ἐφάνη Hom. + 'appeared'	φάνομαι	ρύθη Hom. + 'flowed'	ρέω
ἐχάρη Hom. + 'rejoiced'	χαίρωμαι	ἐτράφη Hom. (v.l.) + 'congealed'	τρώω
(ἀπ-)ηλλάγη A. + 'escape'	ἀπαλλάσσω	?ἠλπεν Hom.	λάττω
ἐβάρην Hp., P. + 'was dipped'	βάρτω	ἐξάλωγ Pl. (v.l.), J. 'was wiped out'	ἀλείψω
ἐπάρη Hdt., A. + 'was hurried'	πάρτω	ἐβάρην Hp., Anacreont. 'became wet'	βρέχω
ἐκαθάρη Ar. 'was cleaned'	καθαίρω	ἐγράφη Hdt., Pl. + 'was written'	γράφω
ἐκάθη Hdt., Plu. 'was shorn'	καίρω	δρακεῖς Pl. 'having seen'	δέρομαι
(ἐξ-)ελάττω Th. + 'was stolen'	καλέπτω	(ἀπ)εδόρη X. + 'was flayed'	δέρω
ἐκουφεῖς S. + 'was hidden'	κρύπτω	ἐρεπέντι Pl. 'thrown down'	ἐρέτω
ἐμάνη Hdt. S. + 'went mad'	μάνομαι	ἐκλίνην Hp., Pl. + 'leaned'	κλίνω
ἐμασγίνα Pl. 'be kneaded'	μάσσω	ἐλέγη Ar. + 'was said'	λέγω
ἐπάρη Hdt., Luc. + 'was pierced'	πάρτω	ἐλάττω Ar. 'hatch'	λάττω
ἀν-επιτύγη Hp. 'was folded'	επιτύσσω	συνεπλάκη/συνεπλάκη 'became conjoined'	πλένω
ἐπράρη E. (v.l.) D. 'was stitched'	πράπτω	ἐπλάκη Hp., D. + 'was twined'	πλένω
ἐπράρη E., Pl., Sositri. 'was thrown'	πρίπτω	ἀπο-σάληνα Ar. + 'dry up'	σάλλω
?(ἀπ-)εσπώνη X., Plu. 'went'	σπύω	σπράθη Sol., Hdt. + 'turned'	σπρώω
(κατ-)εσπάρη S. + 'was dug'	σκάπτω	τράρη A. + 'turned'	τρώω
εστάλη Pl. + 'made ready'	στάλω	(δι-)ετράθη Hdt., Pl. + 'was worn down'	τρώω
ἐστάλη Pl. + 'was slaughtered'	στάλω	?ἐπι-τρώθη Ar. 'burned up'	τρώω
ἐσφάλη Hdt., S. + 'tripped'	σφάζω	ἐφλέγη Luc. + 'was burnt'	φλέγω
ἐτάγη E. + 'was arranged'	τάσσω	ἐφρώγη Hp., Dsc. + 'was roasted'	φρώω
ἐτάθη A. + 'melted'	τήνω	ἐψύγη A. 'became cool'	ψύγω
ἐφθάρη Hdt. + 'was destroyed'	φθείρω		
ἠγγέλην E. (v.l.), Plu. + 'was announced'	ἠγγέλλω	ἠγούγη Ael. + 'was carved'	γύρω
ἠρπάγη Lyc. + 'was snatched'	ἠρπάζω	ἀναπαρήνα Choerob. + 'ceased'	παύω
βασταγήνα Artem. 'be carried'	βαστάζω	ἐπνύγη Batr. + 'was strangled'	πνύω
εὐάγηνα Malal. 'roll'	εὐάτω	(ἀπ-)έσφυγη Luc. 'was burnt'	σφύω
ἀποκατόνηνα Gal. 'be slain'	κατένω	ἐφώρη Aret., Luc. 'was mixed'	φώωμαι
ἐνούγη Chrysipp.Stoic. + 'was pushed'	νύσσω		
ὠρούγη Origen + 'was dug'	ὠρύσσω		
ἀνοσσεῖς Str. 'shaken'	πάλλω		
ἐπύρη Pl.Ax. 'became frightened'	πύρωμαι		
(ἐπ-)εστέτη LXX 'was surveyed'	στέπτωμαι		
ἐστέτη Dsc. 'dripped'	στέζω		
ἐσώρη Luc. + 'was drawn'	σώρω		
ἐφράγη N.T. 'was stuffed'	φράσσω	[ἐφράγη N.T. 'was stuffed']	φράσσωμαι

