

## The Proterodynamic 'Perfect'

1. Miss Narten's theory 2. *-e/onti* : *-nti* 3. a theoretical objection 4. a PD 'perfect' 5. *-ēr* : *-r* 6. Hitt. *esa(ri)* 7. *μέμνηε* 8. *μῆδομαι* 9. *εἶωθα* 10. *ἄωγο* 11. *γέγωνε* 12. *ἄωγα* 13. Hitt. *saki/sekanzi* 14. other Hitt. verbs 15. Celtic 16. *-ro* 17. more Active PD verbs.

1. In *Pratidānam*, Festschr. Kuiper, (1968) 9—19 Johanna Narten presented her theory of the proterodynamic<sup>1)</sup> verbal inflexion. Without a doubt this theory opens a new chapter in this field of PIE linguistics.

Miss Narten made the following observations: there are some evidently very old Middle verbs that have full grade of the root (Skt. *śete*/*κεῖται*, *āste*/*ῥσται*, *vāste*, 3. pl. *óhate*/*εὔχεται*, *stáve*, *cáṣte*, *cyávante*/*σεῦται*); there are Active verbs with lengthened grade of the root (*stáuti*, *tāṣti*, *dāṣti*, *mārjmi*, perhaps *śásti* [root *\*keHs-*], OLith. *ėmi*). Some of these Active verbs have full grade in the plural (*tāṣti*, *tákṣati* [though zero grade *\*tkṣ-ati* is hardly possible]; perhaps *ėmi*, Skt. *adánti*). Also she observed that the oldest forms of the Middle verbs in Indo-Iranian have the endings of the Middle perfect (*śete*—*śáye*, *āste*—Av. 3. pl. *ānhāire*, *stáve*). In one case she found Active forms with lengthened grade and Middle forms with full grade from the same root: *stáuti*, *stáve*. On this basis she reconstructed an inflexion combining all these features: lengthened grade in Active singular, full grade everywhere else:

	PIE	PIE	Skt.
Act. 3 sg.	<i>CéC-ti</i> <sup>2)</sup>	<i>*stéu-ti</i>	<i>stáuti</i>
3 pl.	<i>CéC-nti</i>	<i>*stéu-nti</i>	<i>*stávati</i>
Mid. 3 sg.	<i>CéC-ei</i>	<i>*stéu-ei</i>	<i>stáve</i>

This type she called PD in distinction to the normal type:

	PIE	PIE	Skt.
Act. 3 sg.	<i>CéC-ti</i>	<i>*dyeíḱ-ti</i>	<i>dvés-ti</i>
3 pl.	<i>CC-énti</i>	<i>*dyíḱ-énti</i>	<i>dvís-ánti</i>
Mid. 3 sg.	<i>CC-toi</i>	<i>*dyíḱ-toi</i>	<i>dvís-té</i>

<sup>1)</sup> Henceforth PD.

<sup>2)</sup> In these formulas I use *CeC-* as a representative of all possible root shapes.

2. On this theory I would like to make some remarks.

First I recall that Miss Narten could explain the ablaut difference in the 3 pl. endings *-e/onti* : *-nti* by assigning each of them to one of the two inflexion types: normal *CC-énti* against PD *CéC-nti*. This explanation is a strong indication for the correctness of the theory, for it explains without further assumptions a fact for which the theory was not drawn up.

3. I think that one theoretical objection could be raised against the theory.

I would like to start with a few words on the name, PD. It should be stressed, as the author did, that it is only a name. (The old type now automatically gets the title hysterodynamic, HD. This is, as has often been remarked, a clumsy term and I would propose rather to call it the 'normal' type, a term that cannot be misunderstood. If one would like to use ciphers, the normal type should be 'I', the PD one 'type II'.) If we nevertheless compare the nominal inflexion, comparison should not be with the suffixed type *\*h<sub>2</sub>éu-i-s*, gen. *\*h<sub>2</sub>u-el-s*, because this is characterized by a *shifting* accent, which we do not find in the PD verb (the term PD does not suit this nominal inflexion, but it must of course be retained so as to avoid confusion). Comparison should be with the PD root noun, type *\*dōm*, gen. *\*dém-s*, which is exactly parallel to the PD verb. I make this observation as it might give an answer to an objection one could raise to Miss Narten's theory. This objection is this: the parallel she construes between the PD and the normal type, i. e. lengthened/full/full grade in Act. sg./ Act. pl./ Middle beside full/zero/zero, is not an argument for the correctness of the theory. For the ablaut relation of the normal type can be explained by the accent: an accented morpheme has full grade, unaccented morphemes have zero grade. But to the PD type this explanation is not applicable. I think that indeed the parallelism between the two types does not exist, but this is not an argument against the theory, as an inflexional type in which full and lengthened grade are found is presented by the PD root nouns. We cannot give a historical explanation of the lengthened grade (at least I think attempts hitherto have failed), but that such types existed cannot be denied.

