

## A. AUFSÄTZE

### “Stative” \*-ē- revisited

§1. In my 1978 monograph *Stative and Middle in Indo-European* (Jasanoff 1978; henceforth *SMIE*) I discussed the problem of “ē-verbs” or “ē-statives” around the IE family. “ē-verbs” are stative, inchoative, or passive verb forms whose salient morphological characteristic is a suffix reconstructible as \*-ē- < \*-eh<sub>1</sub>-. Uncontroversial reflexes of this morpheme are found in seven branches of the family:

**Italic.** In Latin, stative presents in -ē- may be deverbative, as in *habēō*, -ēre ‘have’ (= Umbr. *habetu* ‘habeto’), *manēō*, -ēre ‘remain’, *taceō*, -ēre ‘be silent’; or denominative, as in *rubeō*, -ēre ‘be red, blush’, *areō*, -ēre ‘be dry’, *seneō*, -ēre ‘be old’.<sup>1</sup> Denominative statives in -eō, -ēre are productively accompanied by inchoatives in -ēscō, -ēscere (cf. *rubescō* ‘turn red’, *areōscō* ‘grow dry’, *senescō* ‘grow old’). Stripped of their verbal inflection, the stems of such verbs may combine with *faciō* ‘do’ to form a periphrastic factitive (cf., e.g., *are-faciō* ‘make dry’, with tmesis in 3 sg. *facit are*) or serve as the basis for the creation of nominal forms (e.g., *area* ‘threshing space’, *acetum* ‘vinegar’ (: *aceō* ‘be sharp’), *rubēta* ‘kind of (reddish) toad’).

**Anatolian.** Hittite has a residual class of denominative statives in -e- (-ē-) (e.g., 3 sg. *maršezi* ‘is false’ (: *marša-*), *tannattezzi* ‘is desolate’ (: *tannatta-*)); related to these are the productive and very common inchoatives or “fientives” in -eš- (e.g., *maršeši* ‘becomes false’, *tannatteši* ‘becomes desolate’, *šalleši* ‘grows great’ (: *šalli-*), etc.).<sup>2</sup>

**Greek.** Greek presents two quite separate groups of forms: 1) denominative contract verbs with presents in -έω (for \*-ήω) and futures and aorists in -ησ- (e.g., *ἀνθέω*, -ήσω, -ησα ‘be in bloom’ (: *ἄνθος* ‘flower’), *θαρσέω* (-ησ-) ‘have courage’ (: *θέρπος* ‘courage’, *θαρσός* ‘bold’), *θαμβέω*

<sup>1</sup> The clarity with which this distinction is now made, not only in Latin and Italic but in PIE itself, is due to Watkins (1971).

<sup>2</sup> The Hittite type *maršezi*, *tannattezi*, etc. was discovered by Watkins (1971: 72 ff.).

(-ησ-) 'be amazed' (: θάμβος 'amazement'); and 2) non-denominative intransitive ("passive") aorists in -η- built to primary verbs (e.g., ἐμάνην 'went mad' (: pres. μείνομαι 'rage'), ἐ(φ)άγγην 'broke (intr.)' (: pres. (φ)άγγυμι 'break (tr.)'), ἐρρόνην 'flowed' (: pres. ῥέω 'flow')). Inner-Greek offshoots of the aorist in -η- include the "normal" aorist passive in -θη- (e.g., ἐλέχθην 'was said', ἐφιλήθην 'was loved'), the passive/intransitive future in -(θη)σ- (ῥηθήσομαι, ληθήσομαι, etc.), and the perfect in -(η)κ- (μεμάνημαι, ἐρρόηκα, etc.).

Slavic. Old Church Slavonic has both denominative and deverbative *ē*-verbs. Denominatives, more often inchoative than stative, have presents in -ějō, infinitives in -ěti, and aorists in -ěxb (e.g., starějō, -ěti, -ěxb 'grow old' (: starb 'old'), bogatějō 'get rich' (: bogatb 'rich'), cělějō 'become healthy' (: cěl̃b 'healthy')). Deverbatives likewise have infinitives in -ěti and aorists in -ěxb, but form their presents with an etymologically unclear suffix -i- < \*-i- (e.g., bŕžďō (3 sg. bŕditi), -ěti 'be awake', mbnjō, -ěti 'think', pri-lbpljō, -ěti 'adhere').

Baltic. The situation in Lithuanian is similar to that in Slavic. Denominative inchoatives and statives have presents in -ėjū, infinitives in -ėti, preterites in -ėjau (< \*-ējā-), and futures in -ėsiu (e.g., senėjū, -ėti, -ėjau, -ėsiu 'grow old' (: sėnas 'old'), jaunėjū, -ėti 'get younger' (: jáunas 'young'), storėjū, -ėti 'get fat' (: stóras 'fat'). Deverbative statives inflect like denominatives in the infinitive, preterite, and future, but have presents in -i- < \*-i- (e.g., budžiù (3 p. bŭdì), -ėti 'be awake', miniù, -ėti 'mention', turiù, -ėti 'have'). Infinitives in -ėti are also found beside presents of other types (e.g., švitù (3 p. švita), -ėti 'flicker', OLith. merdmi, -ėti 'be on the point of dying', etc.).

Celtic. *ē*-verbs are not a synchronic category in Celtic, but have left a clear reflex in OIr. *ruidid*, *ruidi* 'blushes', forming a word equation with Lat. *rubēre*, Lith. *rūdėti* 'rust', OCS *rděti se* 'blush', and OHG *rotēn* 'turn red'.

Germanic. Both deverbative and denominative statives and inchoatives in Germanic are characterized by an etymologically problematic suffix \*-ai-/\*-(j)a- (e.g., deverbative Go. 3 sg. *habaiþ* 'has' (= OHG *habēt*), Go. *þahaiþ* 'is silent' (= OHG *dagēt*), Go. *munaiþ* 'has in mind' (= OHG *fir-monēt* 'despises'); denominative Go. *fastaiþ* 'fasts' (= OHG *fastēt*; cf. *\*fasta-* 'firm, fast'), Go. *armaiþ* 'has pity' (= OHG *(bi-)armēt*; cf. *\*arma-* 'miserable')). The only unambiguous reflexes of \*-ē- are in nominal forms like Go. *armaio* 'mercy' (< \*-ējā) and *faheþs* 'joy' (cf.

OHG *gi-fagēt* 'rejoices'), the former recalling Lat. *ārea* (cf. above) and the latter the Balto-Slavic infinitive type in \*-ēti.

Putative reflexes of *ē*-verbs in the other IE languages, such as the Armenian passives and deponents in -i- (e.g., *berim* 'I am carried', *unim* 'I have') and the Tocharian class III/IV presents in A -a- and B -e/-o- (e.g., A *wikatär*, B *wiketär* 'disappears', A *wakatär*, B *wokotär* 'breaks (intr.)') will be dealt with as they arise in the discussion below.

§2. A great deal has been written about *ē*-verbs over the past century, most of it long since rendered obsolete by the advent of the laryngeal theory and other refinements in our knowledge of PIE phonology and morphology. At the time *SMIE* was written in the 1970's, the theory of \*-ē- that seemed most in need of critical attention was a view held by the late Warren Cowgill (see Cowgill 1963: 265 f., based in part on Bennett 1962), and subsequently elaborated by his students Hans Hock (1973: 332 f.) and Donald Ringe (1988-90: 87 ff.; 1996: 56 ff., 119 ff.). According to the "Cowgill school," PIE \*-eh<sub>1</sub>-, with zero grade \*-h<sub>1</sub>-, was an aorist suffix which retained its original value in Greek (cf. ἐμάνην) and, extended by further material, in Slavic (cf. *mbněxb* < \*-ē-s-) and Baltic (cf. *minėjau* < \*-ē-jā-). Such "ē-aorists" were said to have given rise to two kinds of derived presents. In the later and more transparent type, \*-jé/ó- was added to the full-grade aorist suffix \*-eh<sub>1</sub>-, producing the suffix complex \*-eh<sub>1</sub>-jé/ó- ("\*-ējé/ó-") seen, e.g., in the Latin statives of the second conjugation and the Balto-Slavic denominatives of the *starějō*-, *senėjū*-type. In the other, more archaic class of derived stative presents, \*-jé/ó- was added to the zero grade of the aorist suffix, yielding stems in \*-h<sub>1</sub>-jé/ó- ("\*-əjé/ó-"). The distinctive claim of the Cowgill school was that the suffix complex \*-h<sub>1</sub>-jé/ó- was the source of the Slavic deverbative presents in \*-i- (OCS *mbnjō*, *mbnitv*), the Baltic deverbative presents in \*-i- (Lith. *miniù*, *mini*), and the Germanic presents in \*-ai-/\*-(j)a- (Go. *munaiþ*). The Tocharian class III and IV presents were added here by Ringe (cf. above).

Much of the argumentation in *SMIE* was devoted to exposing the inadequacies of this model, and, in particular, to showing why the sequence \*-h<sub>1</sub>-jé/ó- could not have yielded the Balto-Slavic, Germanic, and Tocharian forms it was invented to explain. But *SMIE* also had two positive goals — to argue for an alternative explanation for the forms which Cowgill and his followers had tried to derive from presents in \*-h<sub>1</sub>-jé/ó-, and to offer a new view of the original function and distribution of the *ē*-suffix. The resulting synthesis was, I believe, correct in all essential respects. In the quarter century that has elapsed since *SMIE* appeared, however, a veritable

“knowledge explosion” has affected almost all areas of IE comparative grammar, and some of the insights gained over this period shed light on problems that were impossible to resolve in the 1970’s. This is itself sufficient reason to revisit the issues that animated the discussions and disagreements of twenty-five years ago. There is also a more specific reason why a re-examination of the  $\bar{e}$ -verbs is particularly apposite now. In 1998 the Cowgill analysis was revived in an extended presentation by Jón Axel Harðarson (Harðarson 1998), whose views were almost immediately taken up in the influential *Lexicon der indogermanischen Verben* (henceforth *LIV*) published in the same year.<sup>3</sup> As a result, the putative aorist in  $*-eh_1-$  and present in  $*-h_1-jé/\acute{o}-$  now find inclusion, as the “fientive” and “essive,” respectively, in a major IE reference work.

§3. Our return to the problem of the  $\bar{e}$ -verbs can begin with a brief review of Harðarson’s major claims. The cornerstone of the case for a PIE “ $\bar{e}$ -aorist,” for Harðarson as for everyone else, is the Greek aorist in  $-\eta-$  (ἐμόνην, ἐ(φ)άγην, etc.), which he characterizes as “fientive” or “patientive” depending on the valence of the underlying root (327). Cognates for this supposedly inherited formation are hard to find. Harðarson adduces the fact (324) that in Balto-Slavic, the infinitive stem in  $*-ē-$  of deverbative statives forms the basis of the aorist or preterite (OCS inf. *bŭdĕti*, *mŭnĕti* → aor. *bŭdĕxb*, *mŭnĕxb*; Lith. inf. *budĕti*, *minĕti* → pret. *budĕjau*, *minĕjau*). But it cannot be emphasized too strongly here that such aorists or preterites do not constitute evidence for an  $\bar{e}$ -aorist of the Greek type. A yawning semantic gap separates OCS *bŭdĕxb*, *mŭnĕxb* and Lith. *budĕjau*, *minĕjau*, on the one hand, from Gk. ἐμόνην, ἐ(φ)άγην, etc. on the other. The Baltic and Slavic forms are not fientive or patientive (i.e., passive); they are simply the stative preterites corresponding to the stative presents  $*budĕ-$ ,  $*minĕ-$  and the stative infinitives  $*budĕti$ ,  $*minĕti$ . A form like 1 sg.  $*budĕsŭn$ , which must have been the Proto-Balto-Slavic antecedent of OCS *bŭdĕxb* and Lith. *budĕjau*, meant ‘I was awake’, like a PIE imperfect or pluperfect, not ‘I awoke’ like an aorist in the Indo-European sense.<sup>4</sup> To express the

<sup>3</sup> The oral version of Harðarson’s paper was given in 1996, at the Tenth *Fachtagung* of the Indogermanische Gesellschaft in Innsbruck. References to *LIV* in this paper are to the 2001 (second) edition.

<sup>4</sup> I follow the traditional practice of labeling the Balto-Slavic category ancestral to the Slavic aorist and Baltic preterite the “aorist” — an acceptable usage so long as we remember that the Balto-Slavic aorist, unlike its Greek counterpart of the same name, was a purely temporal category. Verbs with “second stems” in  $*-V-$  ( $*-a-$ ,  $*-ē-$ , etc.) generally have aorists in  $*-V-x/s/\acute{s}-$  ( $*-V-s-$ ) in Slavic and preterites in  $*-V-jā-$  in Lithuanian. The Slavic situation is the more original; Baltic  $*-jā-$  is the replacement of earlier  $*-s-$ .

non-stative meaning ‘awoke’, Slavic and Lithuanian both employ transformations or replacements of the PIE middle root aorist — in Slavic the secondarily sigmatized aorist 1 sg. *bŭdoxb* (for earlier  $*bŭdŭ$ ), 2, 3 sg. *bŭde*, etc. (: pres. *bŭ(d)nŭ*), and in Lithuanian the  $\bar{a}$ -preterite 1 sg. *budaũ*, 3 p. *bũdo*, etc. (: pres. *bundũ*).<sup>5</sup>

Harðarson’s further evidence for an  $\bar{e}$ -aorist adds nothing important to the picture. The Armenian aorist type *t’ak’eay* ‘I hid’ (<  $*t’akĭ-$ ; pres. *t’ak’ĕim* <  $*t’akĭ-sk-$ ), which, following Klingenschmitt (1982: 282), he attributes to a PIE aorist in  $*-ē-$  (324), can phonologically just as easily go back to an aorist in  $*-ē-s-$ . From the point of view of overall patterning, the sequence  $*-ē-s-$  is clearly the better choice; the pair *t’ak’ĕim* : *t’ak’eay* looks very much like a present in  $*-ēske/o-$  (cf. the type Lat. *rubĕscō*, *senĕscō*, etc.) coupled with a derived *s*-aorist of the type OCS *starĕxb* or Gk. ἐθάρησα.<sup>6</sup> The Old Albanian aorist stems *pā-* ‘see’ and *rā-* ‘fall’, which Harðarson (325), again citing Klingenschmitt (1982: 150 f.), tentatively refers to  $\bar{e}$ -aorists  $*pās-ē-$  and  $*rās-ē-$ , are not probative either, since there is no evidence that the lost stem-vowel was  $*-ē-$ .

In short, once the Balto-Slavic stative “aorists” in  $*-ē-s-$  (> OCS  $-ĕxb$ , Lith.  $-ĕjau$ ) are removed from the picture, Harðarson’s case for a PIE athematic aorist in  $*-eh_1-$  is based entirely on the category that gave rise to the hypothesis in the first place — the Greek aorist in  $-\eta-$ .

§4. Harðarson finds evidence for PIE “essive” presents in  $*-h_1-jé/\acute{o}-$  in five present formations in the daughter languages: the Greek type *θαράω*, the Armenian stative type *mnam* ‘I remain’, the Germanic class III weak verbs in  $*-ai-/*-(j)a-$ , the Tocharian class III and IV presents, and the Indo-Iranian passive in  $-yā-$ . All of these can be, and have been, better explained in other ways.

<sup>5</sup> As will be discussed elsewhere, the Slavic (and Balto-Slavic) “thematic” aorist ( $*bŭdŭ$ ,  $-e$ ,  $-e$ , etc.) probably goes back to the same PIE middle aorist formation as the Indo-Iranian “passive” aorist (cf. Ved. 3 sg. *ābodhi* ‘awoke’, pl. *abudhran*). Balto-Slavic thematic aorists were converted to  $\bar{a}$ -preterites in Baltic (cf. Stang 1966: 378). See further note 45.

<sup>6</sup> The suffixes  $*-ske/o-$  (present) and  $*-s-$  (aorist) are of course derivationally and etymologically related: note the ancient pairs  $*pŕ(k)skē/o-$  ‘ask’ (Ved. *pŕcchati*, Lat. *poscō*, etc.) : aor.  $*pŕĕk-s-$  (Ved. *āpŕā*, Toch. B *preksa*, etc.), and  $*h_2is-skē/\acute{o}-$  ‘seek’ (Ved. *icĥāti*) : aor.  $*h_2is-$  (Ved. *aiṣīt*).