with less-adjectival character like ῥύη (Hom.+) ‘flowed’ (: ῥέω ‘flow’), ἐδάμη (Hom.+)  
 ‘was mastered’ (: δάμνημι ‘master, subdue’), ἐσβη (Hom.+) ‘was extinguished’ [ $< *g^us-e$ ]<sup>6</sup>  
 (: σβέννυμι ‘extinguish’). It is striking that so many of the actually attested forms (Table  
 5.4) do have the quasi-adjectival character that the denominal theory predicts.

These considerations render the root-noun approach superior to the deverbal approach. Nominal origin explains the form, morphological context and the meaning of the Greek “passive” aorist far better than does an approach that seeks to reconstruct a primary derivational morpheme  $*-éh_1-$  within the verbal system of the protolanguage. It is now time to combine this conclusion—a justified commitment to the nominal-origin theory—with the observations made above that that the Greek  $\vartheta\eta$ -aorist, which has no cognate formation in any other Indo-European language, arose from the synonymous  $\eta$ -aorist, which enjoys an Indo-European pedigree. In other words, it is with the understanding that the  $\eta$ -aorist is of nominal origin that the  $\vartheta\eta$ -aorist should be approached.

Most attempts to derive the  $\vartheta\eta$ -aorist from the  $\eta$ -aorist take a verb-oriented approach. Risch (1974:253f.), for instance, suggests that the morpheme  $-\vartheta\eta-$  arose through a morphological reanalysis of the passive aorist  $*púth̄-e$  ‘rotted’ as  $*pú-th̄e$  ‘id.’, an aorist form theoretically associated with πύθομαι ‘rot’ and formally comparable to aor. ἐσάπην ‘rotted’ (: pr. σήπομαι). Because this new passive aorist was counterposed to a sigmatic aorist ἔπυσα ‘made rot’, the pattern was extended to the “bedeutungsähnlich” verb ἔλυσα ‘loosed’, whence passive ἐλύ- $\vartheta\eta$ ν ‘was loosed’, and continued to spread until it had become fully productive. But Risch’s theory, as presented, is beset with problems. The first of these is the non-existence of the crucial bridge form ἐπύ $\vartheta\eta$ ν\*. The second is the rarity and likely innovative character of the sigmatic aorist ἔπυσα (p. 25) that, according to Risch, played a pivotal role in the initial analogical spread of the morpheme. Finally and perhaps most importantly, this scenario does little to explain the preference for full grade of the root in  $\vartheta\eta$ -aorist formations.

Peters (2004), who also takes a verb-oriented approach, sees the starting point for the

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<sup>6</sup>See (Jasanoff 2008).

$\vartheta\eta$ -aorist in the third person singular middle of the sigmatic aorist. According to Peters, sigmatic aorists with the ending  $^{(*)\circ}C\text{-s-to} > ^{\circ}C^{(h)}t^ho$  were remodelled to  $^{\circ}C^{(h)}t^h\bar{e}$  under the influence of the  $\eta$ -aorist. So, for example,  $^*é\text{-pek-s-to}$  ‘combed, carded’ (Grk.  $\pi\acute{\epsilon}\chi\omega$ ) would regularly have given  $^*é\text{-pek}^h\text{-}t^ho$ , which, rather than being preserved unaltered or being repaired to  $^*é\text{-pek-to}$ , was remade to  $^*e\text{-pék}^h\text{-}t^h\bar{e}$ , ostensibly the contamination product of  $^*é\text{-pek}^h\text{-}t^ho$  and  $^*e\text{-pék}\text{-}\bar{e}$  (my example). This ending then spread to the rest of the paradigm and ultimately became productive, being used also with root aorists and other forms that never ended in an aspirate cluster. This theory has the advantage that it explains the full-grade root vocalism that is associated with the  $\vartheta\eta$ -aorist as deriving from the medial sigmatic aorist and that it allows for a recent origin of the formation, which, as Peters emphasizes, is not attested in Mycenaean.