4. The fact that the PD Middle forms in their oldest occurrences have perfect endings in Indo-Iranian proves, first, that these forms are very old, second, that these Middle forms originally belonged

to a 'perfect'. It has long since been accepted that the (later) perfect originally formed a separate present class much as the Hittite *hi*-conjugation beside the *mi*-verbs. Also the relation, both formal and semantic, between the 'perfect' and the Middle is generally accepted.

When the 'perfect', or the *H*-inflexion, was a present on the same level as the *m*-conjugation, we would expect for the 'perfect' (= Middle) or *H*-inflexion the same types as for the (Active) *m*-inflexion.<sup>3)</sup>

The objection that the normal Middle inflexion is not parallel to the Active one (Act. *dveṣ-/dviṣ-* against Middle *only dviṣ-*), is not valid to my mind. This Middle inflexion apparently has as its key-stones 2 sg. *CC-só(i)*, 3 sg. *CC-tó(i)*. This type is evidently an ablaut form of the Active forms 2 sg. *CéC-s(i)*, 3 sg. *CéC-t(i)*. This Middle category has clearly nothing to do—in origin—with that formed with the 'perfect' or *H*-endings. The original place of this set of endings (*CC-tó* etc.) is one of the central problems of the PIE verb, to my mind. Did it have a Middle value or not; and if so, was this value the same as that of the 'perfect' or not; and if not, what was the difference? (It is clear that I reject the theory that *-to* was formed from Active *-t* + 'perfect' *-o*. One reason is that in this way its accentuation cannot be convincingly explained.)

The essential point is that Miss Narten, though she saw that the Middle forms she studied were perfects, treated them as if they belonged to the *tó*-Middle class (which has *one* ablaut grade in all forms).

While the normal Middle inflexion is no argument *against* a parallelism of perfect (*H*-) and Active (*m*-) inflexion, an argument in favour of it is the fact that in the normal inflexion the ablaut type of the perfect is the same as that of the Active:

Active 1 sg. <i>*dʷelk-ti</i>	perfect <i>*ʷoid-h<sub>2</sub>e</i>	Skt <i>véd-a</i>
1 pl. <i>*dʷilk-mé</i>	<i>*ʷid-mé</i>	<i>vid-má</i>

I think, therefore, that a parallelism between perfect and Active must also be considered for the new PD type. This would mean:

Active 3 sg. <i>CéC-ti</i>	perfect <i>CéC-h<sub>2</sub>e</i>
1 pl. <i>CéC-me</i>	<i>CéC-me</i>

<sup>3)</sup> *H*- and *m*-inflexion after the element characterizing the 1 sg., *-h<sub>2</sub>e* and *-m(i)*.

5. The existence of this PD perfect finds confirmation in the existence of two endings for the 3 pl., *-ēr* and *-r* (cf. Françoise Bader, *BSL* 62 (1967) 87—105). I propose therefore:

normal perfect	<i>*uoid-h<sub>2</sub>e</i>	PD perfect	<i>CéC-h<sub>2</sub>e</i>
	<i>*uid-ér</i>		<i>CéC-r</i>

This explanation, of course, is entirely parallel to that given by Miss Narten for *-enti* : *-nti*, and is a confirmation of the purely theoretically posited inflexional type.

6. If we are right in assuming a PD perfect type we should demonstrate lengthened grade in perfects or in Middle forms.

I think in this respect the Hittite form *es-a(ri)* 'he sits' is important. In Old Hittite the root is written *es-* or *e-es-* (see for the forms Neu, Interpretation d. heth. mediopass. Verbalformen, 1968, 25—31). It is my opinion that PIE *ē* had become *i* in Old Hittite, where *e* and *i* are still mostly distinguished. I have the following evidence.

a) 3 pl. pret. *-ir* < PIE *-ēr*. This interpretation is generally accepted.<sup>4)</sup> Neu, Das heth. Mediopassiv und seine idg. Grundlagen, 1968, 124f., has pointed out that *-ir* is the oldest form of this ending: „es gibt im Hethitischen nur eine einzige Endung der 3 pl. prt., nämlich *-ir*, die sich innerhethitisch bei vokalischen Verbalstämmen mit dem auslautenden Stammvokal zu *-er* zu verbinden pflegt“ (p. 125) (N. B. This means *\*uemi(i)a-ir* with *ai* > *e*; cf. note 4 sub 3). PIE *-ēr* with short *e* is impossible because this *ē* appears as *e* in Old Hittite.

b) Instr. *-it* < PIE *-ēd*. This explanation is now also generally accepted, see Kammenhuber in *Handbuch der Orientalistik*, Kleinas. Sprachen, p. 302f. (henceforth *Handb. Or.*). In the Old Hittite ritual edited by Otten and Souček (Ein altheth. Ritual f. d. Königs-paar) I noted that all substantives have *-it* (seven forms, often in several versions; the instr.? *ke-e-e[t-* from *ka-* must be *\*ka-it*, see