The Greek  $\theta\alpha\rho\sigma\acute{\epsilon}\omega$ -type and Arm. *mnam* need not detain us for long. As shown by Watkins (see note 4), presents of the type  $\theta\alpha\rho\sigma\acute{\epsilon}\omega$ ,  $\acute{\alpha}\nu\theta\acute{\epsilon}\omega$ , etc. are unproblematically derivable from preforms in  $*eh_1je/o-$  ( $> *ēje/o-$ ), which at some point prior to the quasi-regular Greek shortening of  $*ēje/o-$  to  $*eje/o-$  were mechanically provided with aorists in  $*-s-$  (cf.  $\tau\mu\acute{\iota}\omega$  for  $*\tau\mu\acute{\iota}\omega < *eh_2je/o-$ ; aor.  $\tau\mu\acute{\iota}\sigma\alpha\iota$ ). Harðarson opts for a more complicated account, substituting (328 f.)  $*h_1jé/ó-$  for Watkins'  $*eh_1je/o-$ , and  $*éh_1-/ *h_1-$  for Watkins'  $*eh_1s-$ . To justify the phonological development of  $*h_1je/o-$  to Gk.  $-εε/o-$ , he is obliged to reject "Pinault's Rule" — the widely accepted inner-PIE loss of postconsonantal laryngeals before  $*-j-$  in medial syllables (cf. Pinault 1982). He makes no effort to explain the apparently exceptionless replacement of his aorists  $*\theta\alpha\rho\sigma\eta-$ ,  $*\acute{\alpha}\nu\theta\eta-$ , etc. by sigmatic  $\theta\alpha\rho\sigma\eta\sigma-$ ,  $\acute{\alpha}\nu\theta\eta\sigma-$ , etc., despite the robust survival of  $\acute{\epsilon}$ -aorists elsewhere in Greek ( $\acute{\epsilon}\mu\acute{\alpha}\nu\eta\nu$ ,  $\acute{\epsilon}(\rho)\acute{\alpha}\gamma\eta\nu$ , etc.).<sup>7</sup>

The proposed derivation of Arm. *mnam* from  $*mn-h_1jé/ó-$ , an idea advanced by Barton (1990-91), is vitiated by the etymological ambiguity of stem-final  $-a-$  in Armenian, which can in principle go back to any or all of  $*-ā-$ ,  $*-ā-$ ,  $*-āje/o-$ , and  $*-āje/o-$ . Harðarson's choice of  $*-āje/o-$  ( $< *h_1jé/ó-$ ) for the forms he calls "a-statives" (329), besides again flying in the face of Pinault's Rule, is completely arbitrary. *mnam* itself, as he admits, could equally well come from a lengthened-grade iterative  $*mēn-āje/o-$ , a form indirectly attested in Greek (Argolic)  $\acute{\epsilon}\pi\mu\epsilon\mu\eta\nu\alpha\kappa\alpha\nu\tau\iota$  ( $:\ *ē\pi\mu\eta\nu\acute{\alpha}\omega$ ). And since it is in fact quite common for PIE presents in  $*-āje/o-$ , both iterative and denominative, to acquire stative value in the IE daughter languages (cf. Gk.  $\acute{\delta}\rho\acute{\alpha}\omega$  'see', Lat. *spērō*, *-āre* 'hope', Go. *mīton* 'think', etc.), there is no need to look any further for the source of "stative"  $-a-$ .<sup>8</sup>

<sup>7</sup> One could, of course, argue that there was a principle behind the addition of  $-σ-$  to  $*\theta\alpha\rho\sigma\eta-$ ,  $*\acute{\alpha}\nu\theta\eta-$  but not  $*\mu\acute{\alpha}\nu\eta-$ ,  $*(\rho)\acute{\alpha}\gamma\eta-$  — specifically, that the former corresponded to presents in  $-έω$ , while the latter did not (cf.  $\mu\acute{\alpha}\iota\nu\omicron\mu\alpha\iota$ ,  $(\rho)\acute{\alpha}\gamma\nu\nu\omicron\mu\alpha\iota$ ). The important point, however, is that since the pattern  $-έω : -ησ\alpha$  was completely regular and productive, the aorists  $*\theta\alpha\rho\sigma\eta\sigma-$ ,  $*\acute{\alpha}\nu\theta\eta\sigma-$  could have been created at any time, with or without a mediating stage  $*\theta\alpha\rho\sigma\eta-$ ,  $*\acute{\alpha}\nu\theta\eta-$ .

<sup>8</sup> As another example of his type Harðarson cites (again following Barton) *imanam*, aor. *imacay* 'understand', with a base *ima-* supposedly going back to  $*im-h_1jé/ó-$ . *imanam*, however, has exactly the same structure as *loganam*, *logaci* 'wash', which looks very much like the indirect reflex of an iterative  $*louh_2eh_2je/o-$  ( $:"*lowāje/o-$ ). Other probable iteratives are, e.g., *p'tngam* 'sneeze' and *kardam* 'call'.

§5. Unlike the Greek and Armenian forms just discussed, which are quite unproblematic within their respective traditions, the Germanic class III weak verbs in 3 sg. pres.  $*-aiþ$  constitute one of the most difficult problems of Germanic comparative grammar. My own suggested solution, an earlier version of which appeared in *SMIE* (73 ff.), will be given in §21. The detailed discussion that follows deals only with the quality of the evidence for  $*-h_1jé/ó-$ .

Following the Cowgill school and some earlier authorities, Harðarson (329 ff.) assumes that the Proto-Germanic class III paradigm was characterized by an alternation between  $*-ai-$  in the 2 sg., 3 sg., and 2 pl., and  $*-ja-$  in the 1 sg., 1 pl., and 3 pl. This view, though widely and carelessly repeated, is not in fact what the evidence shows. In Old Norse, which provides the best starting point for a survey of the data, there are actually three class III paradigms: 1) that of the great majority of class III verbs, with  $*-ai-$  in alternation with  $*-a-$  (e.g., 1 sg. *vaki* 'I am awake', 2, 3 sg. *vakir* ( $< *wakai-$ ), pl. *vokum*, *vakid*, *vaka*); 2) that of *segja* 'say' and (by analogy) *þegja* 'be silent', with  $*-ai-$  in alternation with  $*-ja-$  (1 sg. *segi* and (rare) *seg*, 2, 3 sg. *segir* and (rare) *segr*, pl. *segjum*, *segið*, *segja*); and 3) that of *hafa* 'have', with apparent contamination of forms in  $*-ai-$ ,  $*-a-$ , and  $*-i-$  (1 sg. *hefi* and *hef*, 2, 3 sg. *hefir* and *hefr*, pl. *hōfum*, *hafið*, *hafa*).<sup>9</sup> No such variety is found in Gothic, where all class III verbs, including "have" ("say" does not occur), have  $-ai-$  alternating with  $-a-$  (sg. *haba*,  $-ais$ ,  $-aiþ$ , pl. *habam*,  $-aiþ$ ,  $-and$ ; pret. *habaida*). Old High German shows a different situation again. Here  $-e-$  ( $< *-ai-$ ) is generalized throughout the paradigm, both in "normal" class III verbs (e.g., *dagēn* 'be silent', pres. *dagēm*,  $-ēs$ ,  $-ēt$ ,  $-ēmēs$ ,  $-ēt$ ,  $-ēnt$ ) and in "have" and "say" (*habēm/sagēm*,  $-ēs$ ,  $-ēt$ , etc.). "Have" and "say," however, also show significant variant forms. Among these are 1) 1 sg. *habu*, *sagu*, recalling Go. 1 sg. *haba*;<sup>10</sup> 2)

<sup>9</sup> In making sense of these forms, it is important to bear in mind that the 1 sg. present in Old Norse is always synchronically derivable from the 2, 3 sg. by deleting the final  $-r$ . In the paradigm of *segja*, the (purely West Norse) absence of gemination before the  $-j-$  is due to contamination with *segir*  $< *sagaiz$  and *segr*  $< *sagiz$ , while  $i$ -umlaut has been generalized from *segja*, *segr*, etc. The most striking feature of *hafa* vis-à-vis *segja* is the complete absence of unambiguous *ja*-forms; the "short" paradigm *hef(r)*, *hōfum*, etc. is indistinguishable from that of a strong verb.

<sup>10</sup> In Tatian scribe  $\gamma$ , to be sure, and hence uncertain as to dialect. See most recently Klein (2001).

2, 3 sg. *hebis*, *-it*, *segis*, *-it* and pret. *hebita*, *segita* (for normal *habēta*, *sagēta*), as if from class I weak verbs *\*habjan* and *\*sagjan*; and 3) pret. *hapta* and (it is probably safe to infer) *\*sacta*, with voiced clusters *\*-bd-* and *\*-gd-* and no union vowel. Another such form is *hocca* 'thought, considered' (< *\*hug-d-*; pres. (class I) *hucken* < *\*hugjan*), to which we will return below. It will be noted that neither Old Norse, nor Gothic, nor Old High German lends even weak support to the view that all class III verbs originally had a paradigm with alternating *\*-ai-* and *\*-ja-*. Rather, the forms in these languages suggest that the basic class III type had a paradigm with *\*-ai-* and *\*-a-*, but that "have" and "say" departed from the normal pattern in ways still to be clarified. The evidence of the Ingvaenic languages (chiefly Old Saxon and Old English)<sup>11</sup> only strengthens this impression. Here, for the most part, all "normal" class III verbs are transferred bodily to class II (cf., e.g., OS *hwiton*, OE *hwitian* 'turn white' (= OHG *wizēn*); OS *folgon*, OE *folgian* 'follow' (= OHG *folgēn*). Special paradigms, however, are retained by "have" and "say," which have stems *\*hab(b)ja-*, *\*sag(g)ja-* where Gothic has *haba-* (OS 1 sg. *habbiu*, pl. *habbiad*, inf. *habbian*, OE 1 sg. *hæbbe*, *habbaþ*, *habban*; OS 1 sg. *seggiu*, pl. *seggiad*, inf. *seggian*, OE *secge*, *secgaþ*, *secgan*). Other irregularities of "have" and "say" in Ingvaenic include 1) preterites of the OHG *hapta*-type (OS *habda* (ptcp. *gi-habd*), OE *hæfde* (ptcp. *ge-hæfd*); OS *sagda*, OE *sægde*); 2) in one dialect of Old Saxon (*Heliand* ms. C), 2, 3 sg. forms with *-i-* instead of *-e-* (*-a-*) < *\*-ai-* (*habis*, *-id*, *segis*, *-id* for *-es/-as*, *-ed/-ad* (ms. M); cf. OHG *hebis*, *-it*, *segis*, *-it*); and 3) in the Northumbrian dialect of Old English, 1 sg. forms *hafo*, *sægo*, like OHG *habu*, *sagu* and Go. *haba*. Old English also has class II forms of the type 2 sg. *hafas(t)*, *sagas(t)*, 3 sg. *hafap*, *sagap*, as if < *\*habō-*, *\*sagō-*.<sup>12</sup>

§6. What are we to make of this proliferation of data? The natural point of departure is "say," the only class III verb with *ja*-forms in both North and West Germanic. In the case of this word Hardarson's reconstruction of a paradigm *\*sagjō*, *\*ais*, *\*aiþ*, etc. is obviously attractive. But it is sure-

<sup>11</sup> Old Frisian adds nothing to our understanding of the problem and will be omitted in what follows.

<sup>12</sup> Mention should also be made of the special class III treatment in Anglian. Here the 3 sg. in *\*-eþ* < *\*-aiþ* gave rise to a secondary stem in *\*-eja-*, mimicking the secondary stem in *\*-ōja-* (beside 3 sg. *\*-ōþ*) in class II (*lifian*, *-gan* < *\*libējan*, copying *sealfian* < *\*salbōjan*). The remade class III forms can be distinguished metrically and in other ways from their near-lookalikes in class II; details are given by Flasdieck (1935: 158 ff.) and Cowgill (1959: 13 f.).

ly no accident that "say" also has an unexpected *o*-grade of the first syllable, and that the PIE root *\*sek-* underlies an *o*-grade iterative-causative *\*sok<sup>h</sup>-éje/o-* in Balto-Slavic (cf. Lith. *sakýti* 'say', Serbian Ch. Sl. *sočiti* 'indicate'). A plausible inference to be drawn from these facts would be that "say" originally formed both an *o*-grade iterative-causative *\*sag(w)jō*, *\*-(j)is*, *\*-(j)iþ* and a zero-grade class III weak verb (e.g., *\*skwō*, *\*skwais*, *\*skwaiþ*, *vel sim.*),<sup>13</sup> from which a Proto-Germanic combined paradigm was created by generalizing the "heavier" variant of the root (*\*sag(w)-*) and the "heavier" variant of each ending (*\*-jō*, *\*-ais*, *\*-aiþ*, etc.).<sup>14</sup> Such a scenario would account for most of the special morphological features of "say" in Old Norse and West Germanic, although it would not by itself explain the deviant profile of "have."

To see the problem of "have" in context, we must first turn to two other verbs with class III affinities. The first is *\*hugjan* 'think, consider', revealed by its reflexes across Germanic (cf. Go. *hugjan*, ON *hyggja*, OHG *hucken* (*huggen*), OS *huggian*) to belong properly not to class III but to class I. In Old High German, *hucken* shows occasional class III transfer forms, notably the preterite *hogēta*. Such forms are also found in Old English, where *hycgan* is actually assigned to class III in many traditional grammars (cf. 1 sg. *hycge*, 2 sg. *hygst* and *hogast*, 3 sg. *hygþ* and *hogap*, etc.). How is the late and partial shift of *\*hugjan* to class III in some West Germanic dialects to be explained? The reason was clearly not the quasi-stative meaning "think" or the stem-final *\*-ja-*, since the nearly synonymous weak verbs *\*bankjan* (OHG *denchen*, OE *þencean*) and *\*þunkjan* (OHG *dunchen*, OE *þyncean*)<sup>15</sup> showed no comparable disposition to leave class I. The decisive point of contact with class III, rather, was that *\*hugjan* had the anomalous preterite and past participle *\*hugd-* (WGmc. *\*hogd-*), with the same voiced cluster and lack of union vowel as in *\*habd-* and

<sup>13</sup> *\*seg(w)ō*, *\*seg(w)ais*, etc., with the substitution of *e*-grade for zero grade, would also, of course, have been possible. But *\*sk<sup>h</sup>-* is well attested as the zero grade of PIE *\*sek<sup>h</sup>-* 'say'; cf. Gk. impv. *évi-one(s)* 'say!', Lat. *inquit* (< *\*nsk<sup>h</sup>-*) 'says', MW *chwedl* (< *\*sk<sup>h</sup>etlo-*) 'tale'.

<sup>14</sup> An underlying iterative-causative *\*sok<sup>h</sup>-éje/o-* is also assumed in LIV 526 f., where the class III forms in *\*-ai-* are attributed to the influence of *\*pagai-* 'be silent'.

<sup>15</sup> The reflexes of *\*þunkjan* are used impersonally, as in Go. *mis þugkeiþ*, OHG *mir dunchit*, OE *me þyncþ* 'I think'.

\**sagd-*.<sup>16</sup> In early Old High German the coexistence of “normal” *habēta* and *sagēta* beside archaic *hapta* and \**sacta* led to the creation of “normal” *hogēta* beside archaic *hocta*, despite the absence of a supporting present \**hogēm*, \*-ēs, etc. Similarly, *hogde* in dialectal Old English was renewed as *hogode*, which probably played a role in the creation of 2, 3 sg. *hogast*, *hogap̄*.

The other verb which bears importantly on “have” is “live.” In Gothic and Old Norse, “live” is an ordinary class III verb (Go. *liban*, *libaiþ*; ON *lifa*, *lifi(r)*, etc.), without any of the peculiarities that set apart “have” and “say.” In West Germanic, however, the familiar idiosyncrasies reappear, including a stem \**lib(b)ja-* in Old Saxon and Old English (OS 1 sg. *libbiu*, 3 pl. *libbiad*, -*iod*; OE *libbe*, *libbaþ*, etc.), class I forms in Old High German (2, 3 sg. *libis*, -*it* alongside regular *lebēs*, -*ēst*), a 1 sg. form *li(o)fo* in dialectal Old English, and a preterite — the only other such “short” form in Germanic — with -*d-* added directly to the root-final voiced obstruent (OS *libda*, OE *lifde*). Since there is no sign of a stem \**libja-* in Old Norse, the *ja*-forms of “live” are best regarded as an inner-West Germanic creation. It is easy to see how these could have come about: the West Germanic preterites \**sagd-* ‘said’ and \**hogd-* ‘thought’ (> OS *sagda*, *hogda*, OE *sægde*, *hogde*) corresponded to 1 sg. presents \**saggiu* and \**huggju* (> OS *seggju*, *huggju*, OE *secge*, *hycge*), so the preterite \**libd-* ‘lived’ was provided with a 1 sg. present \**libbju*. The preterite in \*-*bd-*, which had no etymological connection with the class III suffix (cf. note 15), thus became the vehicle for accommodating the inflection of “live” to that of its two most salient class III congeners, “have” and “say.”