But Peters’ theory suffers from drawbacks as well. The transformation  $^{*\circ}C^{(h)}t^ho \rightarrow ^{\circ}C^{(h)}t^h\bar{e}(-)$  is difficult to motivate. For Schwyzler (*Gr.Gr.* I:762), who anticipates Peters in deriving the  $\vartheta\eta$ -aorist from the third person middle of the *s*-aorist, it is the presence of Wackernagel’s (1890) 2sg. mid.  $^{*\circ}C^{(h)}\text{-}t^h\bar{e}s$  beside 3sg.  $^{*\circ}C^{(h)}t^ho$  that facilitated the change to 3sg.  $^{*\circ}C^{(h)}t^h\bar{e}$ . But as argued above, it is highly unlikely that Greek ever possessed such a second singular ending. In the absence of this, the putative transformation is undermotivated. The other problem is that Mycenaean already offers an instance of alpha-thematic sigmatic *de-ka-sa-to* /*deksato*/ (KN Le 641, PY Pn 30, *de-ka-sa*[ KN Fh 370) ‘received’, which poses chronological problems if the  $\vartheta\eta$ -aorist is a relatively new, likely post-Mycenaean creation. In addressing this problem, Peters tentatively proposes that older /*-sto*/ remained in use beside innovative /*-sato*/ and suggests that the former was used as a passive marker and the latter as a middle marker.<sup>7</sup>

A final approach in the secondary literature sees in  $-\vartheta\eta$ - a combination of the present suffix  $-\vartheta\eta\text{-}$  and the  $-\eta\text{-}$  of the passive aorist. This possibility is considered by Curtius (1877 II:371f.) and taken up by Chantraine (1925:105f.). According to Chantraine (who is

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<sup>7</sup>Peters points to *de-ko-to* (PY Cn 600; KN Le 642), which may represent /*deksto*/ ‘received’ (unlikely ‘was received’) but has also been taken to be an anthroponym, see further (Auro Jorro 1985:165).

followed in his analysis by Prévot 1935), it was the supposedly telic semantics of the suffix  $-\vartheta\eta\varsigma$ - that led to its becoming contaminated with the  $\eta$ -aorist to produce the  $\vartheta\eta$ -aorist. At the same time, Chantraine also accepts Wackernagel’s hypothesis of a 2sg. ending  $-\vartheta\eta\varsigma$  and proposes that the two factors conspired to produce the attested system. As this dissertation has shown, the suffix  $-\vartheta\eta\varsigma$ - did not have telic semantics.

While Chantraine’s analysis is untenable as stated, a stronger case could be made for this general approach using facts outlined in the body of this dissertation. First,  $\vartheta\eta$ -presents and  $\eta$ -aorists notably shared the quality of being active deponents. Second,  $\vartheta\eta$ -presents lacked aorists, and the application of a suffix  $-(\vartheta)\eta$ - could have provided a strategy for creating the missing aorists when the Greek verbal system came to demand fuller averbos. Third, taking  $\vartheta\eta$ -presents as a starting point easily motivates the fact that many  $\vartheta\eta$ -aorists show full-grade of the root, which was regular in  $\vartheta\eta$ -presents. But the insurmountable problem inherent to this approach is that  $\vartheta\eta$ -aorists are not regularly paired with  $\vartheta\eta$ -presents, as Wackernagel (1890:303f.) emphasizes. The first examples begin to appear only in the fifth century; in Plato we find passive  $\tau\acute{\alpha} \nu\eta\vartheta\acute{\epsilon}\nu\tau\alpha$  ‘spun things’ beside  $\nu\acute{\eta}\vartheta\omega$  ‘spin.’ In a fragment of the historian Pherecydes we find  $\sigma\upsilon\nu\epsilon\sigma\chi\acute{\epsilon}\vartheta\eta$ , apparently remade from  $\sigma\upsilon\nu\acute{\epsilon}\sigma\chi\epsilon\vartheta\epsilon$ .