<sup>4)</sup> Neu's theory, *Grundlagen* 131—13 and 140—143, that *-ir* represents PIE *-air* is unacceptable: 1) PIE did not have a vowel *a* [Neu does not accept the laryngeal theory]; 2) the *i* as present marker is always the last element; 3) PIE *ai* (< *h<sub>2</sub>ei*) and *oi* are represented by *e* in Old Hittite (see *IF* 76 (1971) 74 and the text above!); 4) OLat. has no trace of *-eir* (cf. Neu 178); 5) the long vowel is found back in Av. *-āire*. Neu's reconstruction of the history of the PIE verb is too much a schematical construction of possibilities and has lost contact with the facts.

above on *-er*). Here too *-ĕd* (Szemerényi, Einführung vgl. Sprachwiss. 169) is impossible as this would have been written *-et* in Old Hittite.

c) The word for 'hand', *kessar-n./kessera-c.*, is in OHitt. *ki-is-sa-r*- (Otten-Souček, Altheth. Rit. 48, cf. *HW Erg.* 1. *kisrā*, 2. *ki-is-sa-r-at* both old). When */kes-/* would have been meant, it would certainly have been written *\*ki-es-* here. Again this points to *ē*, and this might be an old neuter *\*ghēs-r*. For the lengthened grade cf. e.g. *ḫpaq < \*ġēk<sup>u</sup>-r*. This form is important here as it shows *-ēs-* > OHitt. *-is-*.<sup>5)</sup>

d) Here also belongs *gi-ir < \*kērd*, but I do not know whether *gi-ir* is old; it seems to be doubtful at all according to HW. (It would be an important test case to see whether new Old Hittite texts ever write *\*k/gi-e-ir*.)

e) The nominative of the pronoun for the second person singular in Old Hittite is *zi-ik zi-ga* (*Handb. Or.* p. 209). The form is never written with *e* (there is a sign *ze*) and as in Old Hittite *e* and *i* are largely kept distinct and as PIE *ē* is there represented by *e* (cf. *yes* 'we'; OHitt. e.g. *ú-e-sa* with enclitic *-a*), the *i* of *zik* must represent *ē* (*i* or *ei* being etymologically excluded).<sup>6)</sup>

This implies that OHitt. *es-* represents PIE *\*(h<sub>1</sub>)es-*, with short *e*. Then the *ēs-* to which Skt. *āste* and Gr. *ἵσται* point must be PIE *\*(h<sub>1</sub>)ēs-* (rather than *\*eh<sub>1</sub>s-*; from *eh<sub>1</sub>s-* a form *h<sub>1</sub>es-* can only be

<sup>5)</sup> Schindler, *IF* 72 (1967) 245, prefers *\*ghēsōr*, but then the *ē* cannot be explained. His objection that we would expect *-n-* in the oblique cases is not decisive. We have beside *ḫpaq*, *μεσ-ημβρ-ia*, *ḫμέρη*; *ōraq*, *ὄνειρος*, which probably show an *r*-inflexion (whether old or young). The forms cited also show ablaut forms parallel to those that might present *kissar/kessera-*. Compare also Arm. *awr < \*āmōr* and *anurj < \*anōrjō-*. If *kessar-* derives from *\*ghēsōr*, are we to assume a masculine or feminine beside the neuter? Or do the preceding forms rather point to one paradigm (with *\*ghēsōr* as nom. pl., cf. *wedār* beside sg. *uātar* [from PIE *\*uōd-r*?]). The form *\*ghes-*, to which point the other IE languages and perhaps some Hittite forms, might belong to a paradigm *\*ghēs-r*, gen. *\*ghes-r-s*. The neuter paradigms still present many problems.

<sup>6)</sup> It was assumed (Surtevant, *Comp. Gr.*<sup>2</sup> § 82c) that *tē* became *ze* in Hittite. When *ē* was *i* already in Old Hittite, we can no more control whether the development was *tē > zē > zi* or rather *tē > ti > zi*. Palaic has *tī* (Carruba, *Das Palaische*, 1970, p. 44), which rather suggests (but not proves) that *ē > i* was a common development of Proto-Anatolian. (I prefer this term to Proto-Hittite-Luwian. That one must know that Phrygian and Armenian do not belong to the Anatolian group does not seem a serious difficulty.) The nouns in *-zil/-zel* are too difficult to base conclusions upon them (*Handb. Or.* p. 299f.).

formed by Schwebeablaut, which must not be assumed within one paradigm).