<sup>16</sup> It must be emphasized that the voiced clusters in these forms and in \**libd-* (cf. below) have nothing to do with class III inflection as such. \**habda-* was formed within Germanic by combining the synchronic root \**hab-* (< \**kap-ǵ*) with the productive suffix form \*-*da-* (< \*-*tó-*); the result was a participle with the meaning “had,” contrasting with \**hafta-* < \**kap-tó-* ‘taken’. Similarly, Gmc. \**hug-da-z* and the parallel \**hug-di-z* ‘mind’ (= Go. *ga-hugds*, OE *-hygd*) were made by combining synchronic \**hug-* with synchronic \*-*da-*/\*-*di-*; the “unreformed” *i*-stem noun may survive in OE *hyht* ‘hope, trust, joy’. The voicing in \**sagda-* and \**libda-* is likewise secondary. What is genuinely old in these forms (and in the dental preterites later built to them) is the absence of a union vowel — \*-*ai-* in class III, \*-*i-* in class I — between the root-final consonant and the dental.

No credence can be placed in the proposed derivation of \**habda-* from \**kapətó-* (i.e., \**kap-h<sub>1</sub>-tó-*; Cowgill apud Bammesberger 1969: 534 f.). Not only was “\*ǵ” lost in precisely this position in the Germanic word for “daughter” (Go. *dauhtar* < \**d<sup>h</sup>ugətēr* < \*-*h<sub>2</sub>tér*), but \*-*h<sub>1</sub>-* was probably lost between obstruents in PIE itself (cf. Jasanoff 2003: 77). The alleged participial type in \*-*h<sub>1</sub>-to-* is in any case a fiction; see below.

§7. We can now return to “have” itself. The unambiguous *ja*-forms of this verb are confined to the Ingvaenic languages, where, like the *ja*-forms of “live,” they can easily be explained analogically (\**sagd-*, \**hugd-* : \**sagjō*, \**hugjō* : : \**habd-* : *X*; *X* = \**habjō*). Yet the *i*-umlaut and optional syncope in ON 2, 3 sg. *hef(i)r* show that “have,” though lacking *ja*-forms in North Germanic, must already have differed from “normal” class III verbs at the Northwest Germanic stage. ON *hafa* presupposes two partly overlapping presents, one with the standard class III alternation of \*-*ai-* and \*-*a-* (\**habō*, \*-*ais*, \*-*aiþ*, etc., whence the full ending -*ir*), and the other an ordinary thematic present in \*-*i-*/\*-*a-* (\**habō*, \*-*is*, \*-*iþ*, etc., whence the umlaut and “short” ending -*r*). It is not clear how this situation — which is not predicted under any theory of class III — arose. One possibility is that early Germanic originally had only a “normal” class III paradigm \**habō*, \*-*ais*, \*-*aiþ*, etc., but that at some time prior to the breakup of Northwest Germanic the non-stative use of \**haban* in the sense ‘take, obtain, bring’ — a common meaning of *hafa* in Old Norse — brought about a secondary distinction between \**habō*, \*-*ais*, \*-*aiþ* ‘have’ and a new, specifically non-stative \**habō*, \*-*is*, \*-*iþ* ‘take’. If the difference in meaning between the stative and non-stative forms was later lost, the doublets 2 sg. \**habais*/*habis* and 3 sg. (= 2 pl.) \**habaiþ*/*habiþ* could have survived as free variants. In West Germanic, the synchronically marked paradigm \**habō*, \*-*ais* (var. \*-*is*), \*-*aiþ* (var. \*-*iþ*), pret. \**habd-* was eventually confused with that of “say” (\**sag(g)jō*, \*-*ais*, \*-*aiþ*, pret. \**sagd-*), “live” (\**libō*, \*-*ais*, \*-*aiþ*, pret. \**libd-*), and (dialectally) “think” (\**hug(g)jō*, \*-*is*, \*-*iþ*, pret. \**hogd-*), resulting in the quasi-attested Ingvaenic \**hab(b)jō*, \*-*ais*, \*-*aiþ*.

Whatever the merits of this scenario — and it is certainly not the only one imaginable<sup>17</sup> — the inescapable larger conclusion is that the agreement

<sup>17</sup> Two possible variants:

1) Early Germanic originally had only a thematic (“strong”) present \**habō*, \*-*is*, \*-*iþ*, etc., meaning ‘obtain’. In the course of a gradual semantic shift from ‘obtain’ to ‘have’, the forms in \*-*is* and \*-*iþ* were replaced, to the extent they had stative value, by \**habais* and \**habaiþ*, with the endings of “normal” class III verbs. The two sets of forms, though eventually falling together semantically, survived into North and West Germanic, and events proceeded as above.

2) Early Germanic inherited two paradigms, one of the class III type (\**habō*, \*-*ais*, \*-*aiþ*, etc.) and meaning ‘have’, and the other thematic (\**habō*, \*-*is*, \*-*iþ*, etc.) and meaning ‘obtain’. The overlap of the two in the 1 sg., 1 pl., 3 pl., etc. led to their merger into a single lexical item with both meanings; the doublets 2 sg. \**habais*/*habis* and 3 sg. (= 2 pl.) \**habaiþ*/*habiþ* survived as interchangeable free variants into Northwest Germanic.

of “have” with the other “special” class III verbs in West Germanic is a late and unoriginal feature.

§8. The Germanic facts can now be summarized. Even under the most superficial reading of the evidence, the only conceivable candidates for an inherited class III paradigm in *\*ai-/ \*ja-* are the four verbs with preterites in *\*bd-* or *\*gd-* — “have” (*\*hab-*), “say” (*\*sag-*), “think” (*\*hug-*), and “live” (*\*lib-*). Of these, only *\*sagai-/ \*sagja-*, which probably had its origin in the fusion of two originally distinct presents, is securely reconstructible with a stem in *\*ai-/ \*ja-* for Proto-Germanic or Proto-Northwest Germanic. *\*hugjan*, despite its irregular preterite, was basically a weak verb of class I; its partial transfer to class III was a sporadic development within West Germanic. Neither “live” nor “have” originally had *ja*-forms. “Live” was a normal class III verb in *\*ai-/ \*a-* which acquired the stem-form *\*lib(b)ja-* in Ingvaenic under the influence of “say” and “think”; “have” was basically like “live,” though with variants *\*habis* and *\*habip* in the 2, 3 sg. In non-Ingvaenic West Germanic (i.e., Old High German) the patterns of convergence were different. Here the *-u* of OHG 1 sg. *habu* (= OE *hafo*), *sagu* (= OE *sægo*), and *\*libu* (cf. OE *li(o)fo*) was extended to “say” from “have” and “live”; the *-i-* of OHG 3 sg. *hebit* (= OS *habid*), *segit* (= OS *segid*), *libit* was imported into “say” and “live” from “have”; the *-i-* of OHG pret. *hebita*, *segita*, *libita* was ultimately taken from the *ja*-forms of “say.”<sup>18</sup>

It is important to note that although Ingvaenic *\*ai-/ \*ja-* can easily be explained as the replacement of Germanic *\*ai-/ \*a-*, the converse is not true. If Gothic had inherited, e.g., a 1 sg. *\*munja* corresponding to 3 sg. *munaip* ‘intends’, it would be virtually impossible to understand the remodeling of *\*munja* to the attested *muna*. Harðarson claims, most implausibly (330, n. 18), that in the Germanic dialects ancestral to Gothic and Old Norse, diphthongal forms like *munaip* were analyzed into an invariant part *muna-* and a thematic ending *-ip*, thus triggering the rise of analogical thematic forms in 1 sg. *\*a-ō*, 1 pl. *\*a-am(z)*, and 3 pl. *\*a-anp/d*. These forms, he says, were then further transformed: the 1 sg. in trimoric *\*ō* was analogically shortened to bimoric *\*ō*, the 3 pl. in *\*ānd* was phono-

<sup>18</sup> In short, Old High German showed as great a tendency as the Ingvaenic dialects to provide “have,” “say,” and “live” (though not “think”) with a single inflection. The striking difference between the Old High German and Ingvaenic “solutions” is that the stem forms in *\*ja-*, which were extended in Ingvaenic, were suppressed in Old High German.

logically shortened to *\*ānd*, and the 1 pl. in *\*ām* was analogically shortened to *-ām*. But this account, grossly *ad hoc* in any case, is undercut by the fact that there were no comparable developments in the weak verbs of class II, where the 1 sg. ends in *-o* < *\*-ō*, the 3 pl. ends in *-ond* < *\*-ōnp/d*, and the 1 pl. ends in *-ōm* < *\*-ōm(z)*. Nor does Harðarson make any attempt to explain why “say,” the one class III verb with genuinely old, independently motivated *ja*-forms, was also the only verb which, under his account, escaped the supposed analogical change from *\*ai-/ \*ja-* to *\*ai-/ \*a-* in Old Norse.

§9. The view that the class III suffix was *\*ai-/ \*ja-*, in short, is fundamentally untenable. But even if the Proto-Germanic paradigm could be reconstructed *\*habjō*, *\*ais*, *\*aip*, etc., as claimed by Harðarson, Cowgill, et al., it is inconceivable that these forms could have come from PIE *\*kap-h<sub>1</sub>-jé/ó-* (or *\*kh<sub>2</sub>p-h<sub>1</sub>-jé/ó-*). The putative development of *\*kap-h<sub>1</sub>-jé-h<sub>2</sub>* to *\*habjō* and *\*kap-h<sub>1</sub>-jé-ti* to *\*habaip* requires us to assume 1) that *\*h<sub>1</sub>-* first developed to vocalic *\*ə* in medial syllables in Germanic, even (despite Pinault’s Rule) before *\*j-*; 2) that the *e*-variant of the thematic vowel then became *\*-i-*, either exclusively before endings containing a high vowel or by a general raising of *\*-e-* to *\*-i-* in medial syllables; 3) that intervocalic *\*-j-* was then lost before *\*-i-*, but 4) not before other vowels; 5) that medial *\*-ə* was lost between consonants (1 sg. *\*kapjō* < *\*kapəjō*), but 6) not before *\*-i-* (3 sg. *\*kapəiti*); 7) that the diphthong *\*əi-* then yielded *\*ai-*; and 8) that only after the change of 1 sg. *\*əjō* to *\*jō* did a second *j*-loss rule eliminate intervocalic *\*-j-* (*\*-j-*) before vowels other than *\*-i-* (cf., e.g., 1 sg. *salbo* < *\*-ājō*). Among the grotesquely stipulative features of this explanation, particular note should be taken of the otherwise unmotivated “special” loss of intervocalic *\*-j-* before *\*-i-* (assumption 3)<sup>19</sup> and the retention of *\*ə* as a distinct vowel in Germanic until after the late raising of *\*-e-* in medial syllables (assumptions 5-7).<sup>20</sup> And quite apart from considerations of overall economy, it is an observable fact that the Germanic reflex of PIE *\*-H-je/o-* was *\*-ji-/ \*ja-* and not *\*ai-/ \*ja-*. The PIE present *\*h<sub>2</sub>érh<sub>3</sub>-je/o-* ‘plow’, a stem found in no fewer than four other branches of the family (cf. OIr. *airiu*, Lith. *ariù*, OCS *orjō*, Gk. *ἀρόω*), appears in Ger-

<sup>19</sup> As shown by Thórhallsdóttir (1993), there was only one rule of intervocalic *j*-loss in Germanic, which deleted *\*-j-* after both stressed and unstressed vowels except when it was “protected” by a preceding *\*-i-*.

<sup>20</sup> The loss of interconsonantal laryngeals in medial syllables, whether or not passing through a “schwa” phase, is an isogloss that Germanic shares with Balto-Slavic; it must have been a very early rule. See note 16.

manic as a normal present in *\*jan* (Go. *arjan*, 3 sg. *\*jib*; cf. OHG *erien*, *-it*, etc.), with no hint of the expected diphthongal forms in *\*ai-*. To suggest, as Harðarson does, that “bei den Stativverben der interkonsonantische Laryngal – als funktionstragendes Element – durch den konservierenden Einfluß der Morphologie länger erhalten blieb als der funktionslose Laryngal im Auslaut einer Wurzel” (331) leaves one wondering whether the principle of *Ausnahmslosigkeit* is simply being overridden because it fails to support a favorite theory.

§10. Harðarson’s remaining evidence for “essive” presents in *\*h<sub>1</sub>-jé/ó-* comes from Tocharian and Indo-Iranian. The Tocharian class III presents, represented by A *wikatär* and B *wiketär* ‘disappears’, are an exclusively deponent class characterized by the invariant stem vowel A *-a-*, B *-e-*. The *a : e* correspondence points to Common Tocharian non-palatalizing *\*-e-*, which ordinarily goes back to PIE *\*-o-*.<sup>21</sup> The standard view, therefore, takes the class III paradigm from a pre-Tocharian middle in 3 sg. *\*-otor*, pl. *\*-ontor*, with the same non-alternating *o*-timbre of the thematic vowel as in the Gothic passive (cf. 1, 3 sg. *bairada* (< *\*-otoi*) ‘am/is carried’, 2 sg. *bairaza* (< *\*-osoi*), 3 pl. *bairanda* (< *\*-ontoi*)). Harðarson rejects this analysis, preferring the more complicated account given by Ringe (cf. above). The distinctive claim of Ringe’s approach is that the class III theme vowel goes back not to CToch. *\*-e-* < pre-Toch. *\*-o-*, but to an otherwise unknown Common Tocharian vowel *\*-ö-*, supposedly the contraction product of pre-Toch. *\*-äj<sub>1</sub>e/o-* < *\*-h<sub>1</sub>-je/o-*.

The all-important forms for Ringe’s theory are the presents of class IV – the descriptive class that takes the place of class III when the underlying root contains an *a*-vowel. Class IV presents, though etymologically identical with those of class III, show an unexpected phonetic rounding in both syllables of the stem. Thus, e.g., the root AB *wāk-* ‘break open’ (< PIE *\*uāg-* or *\*u(e)h<sub>2</sub>g-*) forms a present A *wakatär*, B *wokotär* (< CToch. *\*wokotär*; class IV) rather than A *\*wakatär*, B *\*waketär* (< CToch. *\*\*waketär*; class III). The source of the class IV rounding was clearly the theme vowel. If this was PIE/pre-Toch. *\*-o-*, as generally assumed, the rounding in *\*wokotär* would have come about via the phonologically

<sup>21</sup> I write *\*e* and *\*o* for the relatively low Common Tocharian mid vowels (= the *\*æ* and *\*ā* of other writers), and subdotted *\*ǣ* and *\*ǫ* for the much less common high mid vowels.

natural change of pre-Toch. *\*wag-o-* to CToch. *\*wok-o-*.<sup>22</sup> Ringe, however, denies the possibility of such a development in Tocharian, citing nouns like A *āk*, B *āke* ‘end’ < *\*āk-os* (*s*-stem) and B *āntse* ‘shoulder’ < *\*ōms-o-* (*o*-stem) to argue that CToch. *\*a* was not subject to rounding by a following *\*o*. His preferred alternative is to set up up a new rounded vowel *\*-ö-* which he attributes to *\*-äj<sub>1</sub>e/o-*. But this is somewhat of an overreaction; the absence of rounding in *āk/āke*, *āntse*, etc. could also be due to analogy with the large number of inherited *s*- and *o*-stems where the root did not contain an *a*-vowel.<sup>23</sup> Without a decisive argument against “*o*-umlaut,” the case for Ringe’s *ad hoc* *\*-ö-* disappears, and with it the evidence for pre-Toch. *\*-aje/o-* < *\*-h<sub>1</sub>-je/o-*.