All of the approaches outlined above remain within the verbal domain. But as nominal origin of the  $\eta$ -aorist is highly likely, this means that a parallel origin for  $\vartheta\eta$ -aorists might profitably sought in the nominal domain as well. A denominal approach is taken by Jasanoff (2002:166), who attractively proposes that the construction began via a reanalysis of the root noun instrumental (pre-)PGrk.  $*pl\bar{e}t^h-\bar{e}$  ‘was full’ <  $*pleh_1-d^h-\acute{e}h_1$  ‘with fullness’. The primitive root  $*pleh_1$  ‘fill’ (*LIV*<sup>2</sup> 482–3; *IEW* 798–800) had property-concept semantics appropriate to form “Caland” derivatives in the protolanguage, and indeed a property-concept adjective  $*pleh_1-ro-$  can be reconstructed on the basis of Lat. *plērus* ‘many, for the most part’ and stands behind the derived *i*-stem subs. Arm. *lir* ‘multitude’ (<  $*pleh_1-ri-$ ) and the Greek adjective  $\pi\lambda\acute{\eta}\rho\eta\varsigma$  ‘full’.<sup>8</sup>

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<sup>8</sup> Grk.  $\pi\lambda\acute{\eta}\rho\eta\varsigma$  likely represents a contamination of PGrk.  $*pl\bar{e}ros$ , implied by  $\pi\lambda\eta\rho\acute{o}\omega$  ‘fill’ and

Jasanoff’s proposal would necessarily remain speculative were it not for the fact, emphasized above, that the  $\eta$ -aorist of Greek not only is likely to be of nominal origin but specifically that it shows clear signs of being associated with “Caland” derivational systems just like the one that is unambiguously reconstructible for  $*pleh_1 \sim *pleh_1-d^h$  within the late protolanguage. As discussed in the main body of this dissertation, this root formed a  $d^h$ -present  $*pléh_1-d^h$  ‘be full’ (Grk.  $\pi\lambda\acute{\eta}\theta\omega$  ‘am full’), from which speakers falsely inferred, for the purposes of derivational morphology, a neo-root  $*pleh_1d^h$  with roughly the same meaning as  $*pleh_1$ . The neo-root  $*pleh_1d^h$  was exploited to form further “Caland” derivatives for which  $*pleh_1$  was structurally ill-suited. These are recoverable via the comparative method and include an  $s$ -stem  $*pléh_1-d^h-es$  ‘fullness’ (Grk.  $\pi\lambda\acute{\eta}\theta\omicron\varsigma$  ‘crowd’) to take the place of  $*pléh_1(e)s$ - (see fn. 8) and the  $u$ -stem adjective  $*pleh_1-d^h-ú$  ‘full’ that is implied by Ion.  $\pi\lambda\eta\theta\acute{\upsilon}\varsigma$  ‘throng’ (<  $*pleh_1-d^h-ú-h_2$ , cf. also  $\pi\lambda\eta\theta\acute{\upsilon}\nu\epsilon\tau\alpha$  ‘abounds’) and by Lat.  $plēbēs$  ‘common people’ (p. 81). Proto-Greek  $*plēt^h-ē$  ‘became full’ would have fit in neatly beside verbs like  $*pag-ē$  ‘became fixed, frozen’, and  $*tars-ē$  ‘became dry’ that shared the same semantic and derivational-morphological profile.