There is one other possibility of explaining  $\bar{e}s$ -, namely by reduplication from  $*h_1es$ -,  $*h_1e-h_1s$ - >  $\bar{e}s$ -. However, it is improbable that  $*h_1eh_1s$ - and  $*h_1es$ - existed side by side. Also I think that  $es$ - did not have a laryngeal. By some scholars roots of the shape  $eC$ - are considered impossible, but I think we must assume them (some arguments may be found in my Development of the PIE Laryngeals in Greek 91). The Hittite root  $as$ - (Neu, *Interpretation* 25—31, gives only *asanta* 2 × and *asanzi* 1 ×, beside the nominal forms *asatar*, *asanna*-) gives no reliable evidence for a laryngeal ( $*h_1s$ - >  $as$ -), as the  $a$  in weak cases was surely secondarily extended (Kammenhuber, *Handb. Or.* 242. It may be observed that  $as$ - could not be explained by Miss Narten either, who assumes not ablauting  $*eh_1s$ -). A positive argument for the absence of a laryngeal is the following. The root  $sed$ - 'to sit' is to my mind an extension of the root  $*es$ -. If  $*es$ - really was  $*h_1es$ -, we would have  $*h_1s-ed$ -. This form would have given  $*\varepsilon\delta$ - in Greek, but we find  $\bar{e}\delta$ - ( $\bar{\varepsilon}\delta o\varsigma$  etc.). This would prove that  $*es$ - had no laryngeal.<sup>7)</sup>

As, then, the root 'to sit' probably was  $*es$ -, the forms  $es$ - and  $\bar{e}s$ - may be combined into:

perfect 1 sg.  $\bar{e}s-h_2e$   
3 pl.  $\bar{e}s-r$

7. The lengthened grade perfects (preterits) have been 'abolished' by modern scholars. The Latin as well as the Germanic forms have been explained as analogical, and probably rightly so. One form that survived the storm is Gr.  $\mu\acute{\epsilon}\mu\eta\lambda\epsilon$  (Iliad 11×, Od. 2×, always at the end of the verse).

This form, as anyone—as far as I see—agrees, must be ancient, as its type is entirely isolated in Greek, and as there is no possibility of explaining the long  $e$  as a Greek innovation.<sup>8)</sup>

<sup>7)</sup> Hittite also has active forms, *eszi*, *esanzi*, already in Old Hittite. If this form is old, i. e. of PIE origin, one might explain  $\bar{e}s$ - from active PD  $*\bar{e}s-mi$ . However, a PIE active is not probable here: 'to sit' is a typical 'Zustandsverb' for which we expect a 'perfect' inflexion. This is indeed attested by Av. *ānhāire*.

<sup>8)</sup> Another remarkable form of this root is  $\mu\acute{\epsilon}\mu\beta\lambda\epsilon\tau o$  (Φ 516 χ 12;  $\mu\acute{\epsilon}\mu\beta\lambda\epsilon\tau a i$  is suspect (of being recent): it occurs only T 343, elided, after  $\mu\epsilon\tau\acute{\alpha}\varphi\rho\epsilon\sigma\iota$ , which is normally followed by  $\sim$  ( $\bar{\varepsilon}\rho\gamma a$  etc.)  $\mu\acute{\epsilon}\mu\eta\lambda\epsilon$ ).  $\mu\acute{\epsilon}\mu\beta\lambda\epsilon\tau o$  seems to be  $*me-ml-e-to$ . One would like a theory which could explain both forms at once. Did  $*m\bar{e}l-/me-ml-$  form one system originally? Did  $\mu\acute{\epsilon}\mu\beta\lambda\epsilon\tau o$  replace  $*\mu\epsilon\mu\beta\lambda a t o$  <  $*me-ml-to$ ? Cf. n. 10.

8. A second Greek form that might confirm our theory is *μήδομαι* (Iliad) beside *μέδομαι*. Nevertheless there are difficulties. Frisk is sceptic about the direct connection of the two verbs, but exactly on the basis of the lengthened grade. This cannot be an argument here, but a difficulty from the nouns with *\*mēd-*. Gr. *μήδος* (Iliad) might have been derived from *μήδομαι*. The Germanic forms, Goth. *us-mēt*, OHG *māza* and, with *o*-grade, OHG *muoza*, Goth. *mota*, OE *mōt* as well as Arm. *mit-k'* (pl.) might go back to a root noun or else be a derivation of our *\*mēd-h<sub>2</sub>e*. For OE *mōt*, Goth. *ga-motan* we would have to assume a parallel *o*-grade *\*mōd-h<sub>2</sub>e*. Therefore a form *\*meh<sub>1</sub>-d-*, as suggested by Frisk (beside *\*med-* < *\*mh<sub>1</sub>-ed-*, or *\*m-ed-* beside *\*m-eh<sub>1</sub>-?*) cannot be excluded. However, the existence of *μήδομαι*—*μέδομαι* side by side much more probably points to levelling of a (one) paradigm than to two different PIE roots. For the nominal forms and the *o*-vocalism of the Germanic forms compare the next paragraphs.

9. Gr. *εἶωθα* (Iliad) beside *ἔθως* points to a form *\*se-suōdh-*, which is generally accepted, and considered, to cite Frisk, as an “*altes intransitives Perfekt des Zustandes*”. There can be no doubt that this is one of the verbs most close to the original function of the ‘perfect’. Here, as in the case of *μήδομαι*, we find lengthened grade vocalism in a noun, *ἦθος*. For *ἦθος/ἔθος* I would compare *γῆρας/γέρας*.