§11. The Indo-Iranian passive in *-yá-*, Harðarson’s final supposed reflex of the “essive,” is not at first blush a problematic category. Passives of the type Ved. *vidyáte* ‘is found’, *uhyáte* ‘is conveyed’, *dhyáte* ‘is put’, etc. are standardly assumed to have been specialized from *je/o*-presents of the type *mányate* ‘thinks’, *búdh<sub>1</sub>yate* ‘is awake, wakes up’, *mriyáte* ‘dies’, etc., which are usually – and sometimes contrastively – intransitive (cf., e.g., *jáyate* ‘is born’ vs. *jánati*, *janáyati* ‘begets’, *pác<sub>1</sub>yate* ‘ripens’ vs. *pác<sub>1</sub>ati* ‘cooks’). Typological parallels are plentiful; a semantic development from intransitive to passive is also observable in the Greek aorist passive in *-(θ)η-* (see §§24 ff.) and the Indo-Iranian passive aorist in 3 sg. *-i-*. Yet despite the simplicity of this picture, Harðarson follows Rasmussen (1993: 481) in separating the two functions of *-ya-*, taking *mányate*, etc. from PIE *\*-je/o-*, and *vidyáte*, etc. from PIE *\*-h<sub>1</sub>-jé/ó-*. The identification of the passive with the supposed “essive” creates more problems than it solves. The suffix-shapes *\*-ja-* and *\*-Hjā-* are indistinguishable in most environments in Indo-Iranian, where sequences of the type *\*-CHj-* uncontroversially yielded *\*-Cj-* by Pinault’s Rule,<sup>24</sup> and root-final *\*-i-* and *\*-u-* were leng-

<sup>22</sup> The suggestion, in other words, is that the late PIE/early pre-Toch. sequence *\*a . . . \*o* would have given CToch. *\*o . . . \*o*, with two instances of the Tocharian open *o*-vowel; the subsequent development to A *a . . . a* and B *o . . . o* would then have been perfectly regular.

<sup>23</sup> Nor should it be forgotten that the inherited *s*- and *o*-stem paradigms contained many forms in which the root vowel was not followed by PIE short *\*-o-*, such as the *s*-stem oblique cases in *\*-es-* and the *o*-stem case forms in *\*-ō-* and *\*-ā-*.

<sup>24</sup> Evidently accepted by Harðarson as well, who thus claims exactly opposite “schwa” treatments in Indic and Germanic: in Indic, loss before *\*-j-* and vocalization before other consonants; in Germanic, vocalization before *\*-j-* and loss everywhere else.



thened before all *\*ǵ*-suffixes, regardless of etymology. In the few cases where the difference between *\*ǵa-* and *\*Hǵa-* can in principle be detected – i.e., after *aniṭ* roots ending in a liquid or nasal – it is clear that the mark of the passive was *\*ǵa-* and not *\*Hǵa-*. Thus, the passive of *kṛ-* ‘do’ is *kriyáte*, not *\*kriyáte*; the passive of *han-* ‘slay’ is *hanyáte*, not *\*hāyáte*; the passive of *gam-* ‘go’ is *gamyáte*, not *\*gāmyáte*. The passive *tāyáte* ‘is extended, is completed’ (: *tan-* ‘stretch’), which Rasmussen (481) takes from PIE *\*tǵ-h<sub>1</sub>-jé/ó-*, is better seen as an analogical *seṭ* form based on the partial morphological overlap of *tan-* (pres. *tanóti*) with the semantically related *seṭ* root *san<sup>1</sup>-* ‘strive for, achieve’ (pres. *sanóti*).

Before leaving Indo-Iranian, it is worth reflecting on the fact that attempts to connect *ya*-presents like *mányate* (= Gk. *μαίνομαι*) and/or *vidyáte* with the *ē*-verbs of other IE languages are over a century old.<sup>25</sup> From a naive point of view it is indeed tempting to compare the historically obscure paradigms of the Germanic third weak class and the Balto-Slavic *ī*-presents, both of which superficially offer evidence for a suffix-form *\*ǵo-*, with the more transparent *je/o*-formations of Vedic and Greek. But in the wake of endless failed attempts, it is by now safe to say that any hope of combining the Germanic, Balto-Slavic, Indo-Iranian, and Greek forms under a common formula – *\*h<sub>1</sub>-jé/ó-*, *\*ēi-/\*ai-*, or the like – is a will-o-the-wisp. The dialectal Germanic class III forms in *\*ǵa-* are secondary, and the resemblance of the Balto-Slavic presents in *\*ī-* to presents of the *mányate/μαίνομαι*-type is, as we shall see below (§§18 ff.), illusory as well.<sup>26</sup> Neither Germanic nor Balto-Slavic, nor still less Toch-arian, offers any basis for tampering with one of the clearest formations in IE comparative grammar – the unitary class of stative and processual presents in *\*ǵé/ó-*.

§12. It is time to take stock. The serious evidence for a PIE “fientive,” or aorist in *\*éh<sub>1</sub>-/\*h<sub>1</sub>-*, comes down to a single formation – the Greek aorist in *-η-* (*ἐμάκην*, etc.). The evidence for a PIE “essive,” or stative present type in *\*h<sub>1</sub>-jé/ó-*, is weaker still – so weak, in fact, that there is no reason to believe that such a category existed at all. The conception that underlies Cowgill’s and Harðarson’s theory of *ē*-verbs – that *eh<sub>1</sub>*-aorists were fundamentally like root aorists, and that just as root aorists gave rise to derived presents in *\*jé/ó-* (cf., e.g., aor. *\*g<sup>u</sup>ém-/g<sup>u</sup>m-* ‘go’ → pres. *\*g<sup>u</sup>m-jé/ó-*, *\*uérǵ-/uǵ-* ‘work, effect’ → pres. *\*uǵ-jé/ó-*), so aorists of the type

<sup>25</sup> Harðarson himself gives a good survey of such attempts in his footnote 33.

<sup>26</sup> Harðarson, for his part, avoids the trap of the Balto-Slavic comparison; see §19.

*\*X-éh<sub>1</sub>-/\*X-h<sub>1</sub>-* could give rise to presents of the type *\*X-h<sub>1</sub>-jé/ó-* – is simply incorrect. The stative presents in the IE daughter languages continue a variety of formations, some of them containing clear reflexes of the *ē*-suffix (e.g., the Latin type *taceō, -ēre*) and some of them not (e.g., the Germanic class III type *\*pagan, \*-aiþ*). But none of them go back to *\*h<sub>1</sub>-jé/ó-*.

There is actually nothing too surprising about any of this. The morpheme *\*eh<sub>1</sub>-* is quite unlike any other PIE tense-aspect marker. Its exceptional properties include the following:

1. It may be extended by further suffixes, both verbal (e.g., *\*je/o-* in Lith. *senėju*, OCS *starějo*; *\*s-* in Hitt. *maršešzi*; *\*ské/o-* in Lat. *rubescō*) and nominal (e.g., *\*to-* in Lat. *acētum*; *\*ti-* in Go. *faheþs*).

2. It is capable of standing in word-final position without any verbal inflection, as in the Latin *arēfaciō/facit arē* construction (cf. §1) and its intransitive counterpart with *fiō* ‘become’. Here too belong the older but identically formed *b*-future and *b*-imperfect (*arēbō, arēbam*, etc.) and the structurally comparable Slavic imperfect (e.g., 1 sg. *starěaxъ, mněaxъ*, etc.).<sup>27</sup>

3. It alternates with nominal suffixes in “Caland systems.”<sup>28</sup> Thus, e.g., the common *ē*-verb *\*h<sub>1</sub>rud<sup>h</sup>-éh<sub>1</sub>-* ‘be(come) red’ (Lat. *rubere*, OIr. *ruidid*, Lith. *rūdėti*, OCS *rōděti se*, etc.) forms part of a derivational family that includes an adjective *\*h<sub>1</sub>rud<sup>h</sup>-ró-* ‘red’ (Gk. *ἐρυθρός*, Lat. *ruber*, Toch. B *ratre*), an *i*-stem abstract *\*h<sub>1</sub>rud<sup>h</sup>-f-* ‘redness’ (Ved. *rudhi-krā-* ‘scattering blood’, Lat. *rūbi-dus* ‘red’), and an *s*-stem abstract *\*h<sub>1</sub>réud<sup>h</sup>-es-* (Gk. *ἐρεῦθος*, Lat. *rubor*); another such family is *\*h<sub>2</sub>ek<sup>h</sup>-éh<sub>1</sub>-* ‘be sharp’ (Lat. *acēre*) : *\*h<sub>2</sub>ek<sup>h</sup>-ró-* ‘sharp’ (Gk. *ἄκρος*, OLith. *aštras*, OCS *ostrb*) : *\*h<sub>2</sub>ek<sup>h</sup>-f-* ‘sharpness’ (Gk. *ἀκίς* ‘sting’) : *\*h<sub>2</sub>ék<sup>h</sup>-es-* ‘sharpness’ (Lat. *acus*, *-eris* ‘chaff’). Caland alternations are further reflected in language-particular “mini-systems” like the productive Latin pattern *caleō* ‘be warm’ : *calidus* : *calor*; *palleō* ‘be pale’ : *pallidus* : *pallor*, etc., and the Greek pattern *ἀνθέω* : *ἄνθος*, *θαπρέω* : *θέπρος*, *θαμβέω* : *θάμβος*, etc.

<sup>27</sup> The famously mysterious second element in the Slavic imperfect was probably originally *\*es(o)m*, *\*ess*, *\*est*, pl. *\*es(o)mos*, *\*este*, *\*esont*, the augmented imperfect of the copula; the same paradigm also gave the “imperfective” aorist [b]ěxъ, [b]ě, etc. The use of *\*-ē-* as a “union vowel” between the root and the auxiliary in both Latin and Slavic (Lat. *dūc-ē-bam* = OCS *ved-ě-axъ*) virtually assures the etymological identity the two formations.

<sup>28</sup> As pointed out by Watkins (1971: 64) and developed by Nussbaum (1975: 50 ff.; 1999: 384 ff.).

These facts are so familiar that they run the risk of being taken for granted. It is altogether extraordinary, however, that a characterized PIE tense stem – and especially an aorist or “fientive” stem – should have combined freely with auxiliaries, served as the basis for the creation of verbal abstracts, and participated in Caland alternations. To appreciate just how peculiar the suffix *\*-eh<sub>1</sub>-* was in these respects, we need only imagine how Proto-Indo-European would have looked if, say, the *s*-aorist stem *\*uēǵ<sup>h</sup>-s-* (*\*ueǵ<sup>h</sup>-* ‘convey’) had formed a verbal abstract *\*uēǵ<sup>h</sup>-s-ti-*, figured in a periphrastic construction *\*uēǵ<sup>h</sup>-s b<sup>h</sup>uH-* ‘be conveyed’, or spawned a Caland adjective *\*ueǵ<sup>h</sup>-s-ro-* ‘conveying’. That we find such derivational families organized around stems in *\*-eh<sub>1</sub>-*, but not around *s*-aorists or root aorists or nasal presents or perfects,<sup>29</sup> is a fact that needs to be explained at least as urgently as the forms that have occupied us thus far.

§13. Since 1978 (*SMIE* 122 ff.) I have taken the position that PIE “stative *\*-ē-*” was not properly a verbal suffix at all, but originated in forms like the Vedic adverb *gūhā* ‘hidden, in concealment’. Historically, *gūhā* (< *\*g<sup>h</sup>uǵ<sup>h</sup>-éh<sub>1</sub>*, with “adverbial” dislocation of the accent) is the instrumental singular of the root noun *guh-* ‘concealment, hiding place’ (: pres. *gūhati* ‘hides’). It occurs in three relevant syntagmas, exemplified in the passages below:

- a) *padám ná táyúr gūhā dádhanō*  
*mahó rāyé citáyann átrim aspaḥ* RV 5. 15. 5  
 ‘Der du wie ein Dieb deine Spur verbirgst, du hast jetzt zu großem Reichtum dich offenbarend dem Atri (aus der Not) heraus geholfen’<sup>30</sup>
- b) *gūhā cārantam sákhubhiḥ sívébhīr*  
*divó yahvībhīr ná gūhā babhūva* RV 3. 1. 9  
 ‘Ihn, der vor seinen guten Freunden sich verborgen hielt – vor den jüngsten Töchtern des Himmels war er nicht verborgen’
- c) *vidmá te náma paramám gūhā yád*  
*vidmá tám útsam yáta ājagántha* RV 10. 45. 2  
 ‘Wir kennen deinen höchsten Namen, der geheim ist; wir kennen den Quell, von wannen du gekommen bist’

<sup>29</sup> The occasional instances in which a characterized present stem has been reinterpreted as a root in the daughter languages (e.g., Skt. *pr̥cchati* ‘ask’, perf. *papraccha*, ger. *-pr̥cchya*; OHG *fregnan* ‘ask’, pret. *fragn*) offer at best a very feeble parallel to the derivational productivity of *\*-eh<sub>1</sub>-*.

<sup>30</sup> Translations from Geldner (1951).

Passage a) illustrates the use of *gūhā* with the roots *dhā-* and *ky-* ‘make’ to mean ‘make (to be) with concealment’ > ‘make hidden’ – the same syntactic combination, if we accept the equation of stative *\*-ē-* with the instrumental in *\*-eh<sub>1</sub>-*, as in Lat. *arēfaciō*. Passage b) illustrates the use of *gūhā* with *bhū-* and *as-* ‘be(come)’ to mean ‘be(come) with concealment’ > ‘be(come) hidden’ – the construction found, *mutatis mutandis*, in Lat. *arēfiō*, *arēbō*, *arēbam*, and the Slavic imperfect. Passage c) shows *gūhā* in the role of a predicative instrumental without an overt copula. Here there is no formal match with any familiar syntagma in the other IE languages. Functionally, however, the phrase *gūhā yád* conveys exactly the same meaning that elsewhere is expressed by a relative clause with an *ē*-stative (e.g., Lat. *quod latet*). Interestingly, an *ē*-stative from the root *\*g<sup>h</sup>euǵ<sup>h</sup>-* is actually found in Lithuanian, where *gūžėti*, pres. 3 p. *gūži* ‘nestle’ (with secondary *-ū-* for *-u-*, as in *rūdėti*) contrasts with non-stative *gūžti*, pres. *gūža* ‘protect, brood over’. Similarly, Ved. *m̥ṣṣā* ‘in vain’, properly the instrumental of the root noun corresponding to the verb *m̥ṣyate* ‘forgets, neglects’, is etymologically related to the Hittite *ē*-stative *maršezzi* ‘is false’ and its inchoative doublet *maršešzi*.

Besides instantly explaining the periphrastic constructions with verbs of making and be(com)ing, the “instrumental” interpretation of stative *\*-ē-* accounts directly for its Caland behavior. Caland systems, as we now know (cf. Nussbaum 1999: 404, Schindler 1980: 392), are based on root nouns: the suffixed stems *\*h<sub>1</sub>rud<sup>h</sup>-ró-*, *\*h<sub>1</sub>rud<sup>h</sup>-í-*, *\*h<sub>1</sub>réud<sup>h</sup>-es-*, etc. represent parallel derivatives of an underlying *\*h<sub>1</sub>rud<sup>h</sup>-* ‘redness’, a direct reflex of which survives in OIr. *rú* (stem *rod-*) ‘red color’. But root nouns were declined in Proto-Indo-European, and one of their case forms was the instrumental singular in *\*-éh<sub>1</sub>*. If *\*h<sub>1</sub>rud<sup>h</sup>-éh<sub>1</sub>* (instr. sg.) ‘with redness’ was in fact the source of the stative stem *\*h<sub>1</sub>rud<sup>h</sup>-éh<sub>1</sub>-* ‘red’ (: Lat. *rubēre*, Lith. *rūdėti*, etc.), then the Caland properties of stative *\*-ē-* are not only explained, but predicted.

§14. How, then, are we to understand the conversion of instrumentals of the type *gūhā*/*\*g<sup>h</sup>uǵ<sup>h</sup>-éh<sub>1</sub>* into actual verbs? In *SMIE* (124 f.) I suggested that clauses of the type *\*X . . . g<sup>h</sup>uǵ<sup>h</sup>-éh<sub>1</sub>* ‘X is/was hidden’ were reanalyzed: *\*g<sup>h</sup>uǵ<sup>h</sup>-éh<sub>1</sub>* was reinterpreted as a true verb and provided with verbal endings. The result, I said, was an athematic paradigm in *\*-eh<sub>1</sub>-* (*\*-eh<sub>1</sub>-m(i)*, *\*-eh<sub>1</sub>-s(i)*, etc.), which in some IE dialects was extended to *\*-eh<sub>1</sub>-je/o-*. Under this analysis, the most archaic real “*ē*-verbs” were the Greek *ἐμύνην*-type and the Hittite *maršezzi*-type, which I took to be athematic.