Because Greek inherited both a stem  $*plē$  and a stem  $*plēd^h$ ,<sup>9</sup> a resegmentation of  $*plēt^h-ē$  as  $*plē-t^hē$  would of course have been trivial. The root aorist middle  $\pi\lambda\acute{\eta}\tau\omicron < *plē-to < *plēh_1-tó$ , which was the verbal semantic equivalent of nominal  $*plē-t^hē$ , was likely key to this morphological reanalysis. And though it is impossible to reconstruct in detail the spread of the morpheme in early Greek, it is easy to see how the existence of resegmented  $*plē-t^hē$  ‘became full’ would have carried with it the enticing, purely formal, suggestion that a suffix  $*-t^hē$ , an allomorph of  $*-ē$ , could be pressed into use with verbs that ended in a vowel and for which simple  $*-ē$  could not felicitously be used.

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$\pi\lambda\acute{\eta}\rho\omicron\phi\omicron\rho\acute{\epsilon}\omega$  ‘fulfil’, and the compound second-member  $s$ -stem PGrk.  $*-plēs < *-pléh_1-(e)s$ , found also in Lat.  $locu-plēs$  (otherwise Nussbaum 2016 who takes Lat.  $-plēs$  as analogical). Other examples of adjectives in  $-ro-$  to roots of this shape include  $*st(e)h_2-ro-$  ‘firm’ (Ved.  $sthīrá$  ‘firm’, OHG  $star$  ‘rigid’, Lith.  $stóras$  ‘thick’, OCS  $starъ$  ‘old’) and  $*sp(e)h_2-ro-$  ‘vigorous’ (Ved.  $sphīrá-$  ‘fat’, OCS  $sporъ$  ‘rich, thick’, Lat.  $prosperus$  ‘favorable’).

<sup>9</sup>Cf. the stem allomorphy in Germanic  $*sta / *sto \sim *stad / *stod$  and the morphological confusion that resulted from this, p. 127.