10. A good case is *ἄωρτο* ‘was hanging’. It is found twice, in identical passages, in the Iliad, *Γ* 272 = *T* 253, and in Theocr. 24, 43. In Homer we find:

*Ἀτρεΐδης δὲ ἐρυσσάμενος χεῖρεςσι μάχαιραν  
ἣ οἱ παρ ξίφεος μέγα κουλεὸν αἰὲν ἄωρτο*

Agamemnon in both passages takes his *μάχαιρα* to cut off hairs from the victim in an offer scene which accompanies a solemn oath. A description where very well an ancient detail may have been preserved. Four or five manuscripts and some (commentators?) according to Eustathius read *ἄορτο*, which, says Leaf, “is clearly the correct form, not the entirely anomalous *ἄωρτο*”. It seems evident, however, that the understandable *ἄωρτο* was removed by some ancient editors (see the note below). This is a clear instance of a *lectio difficilior* which has to be retained: it could not be explained how *ω* came in the text. Therefore Monro-Allen do not mention the variant, nor do Schwyzler, *Gr. Gr.* 1,769 n. 12 and

Chantraine, *Gr. hom.* 1.24 and 421, *Dict. étym.* s.v. 2. ἀείρω, who propose an Aeolic ἄορτο with  $ορ < ρ$ , which must be rejected for the same reason: it is not possible to explain how  $\omega$  came in the text. Metathesis quantitatum from augmented  $\bar{a}ορ-$ , as held by Liddell-Scott-Jones, *Gr.-Eng. Lex.* s.v. ἀείρω, is not possible since the  $\bar{F}$  was probably still present in this form when the verse was made (cf. μετήορος, παρήορος, -ίαι Iliad, μετ- συνήορος, τετράορος Od., which do not present metathesis), and when it would have occurred, it would have given \*ἔωρτο, cf. μετέωρος.<sup>9)</sup> The reading is confirmed by Theocritus, 24,43, which is a repetition of the Homeric phrase: μετὰ ξίφος, ὃ οἱ ὑπερθεῖν / κλιντήρος κεδρίνου περὶ πασσάλῳ αἰὲν ἄωρτο. The manuscripts have no variant here.

The form, then, was ἄωρτο, and it is apparently a relic in Greek, in fact occurring only once. It belongs with ἀείρω (there was only one ἀείρω, see e.g. Chantraine, *Dict. étym.*) and can only represent \* $h_2\mu\delta r-$  (on the laryngeal see my *Development* 83–5), a form without reduplication.<sup>10)</sup>

11. Another form that might belong here is γέγωνε 'shout so as to make oneself heard', which has been connected with γιγνώσκω (Schwyzer, *Gr. Gr.* 1.770,5). The root vocalism is no objection in our theory: \*(ǵe-)ǵōnH- $h_2e$ . The etymology is not essential in this interpretation: as a PIE root  $CeHn-$  ( $CeHm/r/l-$ ) does not occur,

<sup>9)</sup> A form ἔωρτο, glossed by Hesychius as ἐκρέματο, is cited by Wackernagel, *Gött. Nachr.* 1902, 737 (*Kl. Schr.* 1,113f.). However, suspicion is aroused by the fact that the three preceding items in Hesychius read: ἐωρηθήτω· κρεμαθήτω· ἐωρίζεται· μετεωρίζεται, ἀναπατεῖ· ἐωρούμενος· κρεμάμενος, ὑποούμενος. It is evident that these three forms derive from αἰωρέω. The gloss of ἐωρίζεται, μετ-εωρίζεται, further suggests that ancient grammarians confused αἰωρέω and ἀείρω (a temptation hardly resisted by modern scholars; see on αἰωρέω *Die Sprache* 18(1972)122n.7). This becomes certain when we adduce the testimony of Eustathius on *Γ* 272 who has: ἄωρτο, ἦρον ἠώρητο καὶ ἐκρέματο. καὶ κατὰ συγκοπὴν τοῦ η καὶ συστολῇ τῆς ἀρχούσης ἄωρτο. εἰ δὲ συστέλλεται κατὰ τινος τὸ ο τῆς παραληγουσῆς, δηλοῖ μὲν καὶ οὕτως το ἐκρέματο. This means that in antiquity scholars considered ἄωρτο as derived from ἠώρητο (which comes from αἰωρέω) through syncope of η and shortening of the first syllable. Hesychius' ἔωρτο then seems a construction along these lines, perhaps an emendation. I am not convinced that it represents \*ἦορτο.

<sup>10)</sup> The fact that -ωρ- was maintained though the Middle endings all begin with a consonant (except 3 pl. -ντ- > -ατ-) seems due to the influence of an active \*ἄωρα. Perhaps an active perfect belonged together with a Middle pluperfect as suggests Françoise Bader, *BSL* 64 (1969) 92f. (citing ἔμμορε — εἵμαρτο, μέμλε — μέμβλετο, οἶκα — ἦμκτο).



as far as I know,  $-\gamma\omega v-$  must represent  $-g\bar{o}n(H)-$ . That the Greek form is ancient is evident from its isolation.