This account was not altogether satisfactory. To begin with, the proposed direct verbalization of \*X... *g<sup>h</sup>uǵ<sup>h</sup>-éh<sub>1</sub>* (predicate instrumental) to \*X... *g<sup>h</sup>uǵ<sup>h</sup>-éh<sub>1</sub>-t(i)* (stative verb) would have been far from trivial. While cases are certainly known of predicative nominal forms — especially participles — acquiring verbal inflection, the fact remains that IE languages employ all kinds of adverbial elements as predicates without converting them into verbs. Second, there is a chronological difficulty. The creation of *ē*-verbs from instrumentals must have been an inner-PIE development; one of the *ē*-verbs assignable to the parent language was \**g<sup>h</sup>uǵ<sup>h</sup>-éh<sub>1</sub>* itself, the ancestor of Lith. *gūžėti*. Yet if the mechanism for the creation of *ē*-verbs was the misparsing of nominal \**éh<sub>1</sub>* and its consequent remodeling to \**éh<sub>1</sub>-t(i)*, it is hard to see how or why the “unverbalized” predicative instrumental \**g<sup>h</sup>uǵ<sup>h</sup>-éh<sub>1</sub>* would at the same time have maintained its existence as a free-standing form, surfacing millennia later as Ved. *gūhā*. So too with Ved. *mṛṣā* beside Hitt. *maršezzi*: if PIE \**mṛs-éh<sub>1</sub>* ‘false, neglectful’ (< ‘with neglectfulness’) was reinterpreted as a verb and replaced by \**mṛs-éh<sub>1</sub>-t(i)*, why are both forms still found in the daughter languages?<sup>31</sup> Clearly, it would be desirable to find some mechanism other than direct verbalization to bridge the gap between instrumentals and *ē*-verbs. Thanks to a small but important discovery in the realm of Hittite phonology, such a mechanism is now available.

§15. Let us begin by considering just those stative and inchoative verbs in the daughter languages where a clear reflex of \**éh<sub>1</sub>*-, unextended by \**s-* or \**ske/o-*, figures as a constituent of the present stem. This description embraces the Latin *maneō*- and *rubeō*-types, the Hittite *maršezzi*-type, the Greek *θαροέω*-type, the Slavic *starějo*-type, the Baltic *senėjū*-type, and Celtic (= OIr.) *ruidid*, *ruidi*; it does not include Gk. *ἐμύνην*, which is an aorist, nor the supposed Germanic, Balto-Slavic, and Tocharian reflexes of the “essive,” where the presence of \*(e)h<sub>1</sub>- is, as we have seen, a fiction. Of the six branches of the family with clear “*ē*-presents,” three point specifically to \**éh<sub>1</sub>-je/o-* (“\**ēje/o-*”): Baltic and Slavic, where the \**-je/o-* is still palpably present, and Greek, where \**-j-* was lost and \**-h(j)ω* was morphologically shortened to *-έω*.<sup>32</sup> Latin is ambiguous: the 1 sg. in \**eō*

<sup>31</sup> Or in Greek, if *χρή* ‘there is needed, *neesse est*’ is the reflex of an instrumental \**g<sup>h</sup>r-éh<sub>1</sub>* (cf. Balles 2000: 31 f.), how did it escape conversion to an *ē*-present \**χρέε/o-*?

<sup>32</sup> I take it for granted that the “Aeolic” inflection of contract verbs (1 sg. *-ημι*, *-ᾶμι*, etc.) is secondary.

implies earlier \**ēje/o-*, while the 3 pl. in \**-ent* suggests rather athematic \**-enti*. OIr. *ruidid*, *ruidi* is similarly compatible with either thematic \**-ējeti* or athematic \**-ēti*.<sup>33</sup> The crucial language is Hittite. In SMIE I assumed, in part following Watkins, that the *maršezzi*-type presupposed an athematic paradigm in \**éh<sub>1</sub>-mi*, \**éh<sub>1</sub>-si*, etc. It is now clear, however, that intervocalic \**-j-* was lost in Hittite, and that \**éh<sub>1</sub>jeti* and \**éh<sub>1</sub>ti*, along with \**ējeti* and \**ēti*, would all have fallen together under the accent as *-ēzzi* (*-ezzī*).<sup>34</sup> There is thus no certain evidence for a PIE athematic present type in \**éh<sub>1</sub>-mi*, \**éh<sub>1</sub>-si*, etc. at all. The “*ē*-presents” of the IE daughter languages can all be derived from a single PIE type in \**éh<sub>1</sub>-je/o-*, reflexes of which can probably also be recognized in the isolated Vedic participle *sanāyāt* ‘old’ (: Lat. *seneō*, Lith. *senėjū*; cf. adverbial *sanā* ‘from long ago’) and the Armenian passive in *-i-* (cf. *berim* ‘I am brought’, *sirim* ‘I am loved’, etc.).

This result greatly simplifies the problem of relating *ē*-verbs to *gūhā*-type instrumentals. Rather than posit a process of direct verbalization, we can now assume a derivational schema

predicate instrumental * <i>X-éh<sub>1</sub></i>	→	present * <i>X-éh<sub>1</sub>-jé/ó-</i>
‘with/characterized by X-ness’		‘be(come) characterized by X-ness, be(come) X’

where the input was a nominal form — specifically, a predicate instrumental functioning as an adjective — and the output was a normal denominative present of the familiar type in \**-jé/ó-*. There is nothing strange about indeclinables serving as the derivational basis for denominative verbs; cf., e.g., Lat. *intrāre* ‘enter’ < \*‘become internal’ (: *intrā* ‘within’), OE *innian* ‘go in’ (: *inne* ‘within’), Serbo-Croatian *napredovati* ‘advance, go forward’ (: *naprijed* ‘forward’). One of the implications of this analysis is that the traditional distinction between “denominative” and “deverbative” *ē*-verbs is illusory, or at least epiphenomenal. A verb like Lat. *rubeō* is conveniently classified as denominative because it is synchronically associated with the nominal forms *ruber*, *rubor*, *rubidus*, etc.; a verb like Lat. *maneō*, which lacks nominal connections, can more appropriately be

<sup>33</sup> Note that (pace Watkins 1969: 171) the MW 1 sg. ending *-if* (e.g., *kenif* ‘I sing’, *eif* ‘I go’, etc.) does not point to an athematic stative ending \**-ēmi*. The ending *-if* is simply the thematic 1 sg. in \**-i* (< \**-ō*) extended by \**-mi*, as in Ved. *-āmi* or Gaul. *-umi* (cf. *uediumi* ‘I ask’).

<sup>34</sup> Cf. Melchert (1994: 130); so too Harðarson (337 f.).

thought of as deverbative or deradical. But both are underlyingly denominative in the sense that they rest on predicate instrumentals — in the one case *\*h<sub>1</sub>rud<sup>h</sup>-éh<sub>1</sub>* ‘red’ (< ‘with redness’), in the other *\*mṛ(n)-éh<sub>1</sub>* ‘steadfast’ (< ‘with steadfastness’).

§16. Other *ē*-formations find a ready explanation within this framework. The Latin inchoatives in *-ēscō* (*rubēscō*, *senēscō*, etc.) are based on the statives in *-eō* < *\*ējō*, made by substituting *\*-skē/o-* for *\*-je/o-* on the model of inherited pairs like *\*g<sup>h</sup>ṛi-ské/ó-*: *\*g<sup>h</sup>ṛi-jé/ó-* ‘go, come’ (cf. Ved. *gácchati* ‘goes’, Gk. βάσκε ‘come!’ vs. Lat. *ueniō* ‘come’, Gk. βόινω ‘go’) and *\*H<sub>1</sub>jud<sup>h</sup>-ské/ó-*: *\*H<sub>1</sub>jud<sup>h</sup>-jé/ó-* ‘be active’ (cf. Toch. A *yutk-* (< *\*d<sup>h</sup>-sk-*) ‘be agitated’ vs. Ved. *yádhyate* ‘fights’). The functionally equivalent Hittite inchoatives in *-eš-* < *\*-eh<sub>1</sub>-s-* (*maršešzi* ‘becomes false’, etc.) reflect a parallel replacement of *\*-je/o-* by athematic *\*-s-*. Particularly interesting are the cases in which instrumentals of the *gúhā*-type were taken as the derivational basis for declinable nouns and adjectives. Here belong, e.g., forms like Lat. *acētum* — not the “to-participle” of *aceō*, *-ēre* (*pace* Hardarson 338; see Nussbaum 1999: 408 f., note 44), but a substantivization of the adjective *\*ak-ē-tó-* ‘(being) sharp’, built directly to the instrumental *\*ak-ē* ‘sharp, with sharpness’.<sup>35</sup> Following the normal PIE pattern, such adjectives in *-to-* gave rise to abstracts in *\*-ti-* (*\*-eh<sub>1</sub>-ti-*), exemplified by nouns like Go. *faheþs* ‘joy’ and Hitt. *ḫaššuezzi* (nt.) ‘kingship’ (: *ḫaššue(š)*- ‘be(come) king’).<sup>36</sup> Inevitably, the new nominal forms tended to be linked synchronically to the corresponding *ē*-verbs. The “verbalization” of *\*-ē-to-* and *\*-ē-ti-* was especially pronounced in Balto-Slavic, where all *ē*-verbs, both “denominative” and “deverbative,” have participles (< adjectives) in *\*-ē-to-* (Lith. *-ėtas*, OCS *-ěti*) and infinitives (< abstracts) in *\*-ē-ti-* (Lith. *-ėti*, OCS *-ěti*).

The PIE range of “stative *\*-ē-*” thus included three groups of forms: 1) predicate instrumentals of the type *\*X-éh<sub>1</sub>* ‘with X-ness, having X’, with approximately the same range of values as Ved. *gúhā* (§13); 2) stative/inchoative denominative presents of the type *\*X-eh<sub>1</sub>-jé/ó-* ‘be(come) with

<sup>35</sup> For a typological parallel compare Ved. *purāṇā-* ‘old’ beside *purā* ‘formerly’ (Alan Nussbaum, p.c.), and note *sahasānā-* ‘strong’, *śavasānā-* ‘powerful’, etc., built to the instrumentals *sáhasā*, *śávasā*, etc. We will meet a further attributive-forming suffix in §25.

<sup>36</sup> I here reproduce the theory of the relationship of *ti-* to *to-* stems taught by Jochem Schindler at Harvard in the 1970’s: pre-Hitt. *\*dalugaš* ‘length’ (*s*-stem) → *\*dalugašta-* ‘possessing length, long’ (*to*-stem) → *dalugašti-* ‘condition of being long, length’ (*ti*-stem).

X-ness’, possibly already joined in the protolanguage by the overtly inchoative type *\*X-eh<sub>1</sub>-s(ké/ó)*- ‘become with X-ness’;<sup>37</sup> and 3) instrumental-based nominal derivatives, including (*inter alia*) the types *\*X-eh<sub>1</sub>-to-* ‘having X-ness’, *\*X-eh<sub>1</sub>-ti-* ‘(condition of) being with X-ness’. The individual IE branches exploited this inherited material in different ways. Latin, e.g., extended the periphrastic use of the bare instrumental (cf. *arē-faciō*, *facit arē*, *arē-bam*, etc.) and retained a large class of presents in *\*-ēje/o-* and *\*-ēske/o-*, to which an analogical perfect system was built on the model of the iterative-causatives in *\*-eje/o-* (e.g., *taceō*: *tacui*: *tacitus*, following *monēō* (< *\*-ejō*) ‘warn’: *monui* (< *\*-ewai*): *monitus* (< *\*-etos*)). Analogical tense stems were also created to supplement the paradigms of *ē*-verbs elsewhere in the family, as in Greek (pres. θαρσέω → fut. θαρσήσω, aor. ἐθάρσησα, perf. τεθάρσηκα), Baltic (pres. *senėju*, inf. *senėti* → fut. *senėsiu*, pret. *senėjau*), and Slavic (pres. *starějo*, inf. *starěti* → aor. *starěxb*). Examples can be multiplied.

A complete theory of *ē*-verbs, of course, must do more than merely explain the relationship of presents in *\*-eh<sub>1</sub>-jé/ó-* to nominal forms in *\*-eh<sub>1</sub>-to-*/*\*-eh<sub>1</sub>-ti-* and instrumentals in *\*-éh<sub>1</sub>*. It must also account for what has been perceived as the “aoristic” behavior of the suffix *\*-eh<sub>1</sub>-* — its partial exclusion from the present system in Baltic and Slavic (Lith. pres. *miniù*, *mini*, inf. *minėti*, pret. *minėjau*; OCS pres. *mbnjo*, *mbnitb*, inf. *mbněti*, aor. *mbněxb*) and its role as the marker of the aorist passive in Greek (ἐμύων, etc.). This is the problem to which we now turn.

§17. As already discussed (cf. §3), the traditional identification of the Greek aorist in *-η-* with the Balto-Slavic infinitive in *\*-ē-ti* and preterite (“aorist”) in *\*-ē-s-* (> Baltic *\*-ē-jā-*) is a *Scheingleichung*. The Greek forms are true aorists, derivationally unrelated to any other *ē*-formation and clearly in need of special treatment — which they will receive in §§24 ff. The Balto-Slavic forms, by contrast, are entirely unproblematic. To clarify the often misunderstood position of *ē*-verbs in Balto-Slavic, our discussion below will focus on three specific lexical items — the denominative *\*sen-ē* ‘be(come) old’ and the deverbatives *\*min-ē* ‘think’ and *\*bud-ē* ‘be awake’.

<sup>37</sup> *ē*-presents must primitively have had both stative and processual value; only in cases where *\*-s-*, *\*-ske/o-* or some other marker was employed to express the inchoative sense did the meaning become rigidly stative.

§19. The origin of the present type in *\*-ī-*, like that of the corresponding Germanic type in *\*-ai-/\*-a-*, is a classic problem with no universally accepted solution.<sup>40</sup> Cowgill (1963: 265 f.), true to his general position, sets up pre-Balto-Slavic preforms of the type *\*m̥(n)-h<sub>1</sub>-jé/ó-*, *\*b<sup>h</sup>ud<sup>h</sup><sub>1</sub>-jé/ó-*, etc., despite the fact that such an analysis is effectively ruled out by the phonology of the verb “to plow” (pres. *\*h<sub>2</sub>erh<sub>3</sub>-je/o-* > Lith. 3 p. *āria*, not *\*āri*; OCS 3 sg. *orjetb*, not *\*oritb*). Even Harðarson, who readily admits “essives” for Greek, Armenian, Germanic, Tocharian, and Indo-Iranian, hesitates to do so for Balto-Slavic. He prefers the compromise view of Rasmussen (1993: 483 f.), who locates the primary source of the Balto-Slavic *i*-inflection in the PIE perfect. According to Rasmussen, the PIE 3 pl. perfect ending had the form *\*-inti* in Balto-Slavic (< *\*-nti*, replacing earlier *\*-j*), from which *\*-i-* was analogically extended to the rest of the paradigm. Later, the nucleus of perfect-based *i*-presents was enlarged by the morphological adherence of the “essives” proper, which contributed their 1 sg. in *\*-jō* (< *\*-h<sub>1</sub>-jō-h<sub>2</sub>*) to the inflection of the newly expanded stative type. The result, for Rasmussen, was a paradigm *\*minjō*, *\*minisi*, *\*miniti*, etc., which survived with only minor changes in Baltic. In Slavic, where the statives in *\*-ī-* merged into a single class with the iterative-causatives in *\*-ī-* < *\*-eje/o-* (type *nošō*, *nosiši*, etc. ‘carry’), the long vowel of the latter forms was generalized to the statives as well.

This account bears a strong family resemblance to the theory of *i*-presents set forth in *SMIE*, ch. 4. There, like Rasmussen, I took the 3 pl. to be the key form, citing both the originally athematic East Baltic future (e.g., Lith. 1 pl. *dūsime* ‘we will give’, 2 pl. *dūsote*) and the lone reflex of the perfect in Old Prussian (1 pl. *waidimai* ‘we know’, 2 pl. *waiditi*) to illustrate the extraction of *\*-i-* from a lost *\*-inti* < *\*-nti*. As I also pointed out, however, neither the regular athematic (Narten) paradigm of the future nor the paradigm of the perfect could actually have been the source of the normal *i*-present inflection, since the future and the perfect never extended the *-i-* of the plural forms to the 3 sg. (cf. Lith. 3 p. *duōs* < *\*-s-ti*,

<sup>40</sup> The problem has been bedeviled for most of the past century by the spectre of a PIE “semithematic” conjugation — a supposed present type with a thematic 1 sg., 1 pl., and 3 pl. in *\*-jo-* in alternation with an athematic 2 sg., 3 sg., and 2 pl. in *\*-ī-*. Sustained by Meillet’s influential *Le slave commun* (Meillet 1924) and other writings, the semithematic conjugation has lived down into present-day handbooks of Baltic and Slavic, despite the fact that the Italic, Celtic, and Germanic evidence that once supported it has long since been better explained in other ways.