The group of verbs that suffered from this structural disadvantage would notably have included the large class of denominatives in  $*\bar{a}-\dot{\lambda}^e/o-$ ,  $*\bar{e}-\dot{\lambda}^e/o-$  and  $*\bar{o}-\dot{\lambda}^e/o-$  that not only ended in a vowel but also lacked inherited aorists. Thus a verb  $\kappa\omicron\mu\acute{\alpha}\omicron\mu\alpha\iota$  ‘sleep’ could conveniently be outfitted with an aorist  $\acute{\epsilon}\kappa\omicron\mu\acute{\alpha}\mu\eta\theta\eta\nu$  (Hom.+) ‘slept’ or a verb like  $\chi\omicron\lambda\acute{o}\omicron\mu\alpha\iota$  ‘am angry’ with  $\chi\omicron\lambda\acute{\omega}\theta\eta\nu$  (Hom.+) ‘became angry’ (cf.  $\chi\omicron\lambda\omega\text{-}\tau\acute{o}\varsigma$  ‘angry’). The same morphological strategy would likely also have been extended to denominals to stems in final consonant, which, like the former, lacked associated aorists in the earliest period. Thus to  $(\tau\epsilon\lambda\acute{\epsilon}\omicron\mu\alpha\iota <)$   $*teles-\dot{\lambda}^e/o-$  ‘come to completion’ would have been made (Hom.+  $\tau\epsilon\lambda\acute{\epsilon}\sigma\theta\eta <)$   $*teles-t^h\bar{e}-$  ‘came to completion’, to  $(\chi\alpha\lambda\acute{\upsilon}\pi\tau\omega <)$   $*kalup^h-\dot{\lambda}^e/o-$  ‘is hidden’ an aorist (Hom.+  $\chi\alpha\lambda\acute{\upsilon}\phi\theta\eta <)$   $*kalup^h-t^h\bar{e}-$  and to  $(\pi\eta\mu\acute{\alpha}\nu\omega <)$   $*p\bar{e}man-\dot{\lambda}^e/o-$  ‘ruin’ an aorist (Hom.+  $\pi\eta\mu\acute{\alpha}\nu\theta\eta <)$   $*p\bar{e}man-t^h\bar{e}-$ . From denominals in  $*-\dot{\lambda}^e/o-$ , the the morpheme  $*-t^h\bar{e}-$  could easily spread to other types of  $\dot{\lambda}^e/o-$ -presents. In this way, primary presents in  $-\acute{\alpha}\nu\omega$  ( $< *-\eta h_2-\dot{\lambda}^e-$ ) like  $\iota\acute{\alpha}\nu\omega$  ‘heat’ ( $< \text{PIE } *His-\eta h_2-\dot{\lambda}^e-$ ) and  $\acute{\upsilon}\phi\acute{\alpha}\nu\omega$  ‘weave’ ( $< \text{PIE } *ub^h-\eta h_2-\dot{\lambda}^e-$ ) came to form the “passive” aorists  $\iota\acute{\alpha}\nu\theta\eta$  (Hom.+), and  $\acute{\upsilon}\phi\acute{\alpha}\nu\theta\eta$  (Hdt.+), on the model of  $\pi\eta\mu\acute{\alpha}\nu\omega$  :  $\pi\eta\mu\acute{\alpha}\nu\theta\eta$ , while the entire, innovative class of deadjectival verbs in  $-\acute{\upsilon}\nu\omega <$  PGrk.  $*-un-\dot{\lambda}^e/o-$  came to form “passive” aorists in  $-\acute{\upsilon}\nu\text{-}\theta\eta-$  (Homer:  $\iota\theta\acute{\upsilon}\nu\theta\eta$ ,  $\beta\alpha\rho\upsilon\nu\theta\epsilon\iota\varsigma$ ,  $\acute{\alpha}\rho\tau\acute{\upsilon}\nu\theta\eta$ ).<sup>10</sup>

It is a well-known fact that aorists in  $-\theta\eta-$  frequently share a stem with verbal adjectives in  $-\tau\acute{o}-$ . This association likely belongs to a later stage in the spread of the suffix than those so-far described and arose through analogy. So for instance deinstrumental  $\chi\omicron\lambda\omega\text{-}\tau\acute{o}\varsigma$  (Hom.) ‘angry’ beside  $\acute{\epsilon}\chi\omicron\lambda\acute{\omega}\text{-}\theta\eta$  (Hom.) ‘became angry’ meant that a  $\delta\mu\eta\text{-}\tau\acute{o}\varsigma$  ‘subdued’ (Hom.+  $\acute{\alpha}\text{-}\delta\mu\eta\tau\omicron\varsigma$ ) could suggest  $\acute{\epsilon}\delta\mu\acute{\eta}\theta\eta$  (Hom.+), which would come to compete with older  $\acute{\epsilon}\delta\acute{\alpha}\mu\eta$  (Hom.+), that  $\chi\upsilon\text{-}\tau\acute{o}\varsigma$  (Hom.+), ‘poured’ could give rise to  $\chi\acute{\upsilon}\text{-}\theta\eta$  (Hom.) ‘was poured’ and that  $\phi\theta\iota\text{-}\tau\acute{o}\varsigma$  (Hom.+  $\acute{\alpha}\phi\theta\iota\tau\omicron\varsigma$ ) ‘dead’ could give rise to  $\phi\theta\acute{\iota}\text{-}\theta\eta$  (Hom.) ‘perished’.