12. Traditionally  $\tilde{\eta}$  'he said',  $\check{\alpha}v-\omega\gamma-a$  and Lat. *aio*, *adagium* are connected. However,  $\tilde{\eta}$  has  $\bar{e}$  as appears from Alkman  $\tilde{\eta}\tau\acute{\iota}$ , but Lat.  $*ag-$  can hardly represent  $*\bar{a}g-$ , i.e.  $*Hg-$ , because Latin did not vocalise a laryngeal in anlaut before consonant, as appears from the fact that Latin has no prothetic vowels. Therefore Lat.  $*ag-$  supposes full grade,  $*h_2eg-$ , which can only have had  $h_2$ . *Adagium* with long  $\bar{a}$  (a short one would have given  $*adigium$ ) confirms this: the word must derive from a root noun  $*h_2\bar{e}g-$  (cf. Lat. *ambāges*). Gr.  $\tilde{\eta}$  must then be separated from *aio*<sup>11</sup>),  $\check{\alpha}v-\omega\gamma-a$  might stand for  $*h_2\bar{o}g-$ , though other interpretations are not impossible ( $*oh_2g-$ ;  $*h_3e-h_3(o)g-$  when not cognate with *aio*).

13. Until now we have found in the Middle = 'perfect' forms, beside the full grade  $e$  with which Miss Narten started, lengthened grade with  $\bar{e}$  ( $\tilde{\eta}\sigma\tau\alpha\iota$ ,  $\mu\acute{\epsilon}\mu\eta\lambda\epsilon$ ,  $\mu\acute{\eta}\delta\omicron\mu\alpha\iota$ ) and  $\bar{o}$  (OE *mōt* etc.,  $\epsilon\acute{\iota}\omega\theta\alpha$ ,  $\check{\alpha}\omega\gamma\tau\omicron$ ,  $\gamma\acute{\epsilon}\gamma\omega\nu\epsilon$ ,  $\check{\alpha}v\omega\gamma\alpha$ ). We have also seen that  $\bar{o}$  and  $\bar{e}$  occurred side by side in forms from the same root, as  $\mu\acute{\eta}\delta\omicron\mu\alpha\iota$  / OE *mōt*. These two observations lead me to posit a perfect ablaut with  $\bar{o}$  in the singular and  $e$  in the plural.

In general it should be pointed out that such an ablaut type is well known in PIE, in the nominal inflexion. We have e. g.  $*d\acute{o}m$ , gen.  $*d\acute{e}m-s$ ,  $*n\acute{o}k^{ut}-s$ , gen.  $*n\acute{e}k^{ut}-s$  (Lat. *nox*, Hitt. *nekuz*, cf. Schindler, KZ 81 (1967) 290—303),  $-\bar{o}n/-en-$  ( $\alpha\acute{\iota}\omega\nu$ ,  $\alpha\acute{\iota}\acute{\epsilon}v$ ).

I think this type of ablaut is preserved by the Hittite *hi*-verbs that present ablaut. The type is as follows (the roots *sak-/sek-*, *ak-/ek-*, *ar-/er-* have been combined; for the exact form and date of the forms see Kammenhuber, *Handb. Or.* 232f.):

pres.	pret.	imp.
<i>sak-hi</i>	<i>sak-hun</i>	( <i>ag-allu</i> )
<i>sak-ti</i>	<i>sak-ta</i>	<i>sak</i>
<i>sak-i</i>	<i>ar-s</i>	<i>ak-u</i>
<i>sek-<math>\mu</math>eni</i>	<i>sek-<math>\mu</math>en</i>	
<i>sek-teni</i>		<i>sek-ten</i>
<i>sek-anzi</i>	<i>sek-ir</i>	<i>sek-andu</i>

<sup>11</sup>) For  $\tilde{\eta}$  connection with Skt. (pf.)  $\acute{a}ha$ , 2 sg.  $\acute{a}ttha$ , Av.  $\acute{a}da$  could now be considered.

It seems best to cite the observations given by Prof. Kammenhuber in the *Handbuch der Orientalistik*:

a) Sobald man ein wenig Rücksicht nimmt auf die althethitischen Belege . . . , (continued in b)

b) ergibt sich, daß der *a/e*-Wechsel von *sak-* usw. in völligem Gegensatz zum Präsensablaut *e : a* (...) in heth. *ed-/ad-* 'essen' usw. [the *mi*-verbs] steht . . . (p. 234).

c) Der skizzierte Perfektablaut ist nämlich im Hethitischen nicht mehr produktiv. Alle Verben mit nachträglich erworbenem *e/a*-Wechsel haben sich an den Typus *ed-/ad-* mit Präsensablaut angeglichen . . . (p. 235).