(OPr. 3 p. *waist* (= OCS 3 sg. *věstb*), etc.).<sup>41</sup> I concluded that the ordinary stative *i*-presents of Balto-Slavic must have developed from a different morphological category with “spreadable *\*-i-*” in the 3 pl. The obvious candidate would have been some species of middle, where the historically expected 3 pl. ending would have been *\*-intai* < *\*-ntoi*.

The PIE middle was lost in Balto-Slavic, and many of the details of its history and ultimate demise in this branch of the family will never be known. But it is still possible to envisage the steps by which an inherited middle root present (*vel sim.*; see below) could have been transformed into a Balto-Slavic *i*-present. In the display below, column I represents a possible middle source paradigm in dialectal (post-laryngeal-loss) PIE; column II shows the same paradigm after the operation of essential sound changes and the generalization of *\*-i-* through the plural; column III represents an intermediate stage with *\*-i-* extended from the plural to the singular; and column IV shows the “activized” Balto-Slavic paradigm after the loss of the middle as a category.<sup>42</sup>

	I	II	III	IV
sg. 1	<i>*m̥(n)-ai</i>	<i>*minai</i>	<i>*minjai</i>	<i>*minjō</i>
2	<i>*m̥n-soi</i>	<i>*minsai</i>	<i>*minisai</i>	<i>*minisi</i>
3	<i>*m̥n-(t)oi</i>	<i>*mintai</i>	<i>*minitai</i>	<i>*miniti</i>
pl. 1	<i>*m̥n-med<sup>h</sup>ai</i>	<i>*minimedai</i>	<i>*minimedai</i>	<i>*minimes</i>
2	<i>*m̥n-d<sup>h</sup>yoi</i>	<i>*minidyai</i>	<i>*minidyai</i>	<i>*minite</i>
3	<i>*m̥n(n)-ntoi</i>	<i>*minintai</i>	<i>*minintai</i>	<i>*mininti</i>

The forms in column IV would have yielded Lith. *miniù*, *mini*, *mini*, etc. and (with analogical *\*-ī-* for *\*-ī-*) Slavic *m̥njo*, *m̥nisi*, *m̥niti*, etc.<sup>43</sup>

<sup>41</sup> Or indeed to any of the singular forms: cf. 1 sg. OPr. *waidmai* ‘I know’(?) (= OCS *vě(d)m̥*), 2 sg. OPr. *waissei* (= OCS *vě(d)si*), fut. *postasei* (< *-stā-s-sei*) ‘you will become’. Note also OLith. *raudmi* ‘I weep’ beside Latv. pl. *raudim*, *-it* — apparently an old Narten present.

<sup>42</sup> Some arbitrary assumptions have of course been made: the primary middle endings are set up with *\*-i*, as in Germanic, Indo-Iranian, and Greek, and not *\*-r*, as in Anatolian, Tocharian, Italic and Celtic; the 3 pl. is given as *\*-ptoi* rather than *\*-roi*; the 3 sg. in *\*-oi* is assumed to have been replaced by *\*-toi/\*-tai* in time for the spread of *\*-i-* to the singular. The same picture, with differences of detail, is given in *SMIE* (109 ff.).

<sup>43</sup> Note that pace Rasmussen (*ibid.*), the assumption of a heterogeneous “essive” in *\*-h<sub>1</sub>-je/o-* is not needed to explain the 1 sg. *\*minjō*.

§20. It is not enough, of course, to show that a middle *\*m̥(n)-ai*, *\*m̥-soi*, *\*m̥-(t)oi*, etc. could have yielded an *i*-present in Balto-Slavic; we must also ask whether there is any independent reason to believe that such a paradigm ever actually existed. In *SMIE* I tried to show that the class III weak verbs of Germanic and the class III/IV presents of Tocharian — the supposed reflexes of *ē*-verb presents in these languages — were likewise based on athematic middles. Depending on their semantics, I assigned the middles that I posited for the *ē*-verbs of Balto-Slavic, Germanic, and Tocharian to two distinct PIE categories. In cases where a Balto-Slavic *i*-present, Germanic class III verb, or Tocharian class III/IV present was strictly stative, I assumed a reduplicated perfect middle; this interpretation seemed attractive, e.g., for Balto-Slavic *\*mini-* and *\*budi-*, which I compared directly with the Vedic perfect middles *mamné* and *bubudhé* (cf. above). On the other hand, when a Balto-Slavic, Germanic, or Tocharian form showed processual rather than stative meaning, I set up a present middle of the type Ved. *duhé* ‘gives milk’; this was my analysis, e.g., of the Slavic verb ‘to piss’ (*\*sbčŕ*, *\*sbčŕši*, *\*sbčŕitb*, etc.), cognate with Toch. A *sikatār* ‘is flooded’ (class III).<sup>44</sup> With the loss of perfect reduplication in Balto-Slavic and Germanic, of course, the perfect middle and the “*duhé*-type” would have fallen together.

This account can now be consolidated and simplified. As discussed in Jasanoff 2003, ch. 6, many of the roots that denoted entry into a state in PIE were associated with *stative-intransitive systems*, derivational complexes consisting of 1) a middle root aorist (e.g., 3 sg. *\*mén-to* ‘brought to mind’ (cf. GAv. *mantā*);<sup>45</sup> 2) a stative perfect (e.g., 3 sg. *\*memón-e* ‘has in mind, remembers’ (cf. Lat. *meminit*, Gk. *μέμνηται*, etc.); 3) a *je/o*-present (e.g., 3 sg. *\*m̥-jé-tor* ‘thinks’ (cf. Ved. *mányate*, Gk. *μαίνεται*, etc.); and 4) a “stative-intransitive root present” (e.g., *\*m̥(n)-ór* ‘thinks’ (cf. Go. *munaip* (see below), Lith. *mini*, OCS *mbnitb*)). The last of these was the *duhé*-type, the “schwundstufiger Wurzelstativ” of LIV (15). The term “stative,” as applied to these forms, is a label rather than a description, for it has

<sup>44</sup> With an infinitive *\*sbcati* < *\*ati* that underscores the independence of the present stem in *\*-f* from the infinitive stem in *\*-ē*. The exceptional pattern recurs in OCS *sbpi-*, inf. *sbpati* ‘sleep’.

<sup>45</sup> Such aorists, as I have further tried to show (*ibid.*), were normally of the formal type I have labeled “stative-intransitive,” with *o*-grade in the singular, *e*- or zero grade in the plural, and — at least originally — the “*h<sub>2</sub>e*-conjugation” endings. Aorists of this type yielded thematic aorists in Slavic and *ā*-preterites in Baltic; cf. note 5.

become clear since 1978 that *duhé*-presents covered almost exactly the same range of processual and stative values as *je/o*-presents of the type *\*m̥-jé/ó-*, *\*b<sup>h</sup>ud<sup>h</sup>-jé/ó-*, etc.<sup>46</sup> We can therefore explain the *i*-presents of Balto-Slavic, the class III verbs of Germanic, and the class III/IV presents of Tocharian without reference to the perfect middle. The forms attributed to athematic middles of two distinct types in *SMIE* can now be referred exclusively to stative-intransitive root (*duhé*) presents.

The relevant part of the history of the “deverbative” *ē*-verbs *\*minē-/mini-* and *\*budē-/budi-* in Balto-Slavic can accordingly be summarized as follows. “Stative stems” (< instrumentals) of the type *\*m̥(n)-ē-*, *\*b<sup>h</sup>ud<sup>h</sup>-ē-* gave rise to a full set of derivatives in dialectal IE, including the denominative presents *\*m̥(n)-ē-jé/ó-* ‘be mindful, think’ and *\*b<sup>h</sup>ud<sup>h</sup>-ē-jé/ó-* ‘be attentive, be awake’. Competing with these were other forms of similar meaning — perfects (3 sg. *\*memón-e*, *\*b<sup>h</sup>eb<sup>h</sup>ud<sup>h</sup>-e*), *je/o*-presents (3 sg. *\*m̥-jé-tor*, *\*b<sup>h</sup>ud<sup>h</sup>-jé-tor*), and stative-intransitive root presents (3 sg. *\*m̥(n)-ór*, *\*b<sup>h</sup>ud<sup>h</sup>-ór*).<sup>47</sup> The individual IE daughter languages selected from among these forms in different ways: Latin favored *\*-ē-jé/ó-*; Indo-Iranian expanded the role of *\*-jé/ó-*; Greek made its own, less systematic, choices. The Balto-Slavic strategy was to generalize the type *\*m̥(n)-ór*, *\*b<sup>h</sup>ud<sup>h</sup>-ór*, thereby eliminating the forms which might otherwise have surfaced as *\*minēju*, *\*budēju* in Lithuanian and *\*mbnējo*, *\*b<sup>h</sup>udējo* in Slavic. The subsequent treatment of the “statives” *\*m̥(n)-ór*, *\*b<sup>h</sup>ud<sup>h</sup>-ór* was as illustrated in §19, with *\*-i-* spreading from the remade 3 pl. in *\*-intai* (< *\*-ntoi/\*-ntor*) and persisting as a stem vowel long after the disappearance of the middle as such.

§21. The more uniform data of Germanic and Tocharian can easily be fit into this picture. In Germanic there is precious little evidence for stative *\*-ē-* at all; the only clear cases are the already cited Gothic nominal forms *faheps* ‘joy’ and *armaio* ‘mercy’. *faheps* (: OHG *gi-fagēn* ‘rejoice’) is an abstract in *\*-ē-ti-*, the formal counterpart of a Balto-Slavic stative infinitive; the root recurs in the Caland *ro*-stem adjective *fagrs* ‘suitable’, standing in the same relationship to the stative stem *\*fag-ē-* as, e.g., Lat. *ruber* to *rubēre*, or *macer* ‘thin’ to *macēre* ‘be thin’. *armaio* (: *armaip*, OHG *armēt* ‘has pity’) is an abstract in *\*-ē-jā-*, structurally comparable to Lat. *ārea* and,

<sup>46</sup> See the synchronic study by Kümmel (1996).

<sup>47</sup> Not all roots, of course, were as supple as *\*men-* and *\*b<sup>h</sup>eud<sup>h</sup>-*: many made a perfect, a *je/o*-present, or a *duhé*-present, but few made all three.

like the Latin form, built directly to a present stem in *\*-ēje/o-*.<sup>48</sup> Taken together, *faheps* and *armaio* make it clear that Germanic inherited the same “package” of presents in *\*-ēje/o-* and nominal forms in *\*-ēto-*, *\*-ēti-*, etc. as Balto-Slavic. What sets Germanic apart from Balto-Slavic is the fact that the present type in *\*-ēje/o-*, which would have yielded a Germanic paradigm in *\*-ē-* (cf. class II *\*salbōn* ‘anoint’ < *\*-āje/o-*), was eliminated, not partially as in Balto-Slavic, but completely. Its replacement was the class III inflection in *\*-ai-/\*-a-*.

As argued in *SMIE* (73 ff.), the Germanic presents in *\*-ai-/\*-a-* are in fact cognate with the Balto-Slavic presents in *\*-i-*. Like the Balto-Slavic forms, they originated in presents of the stative-intransitive (*duhé*) type, the pre-Germanic paradigm of which would have looked approximately as follows:<sup>49</sup>

1sg. <i>*mun-ai</i>	pl. <i>*mun-medai</i>
2 <i>*mun-sai</i>	<i>*mun-dwai</i>
3 <i>*mun-ai</i>	<i>*mun-unþai</i>

In contrast to the situation in Balto-Slavic, the PIE middle did not simply disappear in Germanic. *Qua* passive, it is still a productive category in Gothic, where a present passive in 3 sg. *-ada* < *\*otoi* can be formed to any transitive strong or weak verb (cf. *bairiþ* ‘brings’: *bairada* ‘is brought’, *nasjiþ* ‘saves’, *nasjada* ‘is saved’, etc.).<sup>50</sup> In its non-passive functions, however, the middle was abandoned.<sup>51</sup> Its loss was accompanied by the mechanical “activization” of thematic deponents, so that, e.g., the Germanic cognate of Ved. *vártate*, *-ante* ‘turn’ and Lat. *uertitur*, *-untur* ‘id.’ is Go. *wairþiþ*, *-and* ‘become’ (= OHG *wirdit*, *werdant*), with the normal active endings. Almost inevitably, the athematic deponents of the *duhé*-type were activated as well. The process was relatively straightforward in forms

<sup>48</sup> The lowering of *-ē-* to *-ai-* [e:] in hiatus is regular; cf. *saian* ‘sow’ < *\*sēan* < *\*sējan*.

<sup>49</sup> As in our pre-Balto-Slavic paradigm, arbitrary assumptions have been made about the phonology and the form of some of the endings. Not arbitrary, of course, is the reconstruction of dentalless *\*-ai* < *\*oi* in the 3 sg., which was the single greatest factor in determining the subsequent history of the paradigm in Germanic.

<sup>50</sup> For the phenomenon of “persistent” *\*-o-* in the Gothic passive see §22.

<sup>51</sup> A conspicuous but isolated exception is Go. 1, 3 sg. *haitada* ‘I am called, (s)he is called’, matching OE *hätte* ‘id.’.

like the 1 sg. and 3 pl., where the endings *\*-ai* and *\*-unþai* were replaced by active *\*-ō* and *\*-anþ(i)*, respectively; the fact that the new forms were “thematic” was simply a consequence of the near-total eclipse of athematic *\*-m(i)* and *\*-inþ(i)/\*-unþ(i)* in Proto-Germanic. But the 3 sg. *\*mun-ai* was treated differently. Here there was no replacement of the “stative” middle ending; instead, the no longer transparent final diphthong was reanalyzed as part of the stem, and the synchronically endingless 3 sg. *\*munai* was extended and clarified by the addition of the productive ending *\*-þ(i)*.<sup>52</sup> The result was a new 3 sg. *\*munaiþ(i)*, the source of Go. *munaiþ* and OHG *-monēt*. The distribution of the stem-forms *\*munai-* and *\*muna-* was later rationalized, with *\*munai-* spreading to the 2 sg. and 2 pl. (Go. *munais*, *munaiþ*).<sup>53</sup>

The paradigm of Gmc. *\*munaiþ* thus points, like that of Balto-Slavic *\*mini-*, to a PIE *duhé*-present with 3 sg. *\*mū(n)-ór*. For obvious functional reasons, the roots that made presents of this type in the parent language also often had a robust system of *ē*-forms, including a nearly synonymous present in *\*-ēje/o-*. The “Northern” dialects of late PIE converted the associational tendency into a rule: any properly verbal root with a stative stem in *\*-ē-* was provided with a *duhé*-present, which eventually took the place of the theoretically expected *ēje/o-*-present. This is still, in effect, the situation in Balto-Slavic, where the pattern *\*mini-* : *\*minēti*, uniform in verbal roots, contrasts with *\*senēje/o-* : *\*senēti* in non-verbal roots. It is not unlikely that Germanic passed through such a stage as well — a stage in which “deverbative” and “denominative” statives had different presents (*\*munaiþ* vs. *\*armēþ*) but shared *ē*-forms elsewhere in their extended paradigm. Ultimately, however, Germanic went much further than its

<sup>52</sup> Morphological blends of this kind, in which an opaque form is repaired by the addition of transparent material rather than rebuilt from the ground up, are very common. Stock examples include the Vedic 3 sg. “middle” in *-at* (in forms of the type *aduha*[t] ‘gave milk’), the Vedic 3 pl. middle in *-ran*, the Greek 1 sg. middle in *-μῦν*, the Latin 3 pl. perfect in *-erunt*, the Old Irish 3 pl. preterite in *-atar* < *\*ont-ar*, the Hittite 3 sg. “middle” in *-azi* (in forms of the type *paršiya*[zī] ‘breaks’), and, closer to home, English plurals like *children* (older *childer* < OE *cildru*), *kine* (older *kye* < OE *cy*), and (baby-talk) *feets*.