Finally, the paragogic  $-\sigma-$  that finds its way into the “passive” aorist formations that functioned oppositionally to sigmatic aorists would have ultimately originated in

<sup>10</sup>On the verbal derivational suffix  $*-\eta h_2-\dot{\lambda}^e-$  see (Jasanoff *HIEV*:122–6).



s-stem denominals like *\*teles-ǰ̥/o-* ‘come to completion’ : *\*teles-t<sup>h</sup>ē-* ‘came to completion’ discussed above. Beside the “passive” aorist ἐτελέσθη, Greek also came to form an active-factitive aorist ἐτέλεσσε (> Att.-Ion. ἐτέλεσε) ‘brought to completion’. After the reduction of geminates in Proto-Attic-Ionic (and Proto-Arcado-Cyprian), verbs like ἐτελέσθη appeared to consist of the characterized stem of the sigmatic aorist followed by the suffix -θη-. This led to the productive pattern for the generation of “passive” aorists from sigmatic aorists and the creation of such forms as ἐδάμασθη (Hom.+ ‘was subdued’ (: ἐδάμασα Hom.+ ‘subdued’), ἐπετάσθη ‘was spread out’ (: ἐπέτασα Hom.+ ‘spread out’) and ἐσπάσθη (Hom.+ ‘was drawn’ (: ἔσπασα Hom.+ ‘drew’).<sup>11</sup>

Though much more could be said about the individual forms and averbo patterns associated with passive aorists and about analogical influences that individual verbs and classes of verbs exerted on each other through time, this is not the place to do so. I hope, however, in this appendix to have made a modest contribution to the nominal-origin theory of the η-aorist and most importantly to have made probable that ǰ̥/o-presents are related to ǰ̥η-aorists not as a class, but rather indirectly via a single nominal form *\*plē-t<sup>h</sup>-ē*.

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<sup>11</sup>In the verb ἐπλή[σ]θη ‘became full’ itself, which I have maintained was fundamental to the creation of the ǰ̥η-aorist, the unetymological -σ- would have been introduced at some later date via this process in order to align the morphology of the “passive” aorist with that of the sigmatic aorist ἐπλήσα (Hom.+ ‘filled’).

## Appendix II: List of *d<sup>h</sup>*-presents discussed in this work

### Greek

αΐθω ‘blaze (tr/intr)’, 20  
ἀλήθω ‘grind’, 42  
Ἄρεθουσα PN, 32  
ἄχθομαι ‘am vexed’, 33  
βαρῦθω ‘am heavy’, 53  
βρεμέθω ‘roar’, 38  
βρίθω ‘am heavy’, 51  
γῆθω/γηθέω ‘rejoice’, 22  
\*δέρθω ‘sleep’, 58  
ἐμέθω ‘vomit’, 33  
ἐρέχθων ‘tear’, 27  
θαλέθω ‘bloom’, 31  
ἠγερέθοντο ‘gathered (intr)’, 47  
ἠερέθονται ‘are suspended’, 47  
κλώθω ‘spin’, 55  
κνήθω ‘scratch’, 41  
λήθω ‘lie hidden, escape notice of’, 21

?\*μένθω ‘understand’, 59  
μινῦθω ‘diminish (tr/intr)’, 44  
νεμέθοντο ‘were feeding (intr)’, 48  
νήθω ‘spin’, 40  
πελάθω ‘draw near’, 30  
πλήθω ‘am full’, 28  
πύθομαι ‘rot’, 25  
σήθω ‘sift’, 41  
τελέθω ‘am, become’, 29  
φάέθων ‘shining’, 38  
φθινῦθω ‘diminish’, 42  
φλεγέθω ‘burn (tr/intr)’, 36  
χρεμέθω ‘whinny’, 36

### Sanskrit

*édha-te* ‘thrive’, 68  
*márdha-ti* ‘be neglectful’, 71

*sādha*-<sup>ti/te</sup> ‘be successful, bring to a successful conclusion’, 68  
*sédha*-<sup>ti</sup> ‘repel’, 70  
*plätk* ‘swell up’, 96  
*snätk* ‘permeate’, 95

### Avestan

-*x<sup>v</sup>abda*-<sup>ti/te</sup> ‘sleep’, 75  
*frāda*-<sup>ti/te</sup> ‘further’, 72  
*raōda*-<sup>ti</sup> ‘flow’, 73