d) handelt es sich . . . bei *sak-*, *ar-*, *ak-* also um Perfektstämme (\**sog-*, \**or-*), . . . Allerdings hat das Hethitische mit *a : e* . . . umgestaltet gegenüber dem idg. Perfekt mit . . . Ablaut *o* (...) im Singular : *Schwundstufe* im Plural. . . die . . . Umbildung des Hethitischen, wo idg. *o* : *Schwundstufe* (*ə*) in *a* zusammengefallen wäre (...). Dabei wird die . . . Umbildung des Ablauts zusätzlich dadurch gestützt, daß die heth. 3 Pl. Prt. auf *-er* (< 3 Pl. des idg. Perfekts; ...) bei allen Typen von ablautenden Verben überwiegend die Hochstufe zeigt (*eter* 'sie aßen' usw.) (p. 234).

e) daß der Anlaut *a-* häufig plene geschrieben wird gegenüber dem tiefstufigen *a-* bei *ed-/ad-* usw. und gegenüber *arnu-* (: idg. *r̥-neu/nu*) (p. 233).

It appears then that the type is old, being non-productive in Old Hittite. The explanation given, it is hardly necessary to say, is not convincing for it is not clear why *e* was introduced into the *plural*. If both PIE *o* and zero (what is meant with *ə* is not clear, probably either a laryngeal or the reduced vowel *e* or both) became *a* in Hittite, why would contrary to the—at least in later times—prevailing influence of the ablaut of the *mi*-verbs the *e* have been introduced in the plural? The 3 pl. pret. explains nothing, but needs explanation itself.

Our theory has no need of any additional hypothesis: *a* in the singular developed from PIE *ō*, as against *e* in the plural from PIE *ē*. (This explains why 3 pl. pret. has *e*. Only we must assume that Hittite to some extent generalized the PD inflexion in the *hi*-verbs, the 'normal' one in the *mi*-verbs.) The plene writing of *a*-might indicate long *ō*, but this is very dubious, as is well known (cf. Kammenhuber, p. 199 N.B. on pl. *uēdār* against sg. *uātar*).

A striking confirmation of the interpretation of *sak-i/sek-anzi* as a PD verb gives the participle. Miss Narten postulated for the PD participle a form of the type *\*stéu-nt-s*, which she found in the unique Gatha-Avestan *stauuas*. Such a form is found in Hitt. *sek-ant-*, which is one of the very few Hittite participles to have full grade (*"akkant-* statt *\*ekkant-* als Partizip überrascht weniger als die Bewahrung von [OHitt.] *sekkant-* bis ins Spätheth." *Handb. Or.* 235). Of course, Hittite does not continue *-nt-*, which the extremely archaic Avestan form has, but generalized *-ant-*.

In this way we can also account for two isolated Armenian forms. The first is *utem* 'eat', which belongs undoubtedly with Gr. *ἔδω* etc. (As for OLith. *ĕmi*, this might result from a replacement of *ō* by *ē*, as e. g. *-ηρ* (δοτήρ) for *-ωρ* (δότηωρ). Cf. also *μήδομαι* / OE *mōt*.) The other form is Arm. *unim* 'to have, hold', when Meillet (*Esquisse*<sup>2</sup>, p. 48) is right in deriving it from *\*ōp-ne-* and connecting it with Hitt. *epmi*.

However, both verbs in Hittite have exactly the *e/a* ablaut of the *normal* type (already in Old Hittite; see the forms in *Handb. Or.* 226f.). I cannot explain this. It should be noted that the origin of *ep-/ap-* etc. cannot be regarded as definitely established. (Or are we to assume that both inflexion types could occur from the same root?).

14. We saw that there is a genetical relation between Middle verbs and the perfect. In Hittite this is evident from the fact that the Middle category has endings of the same origin as the *hi*-conjugation. A priori we might therefore expect the same ablaut type with Middle verbs as with *hi*-verbs in Hittite.

The ablauting Middle forms of Hittite are given by Neu, *Grundlagen* 50f. Of the five verbs showing *e/a* ablaut *ep-/ap-* has *ap-* in the Middle forms. This seems a clear instance of the normal type of ablaut. *Es-/as-* 'to sit' was discussed above; *as*-forms seem to be late. The three remaining verbs may be of interest here: *mer-/mar-* 'hinschwinden', *ues-/uas-* 'bekleiden' and *hes-/has-* 'öffnen'. Of *mer-/mar-* the forms found are (*HW* and Neu, *Int.* 116):

pres. sg. 3	<i>mīr-zi</i>	Middle	<i>mar-ta-ri</i>
pret. sg. 3	<i>mer-ta, mar-ta</i>		<i>mer-tat</i>
imp. sg. 3	<i>mer-du</i>		
pl. 3			<i>merr-āntaru</i>
ptc.	<i>merrant-</i>		

The original distribution has apparently been given up, but it seems that *mer-* ousted *mar-*. It is significant to note that we evidently have here an old type, since the *a*-forms are exactly not found where they occur in the secondary ablaut type; note the participle with *e*. Of course it is dangerous to build any conclusions on this as we have most forms only once. If indeed we find here traces of a PD ablaut, it is interesting to see that Active and Middle had the same type of ablaut. This is what we expect on the basis of our theory.