<sup>53</sup> The model, of course, was the distribution of the *e-* and *o-* variants (= Germanic *i-* and *a-* variants) of the thematic vowel in strong and class I weak presents.

eastern neighbor, replacing \*-ē- by \*-ai-/\*-a- in the present and virtually eliminating it everywhere else.<sup>54</sup>

§22. Tocharian, strictly speaking, tells us nothing about ē-verbs at all, since no reflex of stative \*-ē- has yet come to light in this branch of the family. But Tocharian does preserve a substantial inventory of modified *duhé*-presents, many of them formed to roots associated with ē-verbs elsewhere. These, of course, are the class III deponent presents in A -a-, B -e- (< CToch. \*-e-) and class IV deponent presents in A -a-, B -o- (< CToch. \*-o-), the phonology of which has already been discussed in §10. The class III/IV stem vowel was PIE \*-o-, clearly comparable to the non-alternating \*-o- of the thematic middle in Gothic (cf. passive *bairada*, *nasjada* < \*-otoi, for expected \**bairida*, *nasjida* < \*-etoi). In *SMIE* (47 ff.) I considered whether non-alternating or “persistent” \*-o- in thematic middles might have been a PIE feature. I now think this unlikely. What Germanic and Tocharian inherited from PIE was a common tendency for thematic middle paradigms to generalize \*-o- as the thematic vowel when the 3 sg. ended in \*-or/\*-oi rather than \*-etor/\*-etoi.<sup>55</sup> How this tendency played itself out in Tocharian can be seen from the development of the class III paradigm of *l(y)uk*- ‘shine’:<sup>56</sup>

	I	II	III	IV
sg. 1	* <i>luk</i> -(m)ar	* <i>luk</i> -o-mar	* <i>luk</i> -o-mar	* <i>luk</i> -o-mar
2	* <i>luk</i> -tar	* <i>luk</i> -e-tar	* <i>luk</i> -o-tar	* <i>luk</i> -o-tar
3	* <i>luk</i> -or	* <i>luk</i> -or	* <i>luk</i> -or	* <i>luk</i> -o-tor
pl. 1	* <i>luk</i> -med <sup>a</sup> ar	* <i>luk</i> -o-metor	* <i>luk</i> -o-metor	* <i>luk</i> -o-metor
2	* <i>luk</i> -d <sup>b</sup> qor	* <i>luk</i> -e-tqor	* <i>luk</i> -o-tqor	* <i>luk</i> -o-tqor
3	* <i>luk</i> -ntor	* <i>luk</i> -o-ntor	* <i>luk</i> -o-ntor	* <i>luk</i> -o-ntor

<sup>54</sup> \*-ē- must still have been vigorous in Germanic at the time of the creation of the dental preterite, which, as I will argue elsewhere, originated in constructions of the type \**warm-ē dedδ* ‘made warm, calē-fēcit’ and \**warm-ē dedai* ‘became warm, calē-factus est’.

<sup>55</sup> The form of the 3 sg. ending was important because, as will be seen directly, the presence of \*-or/\*-oi rather than \*-etor/\*-etoi in this position guaranteed the dominance of o-timbre within the paradigm. The predecessor of Go. *bairada* must have been a form like OIr. *berar* < \*-or, with dentalless \*-or, rather than a form like Gk. φέρεται.

<sup>56</sup> Again with arbitrary features, such as the form of the 1 pl. and 2 pl. endings and the relative chronology of some of the sound changes.

The forms in column I are those of a dialectal IE *duhé*-present. Column II shows the same forms after thematization and essential other changes; column III shows an intermediate stage with \*-o- generalized from the first and third persons to the second; and column IV shows the effect of replacing 3 sg. \*-or by \*-tor in the context of an already thematized non-alternating paradigm. The forms in column IV were the direct source of the attested class III present B *lyuketär*.<sup>57</sup>

It is no accident that the closest equivalent of Toch. B *lyuketär* in Latin is the ē-verb *lucēre*.<sup>58</sup> Other class III/IV presents with links to ē-verbs and/or *duhé*-presents outside Tocharian include A *asatär*, B *osotär* ‘dries out’ (root *ās-*; cf. Lat. *arēre*); B *märsetär* ‘forgets’ (root *märs-*; cf. Hitt. *marše(š)zi* ‘is/ becomes false’, Ved. *mṣā* ‘in vain’); B *pälketär* ‘burns’ (root *pälk-*; cf. Lat. *fulgēre* ‘shine’); A *pärkatär* ‘arises’ (root *pärk-*; cf. Hitt. *parkešzi* ‘grows high’); A *sikatär* ‘is flooded’ (root *sik-*; cf. Slav. \**sbčitb*); A *wakatär*, B *wokotär* ‘breaks open (intr.)’ (root *wāk-*; cf. Gk. (f) *αγῆναι* ‘break (intr.)’). B *lipetär* ‘is left over’ (root *lip-*) forms a three-way equation with OCS *prilipiti* ‘sticks (to)’ (inf. *-lipěti*) and Gmc. \**libaiþ* ‘lives’ — all pointing, pace Harðarson (334) and LIV (408), to a *duhé*-present with 3 sg. \**lip-ór*.

§23. Stative-intransitive root presents thus yield an internally consistent explanation for the Balto-Slavic *i*-presents, the Germanic class III weak verbs, and the Tocharian class III/IV presents — the three categories that make up the heart of the case for the supposed PIE “essives” or stative presents in \*-*h<sub>1</sub>-jé/ó-*. It remains only to emphasize that unlike the alleged suffix-complex \*-*h<sub>1</sub>-jé/ó-*, which has no independent basis in the comparative data from outside Balto-Slavic, Germanic, and Tocharian, the *duhé*-type is a well-established PIE category. Uncontroversial reflexes of *duhé*-presents are found in Anatolian and Indo-Iranian. Of these, a surprising number enter into word equations with Balto-Slavic and Germanic “ē-verbs”:

Ved. *duhé* = ON *dugir* (< \**dugaiþ*) ‘helps, is strong’. PGmc. \**dugaiþ* (class III) is confined to Old Norse; the other Germanic languages have the preterito-present \**daug* (Go. *daug*, OE *dēag*, etc.). Both are old; for

<sup>57</sup> With the usual “morphological” reflex of PIE \*-u- via intermediate \*-āu-. The initial palatalization is taken from related forms with etymological \*-eu- and \*-ēu-.

<sup>58</sup> With analogical -ū- from the noun *lux*, *lucis* and/or the Old Latin causative *lucēre* < \**louk-eje/o-*.



the formal relationship between the two compare Go. *man* : *munaiþ* and *kann* : *kunnaþ* 'knows how'.<sup>59</sup> In PIE the perfect *\*dʰedʰougʰ-e* and the stative-intransitive root present *\*dʰugʰ-ór* formed part of a single stative-intransitive system (§20).

GA. *sruiiē* 'is famed (as)' = Latv. *sluv* (< *\*-vi*; inf. *sluvēt*) 'becomes known'.<sup>60</sup> Other components of the stative-intransitive system of *\*kleu-* 'hear' were the perfect (cf. Ved. *śuśrāva*, etc.) and the "passive" aorist (Ved. *śrāvi*, GA. *srāuui*). The relationship of GA. *sruiiē* (*duhé*-pres.) to *srāuui* (pass. aor.) is exactly parallel to that of Ved. *vidé* (: *vid-* 'find'; see below) and *cité* (: *cit-* 'recognize') to the passive aorists *avedi* and *āceti*.

Hitt. *lagāri* 'is bent' = OCS *ležiti* (inf. *ležati* < *\*-ēti*) 'lies'. The underlying *duhé*-present *\*legʰ-ór* formed part of a stative-intransitive system, the other components of which, all attested, were a middle root aorist (cf. Gk. *λέκτο* 'lay down'),<sup>61</sup> a perfect (*λελοχῶσα* 'woman in childbed'), and a *je/o*-present (ON *liggja*, OE *licgan* 'lie').

Hitt. *ištuwāri* 'becomes public' = OHG *stuēt* (< *\*stuwaip*) 'atones, stands condemned (of)'. The expected Vedic *\*stuvé* 'is praised' is not actually found, but the passive aorist *ástāvi* 'was praised' strongly suggests the one-time existence of such a form (cf. the pattern *srāuui* : *sruiiē*, *āceti* : *cité*, *avedi* : *vidé*).<sup>62</sup>

Ved. *vidé* 'is known' < *\*is found* = Go. *witaiþ* 'observes' = Lith. *pa-vydi* (inf. *-vydėti*) 'envies'. As argued in Jasanoff 2003, 231 ff., the basic sense of PIE *\*uid-ór* was 'appears, is found', from which 'is known'

<sup>59</sup> In the latter case with heavy restructuring: *kunnaþ* is historically a nasal present *\*gʷnʰ-n-* or *\*gʷn-n-ʰ-*, and *kann* has been built to it. Also interesting is the pair OHG *mag* : *magēt* 'is able', attributed by LIV (422) to the same root ("\**magʰ-*") as Ved. *ā mahe* 'obtains'.

<sup>60</sup> See LIV (335) and the references there cited. Ved. *śrīvē* 'is famed as' is explained by Kümmel (1996: 118, 154) as an alteration of *\*śruvé*, the expected Indic counterpart of GA. *sruiiē*.

<sup>61</sup> From an earlier "stative-intransitive" aorist *\*logʰ-/legʰ-* (cf. note 45), with a direct reflex in the Hittite *hi*-conjugation verb *lāk-* 'make crooked'.

<sup>62</sup> I see little to recommend the LIV identification (600) of *ištuwāri* with Ved. *stāve*, the middle corresponding to the Narten present *stāuti*.

developed as a subsidiary meaning within the parent language.<sup>63</sup> Insofar as it retained its original value 'appears', *\*uid-ór* came to be paired with an active present *\*uidei-* 'see', which gave it the additional middle sense 'see with respect to oneself', i.e., 'observe', 'envy', etc.

§24. One and only one *ē*-formation remains to be accounted for — the unique Greek intransitive ("passive") aorist in *-η-* and its productive later variant in *-θη-*. There can be no doubt that the *\*-ē-* of the aorist passive is the "same" as that of other verbal *ē*-forms, and hence ultimately traceable to the *\*-eh<sub>1</sub>* of the instrumental singular. But it is not easy to find a plausible mechanism by which an instrumental of the type *gúhā/ \*gʷuǵʰ-éh<sub>1</sub>* could have been transmuted into an aorist. Two theoretically possible scenarios can be dismissed as unlikely:

1. *Direct verbalization*. A predicate instrumental of the type *\*mṛ(n)ē* 'is/was minded/mindful' could in principle have been reinterpreted as a finite form meaning 'came into the condition of being minded/mindful', leading to the creation of an aorist paradigm *\*mṛ(n)ē-m*, *\*mṛ(n)ē-s*, *\*mṛ(n)ē-t*, etc. (> Gk. *ἐμάνην*, *-ης*, *-η*, etc.). This was the explanation favored in SMIE (cf. §14). But apart from the non-trivial character of the assumed morphological remodeling (see above), the semantics are wrong: the predicate instrumental would not have had the punctual, change-of-state meaning of an aorist.

2. *Analogy*. Alternatively, an analogical aorist *\*mṛ(n)ē-t* could have been created to serve alongside the present *\*mṛ(n)ē-je-ti*, a model being provided by roots in *\*-eH-* with presents in *\*-eH-je-ti* and aorists in *\*-eH-t*. It is doubtful, however, that such a model ever existed. Presents in *\*-eh<sub>1</sub>-je/o-* (> *\*-h(j)ω > -έω*) invariably have aorists in *\*-eh<sub>1</sub>-s-* (> *-ησ-*) in Greek (cf. *θαρσέω* : *θαρσῆσαι*, *ἀνθέω* : *ἀνθῆσαι*, etc.), and not a single Greek aorist in *-η-* corresponds to a present in *-έω* (or *-ήω*) < *\*-eh<sub>1</sub>-je/o-*. Even at the PIE level, the status of the supposed pattern *\*-eH-je-ti* (pres.) : *\*-eH-t* (aor.) is questionable.<sup>64</sup>

<sup>63</sup> According to this view, the familiar *\*uid-e* 'knows' (Ved. *véda*, Gk. *οἶδε*, Go. *wait*, etc.) originated as an inner-IE back-formation to *\*uid-ór* 'is known'.

<sup>64</sup> Presents in *\*-je/o-* to "long-vowel" roots are quite common in the IE daughter languages, especially Balto-Slavic and Germanic, where they are traditionally called *verba pura*. The Anatolian counterparts of such presents, however, are not thematic *mi*-conjugation verbs in *-ie-/iya-*, but athematic *hi*-conjugation verbs in *-i-*; cf., e.g., Hitt. 3 sg. *išpai* : pl. *išpiyanzi* 'be sated' beside Ved. *sphāyate* 'grows fat', Lith. *spėjū* 'have time to spare', OE *spōwan* < *\*spō(j)an* 'thrive'; Hitt. *šai* : *ši-*

We must therefore look for a different kind of explanation, proceeding on the basis of what we already know. We know that PIE had stative presents of the form *\*X-eh<sub>1</sub>-je/o-*, and that their status as presents was marked by the present-forming suffix *\*-je/o-*. We further know that PIE (or some early IE dialects) had inchoative presents of the form *\*X-eh<sub>1</sub>-s(ke/o)-*, which took their inchoative present value from the inchoative-forming suffixes *\*-s-* and *\*-ske/o-*. Finally, we have seen that PIE had verbal abstracts of the form *\*X-eh<sub>1</sub>-ti-*, which owed their function as verbal abstracts to the abstract-forming suffix *\*-ti-*. The generalization is self-evident, but important enough to be stated explicitly: *the morphological role of a given ē-formation was determined by the derivational material that followed the \*-ē-, not by the \*-ē- itself.* It may not be obvious how any of this relates to the problem of the Greek aorist in *-η-*, which conspicuously lacks any added derivational suffix. Yet strictly speaking, it is only the finite forms of the η-aorist that are “suffixless” in this sense. The aorist passive also has nominal forms — an infinitive in *-ῆναι* and a participle in *-εῖς, -έντος* — which show the familiar ROOT + *\*-ē-* + DERIVATIONAL SUFFIX + DESINENCE structure of “normal” ē-formations (*-ῆναι* < *\*-eh<sub>1</sub>-sen-*; *-έντ-* < *\*-eh<sub>1</sub>-(e)nt-*). It is this property of the infinitive and participle of the η-aorist — their conformity to the normal structural template for derived forms in *\*-ē-* — that makes them the natural point of departure for an account of the η-aorist as a whole.