### Latin

[*nūbēs* ‘cloud’, 84]  
[*plēbēs* ‘throng’, 81]  
*renīdeō* ‘shine’, 85  
[*tābēs* ‘wasting away’, 83]

### Welsh

*cwyđaw* ‘fall’, 79  
*tođi* ‘melt, thaw’, 78

### Armenian

*ayrem* ‘burn’, 87

### Tocharian

*kāṭk* ‘rejoice’, 94  
*pyutk* ‘come into being’, 95

### Lithuanian

*čiaudmi* ‘sneeze’, 106  
*ėrdėju* ‘disintegrate’, 105  
*giedmi* ‘sing’, 108  
*kliedmi* ‘talk nonsense’, 109  
*merdmi* ‘lie dying’, 104  
*pėldu* ‘save (money), regret’, 106  
*skėldu* ‘burst open (intr)’, 107  
*skrendù* ‘fly’, 108  
*svėrdu* ‘totter’, 106  
*vėrdu* ‘boil (tr/intr)’, 102  
*veldmi* ‘rule’, 105  
*žiedėju* ‘bloom’, 107

### Old Church Slavonic

*bǫdǫ* ‘become’, 119  
*jadǫ* ‘go by conveyance’, 115  
*kladǫ* ‘put’, 123  
*kradǫ* ‘steal’, 122  
*vladǫ* ‘rule’, 121

### Russian

*udut* ‘are ripe’, 122

**Germanic**

\**wal-d-i/a-* 'have power, rule', 124

\**sta-n-d-i/a-* 'stand', 126

# Bibliography

## Abbreviations for Works Cited

<i>AGGS</i>	see Kühner and Gerth (1966)
<i>AiG</i>	see Wackernagel and Debrunner (1896–1957)
<i>DELG</i>	see Chantraine et al. (1968)
<i>DGE</i>	see Adrados (1980–)
<i>eDIL</i>	see Toner (2019)
<i>ESSJa</i>	see Zhuravlev and Trubachev (1974–)
<i>EWAia</i>	see Mayrhofer (1992–2001)
<i>GEW</i>	see Frisk (1960–1972)
<i>GOI</i>	see Thurneysen (1949)
<i>Grd.<sup>2</sup></i>	see Brugmann (1897–1916)
<i>HED</i>	see Puhvel (1984–2013)
<i>HIEV</i>	see Jasanoff (2003)
<i>IEW</i>	see Pokorny (1959)
<i>KEWA</i>	see Mayrhofer (1956–1980)
<i>LEIA</i>	see Vendryes et al. (1959–)
<i>LIV<sup>2</sup></i>	see Rix (2001)
<i>LIV<sup>2</sup> add.</i>	Addenda und Corrigenda zu <i>LIV<sup>2</sup></i>
<i>LKŽ</i>	see Balčikonis and Naktinienė (2017)
<i>LSJ</i>	see Liddell et al. (1968)

Schwyzzer <i>Gr.Gr.</i>	see Schwyzzer (1950–1953)
Vaillant <i>Gr.</i>	see Vaillant (1950–1974)
<i>VIA</i>	see Werba (1997)
<i>VKG</i>	see Pedersen (1909)
<i>WH</i>	see Walde and Hofmann (1938)
<i>WP</i>	see Walde and Pokorny (1973)

## Journal Abbreviations

<i>HS</i>	Historische Sprachforschung
<i>IF</i>	Indogermanische Forschungen
<i>JAOS</i>	Journal of the American Oriental Society
<i>KZ</i>	Zeitschrift für vergleichende Sprachforschung auf dem Gebiete der Indogermanischen Sprachen
<i>MSS</i>	Münchener Studien zur Sprachwissenschaft
<i>PBB</i>	Beiträge zur Geschichte der deutschen Sprache und Literatur
<i>ZDMG</i>	Zeitschrift der Deutschen Morgenländischen Gesellschaft

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