§25. The aorist passive infinitive, represented by forms like *μᾶνῆναι, (F)αγγῆναι, ῥυῆναι*, etc., is transparently the case-form in *-αι* (“directive”?) of a neuter abstract in *\*-ser/n-*, the same derivational suffix whose endless locative underlies the normal thematic infinitive in *-ειν* < *\*-e-hev*. Greek clearly inherited or created a nucleus of nouns of the

*yanzi* ‘press; release, shoot’ beside Lith. *sėjū* ‘sow’, OCS *sejo* ‘id.’, Go. *sajan* < *\*se(j)an* ‘id.’; and Hitt. *parāi*: *pariyanzi* ‘blow’ beside Slav. *\*prějo* ‘sweat’ (= Russ. *prěju*). Our traditional picture of the morphology of *verba pura* must therefore be revised: instead of normal thematic presents with a 3 sg. *\*eH-je-ti*, we must now set up *h<sub>2</sub>e*-conjugation “i-presents,” with a 3 sg. in *\*eH-j-e* (cf. Jasanoff 2003: 97 ff.). No such revision is needed or even possible in the case of the stative presents in *\*-eh<sub>1</sub>-je/o-*, which are reflected by ordinary thematic *mi*-verbs in Hittite (*maršezzi, dannattezzi*, etc.). *Verba pura* and statives thus had different present paradigms in the parent language, and we cannot use the fact that some *verba pura* (e.g., *\*seh<sub>1</sub>-i*) had root aorists beside them (e.g., *\*seh<sub>1</sub>-*; cf. Lat. *sēuī*) to explain the creation of aorists in *\*-eh<sub>1</sub>-* to stative presents in *\*-eh<sub>1</sub>-je/o-*.

type *\*mṛ(n)ē-sj* ‘condition of being minded/ mindful’, *\*uagē-sj* ‘condition of being broken’, etc., parallel in formation and meaning to the better-known abstract type in *\*-ē-ti-*. It is perhaps more than a curiosity that the well-developed Hittite “bakery” vocabulary includes an item <sup>NINDA</sup> *wakeš-sar* (i.e., “bite-bread”), which phonologically also seems to go back to *\*uagē-sj*.<sup>65</sup>

The participles *μανεῖς, -έντος, (F)αγεῖς, -έντος*, etc. are likewise independent nominal forms that were subsequently grammaticalized. The suffix *\*(é)nt-*, with functions generally paralleling those of *\*-tó-*, made adjectives as well as participles in PIE; cf., e.g., *\*b<sub>1</sub>r̥ǵ<sup>h</sup>-ént-* ‘having height, high’ (Ved. *bṛhánt-*, Av. *bərəzant-*, etc.), *\*kruh<sub>2</sub>-ént-* ‘having gore, bloody’ (Av. *xruuant-*), Hitt. *ḫappinant-* ‘having riches, rich’, etc. Since PIE is known to have had adjectives in *\*-ē-tó-/ \*eh<sub>1</sub>-tó-* (cf. Lat. *acētum*, etc.), with *\*-eh<sub>1</sub>-* extended by *\*-tó-*, there is every reason to believe that there were also adjectives of the type *\*rud<sup>h</sup>ē-nt-* (i.e., *\*h<sub>1</sub>rud<sup>h</sup>-éh<sub>1</sub>-nt-* or *\*h<sub>1</sub>rud<sup>h</sup>-eh<sub>1</sub>-ént-*) ‘red’, *\*mṛ(n)ē-nt-* ‘minded/ mindful’, and *\*uagē-nt-* ‘broken’, with *\*-eh<sub>1</sub>-* extended by *\*(é)nt-*. The function of these forms would have been to supply declinable attributive adjectives to uninflected predicate instrumentals — a usage that may have contributed, e.g., to the vigor of the participial adjective type *rubens, tacens*, etc. in Latin.<sup>66</sup> In Greek, *\*rud<sup>h</sup>ē-nt-* was suppressed, perhaps simply because there were enough ways to say “red” already. But *\*mṛ(n)ē-nt-* and *\*uagē-nt-* survived to yield the participles *μανέντ-, (F)αγέντ-* < pre-Osthoff’s Law *\*μανήντ-, \*(F)αγγήντ-*. What needs to be explained — and what, as we shall see, may hold the key to the whole problem of the aorist in *-η-* — is how and why these forms were specifically incorporated into the Greek verbal system as aorist participles.

§26. The oldest η-aorists in Greek seem to have been the replacements of middle root aorists. Thus, e.g., *ἐμίγη* corresponds to the root aorist *maṅtā* in Gathic Avestan and (with analogical zero grade) *ámata* in Vedic Sanskrit; *τεροσηναι* ‘dry up’ (for *\*τροσηναι*) corresponds to the Vedic root aorist participle *tṛṣṇā-* ‘thirsty’; *ἐμίγη* ‘mixed (intr.)’ competes with a root aorist *ἐμίκτο* in Greek itself; *ἐ(F)άγη* and many other η-aorists belong to roots whose overall *averbo* points to a middle root aorist even though

<sup>65</sup> I do not, of course, mean to suggest that *\*-eh<sub>1</sub>-ser/n-* was the general source of the Hittite suffix *-ešsar/-ešn-*, on which see Rieken (1999: 383).

<sup>66</sup> And the existence of inherited participles in *\*-ent-* may in turn have helped to fix *-ent-*, rather than *\*-eunt-*, as the regular 3 pl. ending in the present paradigm.

none is directly attested.<sup>67</sup> In concrete terms, it follows that at some point in the history of Greek, forms like 3 sg. \**uáǵ*-(t)ο ‘broke (intr.)’ were superseded by forms like \**uaǵ-é-t* (\**uaǵ-éh<sub>1</sub>-t*), and forms like the middle participle \**uáǵ-meno-* (\**mh<sub>1</sub>no-*) ‘(having been) broken’ were superseded by forms like \**uaǵ-é-nt-* (\**eh<sub>1</sub>-(e)nt-*). Our knowledge of linguistic change in progress makes it likely that this process would have been gradual, beginning in certain verbs and/or in certain parts of the paradigm and eventually spreading to others. The specific proposal I will make here is that the locus of the initial penetration of \**-é-* into the aorist in Greek was the *participle*. The first step in the creation of the η-aorist, I submit, was the replacement of aorist middle participles of the type \**mén-meno-*, \**uáǵ-meno-*, etc. by the etymological adjectives \**mῆ(n)-é-nt-*, \**uaǵ-é-nt-* (\**eh<sub>1</sub>-(e)nt-*), etc. Semantically, the two formations were very close, and the participial “feel” of stem-final \**-nt-* naturally encouraged the confusion between them. The reinterpretation of \**mῆ(n)-é-nt-*, \**uaǵ-é-nt-*, etc. as specifically *aorist* participles was conditioned by the punctual, aoristic meaning of the roots \**men-*, \**uaǵ-*, etc., and by the fact that present participles with stative \**-é-* ended in the contrasting sequence \**-ejont-*, with presential \**-je/o-*.<sup>68</sup>

The *de facto* substitution of \**mῆ(n)-é-nt-*, \**uaǵ-é-nt-* (\**eh<sub>1</sub>-(e)nt-*), etc. for \**mén-meno-*, \**uáǵ-meno-*, etc. would have had the effect of producing a synchronic situation in which some intransitive root aorists had normal middle finite forms (3 sg. \**mén-to*, \**uáǵ-to*, etc.) but participles in \**-é-nt-* (\**eh<sub>1</sub>-(e)nt-*).<sup>69</sup> It may seem surprising that a routine morphological renewal of the participle would have led to so dramatically “irregular” an outcome; from a naive point of view, one might rather have expected

<sup>67</sup> In the case of \**uaǵ-* in particular, the original stative-intransitive aorist (cf. note 61) is preserved in Hitt. *wāk-* ‘bite’ (*hi*-conj.) and Toch. B *wakam* ‘will break (intr.)’. Since stative-intransitive aorists are normally represented by middle root aorists in Greek (cf. λέκτο beside Hitt. *lāk-* ‘bend’), we should have expected to find a middle root aorist \*(*é*)*φακτο* as the Greek cognate of Hitt. *wāk-*. This is the form whose place was taken by *έ(φ)άγη*. See further Jasanoff (2003: 163 ff., 209).

<sup>68</sup> Indeed, it is even possible that the present stems \**mῆneje/o-* and \**uaǵeje/o-*, along with their participles \**mῆnejont-* and \**uaǵejont-*, were in use at the time of these developments — just as the present stems \**minēje/o-*, \**budēje/o-* were probably once in use in Balto-Slavic (cf. §§17-8).

<sup>69</sup> It is important to stress the word “some.” In cases where the root lacked Caland connections and had no old *-é-* forms (e.g., in the case of \**ǵ<sup>h</sup>eu-* ‘pour’), there would have been no adjective in \**-é-nt-* to compete with the old middle participle and hence no interference with the inherited state of affairs. The intransitive aorist of *χέω* ‘pour’ is thus *χύτο*, with participle *χύμενος*.

that the replacement of \**uáǵ-meno-* by \**uaǵ-é-nt-* would be attended by a simultaneous change of \**uáǵ-to* to \**uaǵ-é-t* (and 1 sg. \**uáǵ-mān* to \**uaǵ-é-m*, etc.) in the indicative. But the participle and the finite forms were fundamentally different. The establishment of \**uaǵ-é-nt-* as an aorist participle consisted in the reinterpretation of an existing nominal stem — the adjective \**uaǵ-é-nt-* ‘broken’ — as a proper verbal form. No comparable substitution of an aorist 3 sg. \**uaǵ-é-t* for \**uáǵ-to* was possible at this stage, because, as the comparative evidence makes clear, *no such form existed*. There was no *-é-*aorist in PIE, and no “fientive” in \**-é-* (\**eh<sub>1</sub>-*) that could be pressed into service as a surrogate for the root aorist.

Where, then, did the finite aorist paradigm \**uaǵ-é-m* (\**eh<sub>1</sub>-m*), \**-é-s*, \**-é-t*, etc. come from? The only answer that fully comports with the testimony of the other IE languages is that the aorist “passive” in -ην, -ης, -η, etc. was a back-formation from the participle in \*-ηντ-, created at some time prior to the Osthoff shortening of \*-ηντ- to -εντ-, and possibly much earlier.<sup>70</sup> Far from representing a pristine PIE category, the η-aorist, with no close cognates outside Greek, emerges as one of the most highly transformed, least original *-é-* formations in the family.<sup>71</sup>

§27. The subsequent history of the η-aorist in Greek saw further functional and formal changes. Functionally, the intransitive value of the η-aorist in pairs of the type *έ(φ)άγη* ‘broke (intr.)’: *έ(φ)άξε* ‘broke (tr.)’, *έφάνη* ‘appeared’: *έφηνε* ‘showed’, etc. led to its gradual evolution into a true passive. Formally associated with this development was the spread of the longer suffix-form -θη- (cf. *έλεχθη* ‘was said’, *έφιλήθη* ‘was loved’, *έλόθη* ‘was loosed’, etc.), a sequence whose somewhat murky history can now be better understood.

<sup>70</sup> From a purely formal point of view, the “cleanest” scenario would probably date all the developments described above to the period before the loss of laryngeals. But there is no basis for deciding on one chronology over another.

<sup>71</sup> There is a bare possibility that the η-aorist has a counterpart in Lithuanian. Although the Baltic *-é-*preterite as a whole is quite distinct from the forms discussed here, I have elsewhere (Jasanoff 2003: 156, n. 23) called attention to the existence of a small class of archaic-looking Lithuanian *-é-*preterites which recall Greek aorist passives in function and, in one case, etymology: *mīnė* (= *έμύνη*?) ‘recalled’ (: inf. *mīñti*, pres. *mēna*); *mīrė* ‘died’ (: inf. *mīñti*, pres. *mīrsta*); *vīrė* ‘boiled’ (: inf. *virti*, pres. *vérdā*); and *gīmė* ‘was born’ (: inf. *gīñti*, pres. *gēma*). It must remain a task for the future to determine whether the \**-é-* of these forms is genuinely equatable with “stative \**-é-*,” and if so, whether participles of the type \**mῆ(n)-é-nt-*, \**mῆ(r)-é-nt-*, etc. (= Lith. *minęs*, *mīręs*) played the same role in Baltic as their equivalents in Greek.

Two old ideas regarding the origin of the aorist in  $-\theta\eta-$  — periphrasis with  $*d^heh_1-$  ‘put, do’ and analogical generalization from a supposed PIE 2 sg. middle in  $*-thās$  (= Ved.  $-thās$ ) — can be swiftly discarded.<sup>72</sup>  $-\theta\eta-$  is clearly a special case of  $-\eta-$ , with  $-\theta-$  abstracted from roots or stems ending in  $*-d^h-$ . Yet it is difficult to find a model for the resegmentation. Nothing can be built on the fact that both an aorist ἔσχεθον ‘held’ (: ἔχω) and an aorist ἐσχέθην ‘stood fast’ (: ἵσχω) happen to be among the Greek reflexes of the PIE root  $*seǵh-$  ‘hold, prevail’; the two forms belong to different presents and have nothing synchronically to do with each other.<sup>73</sup> More promisingly, Risch (1974: 253 f.) adduces the extended root  $*puh-d^h-$  of Gk. πύθω ‘cause to rot’, with middle πύθομαι ‘rot (intr.)’; he suggests that in the aorist the contrast between transitive ἔπυσα (<  $*-d^h-s-$ ) and intransitive  $*ἐπύθην$  (<  $*-d^h-s-$ ;  $\eta$ -aorist) led to the reinterpretation of the  $-\theta$  as part of the suffix. But here too there is a fatal problem: the intransitive sense of the verb πύθω is confined to the present system. There is no intransitive aorist  $*\pi\upsilon\theta\eta-$  and no evidence that there ever was.

A better candidate for an explanation along the same lines is  $*pleh_1-$  ‘fill’, which makes a transitive active present πίμπλημι and a transitive  $s$ -aorist ἐπλησα. The intransitive present corresponding to πίμπλημι is the  $dh$ -present πλήθω, with an enlarged root  $*pleh_1-dh-$  that became independent early enough to spawn a small Caland system of its own (cf.  $s$ -stem πλήθος ( $\cong$  Lat. *plēbēs*) ‘crowd’, extended  $u$ -stem πληθύς ‘id.’). We should thus not be surprised to find a Caland  $\bar{e}$ -stative  $*\pi\lambda\eta\theta-\eta-$  as well; and as it happens, just such a form, thinly disguised, can be seen in the Homeric aorist passive ἐπλήσθην, with the same substitution of  $-\sigma\theta-$  for  $-\theta-$  as in ἐγνώσθην for  $*ἐγνώθην$  (: γινώσκω ‘know’), ἐμνήσθην for  $*ἐμνήθην$  (: μιμνήσκομαι ‘remember’), and other examples. The prehistoric system would have been the following:

	present	aorist
‘fill’	πίμπλημι	ἐπλησα
‘become full’	πλήθω	$*ἐπλήθην$

<sup>72</sup> Pace Rix (1976: 219 f.). Although Wackernagel’s comparison of Gk. 2 sg.  $-\theta\eta\varsigma$  with Ved.  $-thās$  (1890: 313) is still eye-catching, the reconstruction  $*-thās$  is no longer defensible. Schwyzler (1939: 762) gives a survey of the older literature.

<sup>73</sup> The late form ἐσχέθην (4th c.) is a normal case of  $-\theta\eta-$  added to the quasi-root  $\sigma\chi e-$ ; ἔσχεθον, though synchronically an aorist, is historically the imperfect of a no longer extant present  $*\sigma\chiέθω$ .

The pattern observable in these forms would have suggested a natural way to form passives to the transitive  $s$ -aorists of contract verbs (ἐφίλησα, ἐτίμᾶσα, etc.) — a function not easily filled by bare  $-\eta-$  ( $*\epsilon\phi\acute{\iota}\lambda\eta\eta\nu$  ‘I was loved’,  $*\epsilon\tau\acute{\iota}\mu\acute{\alpha}\eta\nu$  ‘I was honored?’). Speakers were inevitably led to set up a proportion ἐπλησα :  $*ἐπλήθην$  : : ἐφίλησα, ἐτίμᾶσα :  $X$ , where  $X$  was solved as ἐφίληθην, ἐτιμᾶθην.

§28. Our survey is now complete. As outlined in §16, the original PIE inventory of  $\bar{e}$ -formations consisted of forms of three types — 1) predicate instrumentals in  $*-éh_1$ ; 2) derived presents in  $*-eh_1-íé/ó-$ ; and 3) nouns and adjectives in  $*-eh_1-$  followed by a nominal suffix. We have seen above how this inherited nucleus, variously exploited and elaborated around the family, gave rise to new formal categories of tense-aspect and voice in the different IE languages. It is significant that these “second-generation”  $\bar{e}$ -formations — forms like the Hittite inchoative presents in  $*-e-s-$ , the Latin future and imperfect in  $*-e-b^h u-$ , the Slavic stative preterites (“aorists”) in  $*-e-s-$ , the Greek “passive” aorists in  $-(\theta)\eta-$ , and others — are all marked by a high degree of formal transparency, even when the details of their derivational history are uncertain or contested. Lying behind this transparency is the important fact that the suffix  $*-e-/eh_1-$  was *apophonically invariant*. After the loss of laryngeals, the stative morpheme was a clear and segmentable  $*-e-$ ; there were no ablaut variants  $*-o-$  <  $*-oh_1-$  or — pace Cowgill, Harðarson, *et al.* —  $*-a-$  <  $*-h_1-$ .

If PIE  $*-e-/eh_1-$  had been an ordinary verbal suffix, its failure to participate in ablaut alternations would be surprising. Within our framework, however, the apophonic stability of stative  $*-e-$  is self-explanatory. Historically, the ending of Ved. *gúhā* and its PIE forebear  $*g^huǵ^h-éh_1$  ‘with/in concealment, hidden’ was the full-grade, accented form of the PIE instrumental singular in  $*-éh_1 \sim *h_1$ . By late PIE, such forms had become indeclinable modifiers, convenient to use but inconveniently restricted to predicate position. It is this that explains their predilection for further suffixation of a low-level, structure-preserving type. The purpose of creating nominal and verbal derivatives in  $*-eh_1-ti-$ ,  $*-eh_1-(e)nt-$ ,  $*-eh_1-íé/ó-$ ,  $*-eh_1-s(ke/o)-$ , etc. was to extend the functionality of  $*-eh_1-$  while maintaining its synchronic transparency.

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