Of *ues-/uas-* we find (Neu, *Int.* 193 n. 2):

pres. sg. 2	<i>uasasi</i>	
3		Middle <i>uesta</i> (old)
pl. 1	<i>uasueni</i>	
3	<i>uassanzi, uessanzi</i>	<i>uessanta</i> (old)
imp. pl. 2	<i>uesten</i>	
3	<i>uassandu</i>	
ptc.	<i>uassant-</i>	

Here too the distribution is not clear. It looks as if in the Active *a* became dominant, in the Middle *e*. The last fact is in contradiction with the type *epmi* : Middle *appa(n)tat*. This rather points to the second, PD type. (In fact it would be the type from which Miss Narten concluded a Middle with full grade *e*.) On the other hand, in the Active *a* hardly represents a generalized zero grade. An ablaut *\*uōs-/ues-* in both Active and Middle seems therefore possible.

The most difficult case is *hes-/has-* (Neu, *Int.* 54, *Grundl.* 50 n. 178):

pres. sg. 3	<i>hāsi, haszi</i>	
pl. 3	<i>hassanzi, hesanzi</i>	Middle <i>?hāsanta</i>
pret. sg. 3	<i>hasta, hassit</i>	<i>hestat</i>
pl. 3	<i>hāser, hes(s)ir</i>	
imp. sg. 2	<i>hes</i>	
3	<i>hesdu</i>	
ptc.	<i>hassant-, hessant-</i>	

„Ein Verteilungsprinzip ist nicht auszumachen“ (Neu, *Grundl.* 50). This is, in itself, an indication of an old type that disappeared, because the normal type (sg. *-e-*, pl. *-a-*) remains productive to the very end of our Hittite sources. The coexistence of *hessant-* and *hassant-* also rather points to an old *hessant-*, which belongs to the

PD type. Note the forms with  $\bar{a}$ . A complicating factor is the  $h$ -. If the root is of Indo-European origin, and if  $h_1$  in anlaut disappeared, *hes-* is not understandable, and if the laryngeal was not  $h_1$ , the  $e$ -vocalism of *hes-* cannot be old (unless it was retained analogically). If, on the other hand, the root is not of IE origin, its value for PIE ablaut is doubtful (though of course it might have taken over an IE type).

15. I only mention that here may be found the explanation of the Celtic non-reduplicated preterits with long  $\bar{o}$  or  $\bar{e}$  in the root, OIr. *gád* <  $*g^uh\bar{o}dh-h_2e$  (pres. *gu(i)díd* 'ask'), (depon.) *mídar* <  $*m\bar{e}d-h_2e + r$  (pres. *mídithir* 'judges'). I am not able to discuss this category.

16. The foregoing is only one step and much remains to be explained. One thing is the 3 pl. ending *-ro(i)* (contaminated in *-éro(i)*). Did the perfect have 'Middle' forms as did the Active (or *m*-) inflexion? What was the value of these forms? It is of course possible that they were merely accentual variants with no special value, at least in origin. All this cannot be discussed here.

17. As to the original idea I would like to call attention to Skt. *dhá-vati* 'runs, flows' beside *dhávate*. The coexistence of the two forms suggests a PD paradigm. Another case may be *krámati* *krá-mate* 'steps out, goes' (the normal inflexion would have given  $*kram-$  or  $*krami-$  <  $*kremH-$ ,  $*krim-$  or  $*krām/n-$  <  $*kr̥mH-$ ).

In Greek I would suppose lengthened grade for  $\tau\rho\acute{\omega}\gamma\omega$ , against zero grade in  $\tau\rho\alpha\gamma\epsilon\bar{\iota}\nu$ . It is generally assumed that this root contained a laryngeal ( $*troHg-$ ), but  $*t_rHg-$  would have given  $*\tau\rho\bar{\alpha}\gamma-$  (even  $*\tau\rho\eta\gamma-$  with  $h_1$ ,  $*\tau\rho\omega\gamma-$  with  $h_3$ ). It is possible that  $\tau\rho\acute{\alpha}\gamma-$  is an instance of secondary ablaut, as is  $\epsilon\rho\rho\acute{\alpha}\gamma\eta\nu$  from  $\epsilon\acute{\eta}\gamma\gamma\nu\mu\iota$ <sup>12</sup>). But there is—now—no reason not to assume  $*tr\bar{o}g-/t_rg-$  ( $*tr\bar{o}g-mi$ ,  $*t_rg-\acute{e}/\acute{o}-$ ).

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<sup>12</sup>) Though the etymology of  $\epsilon\acute{\eta}\gamma\gamma\nu\mu\iota$  gives difficulties. The possibility cannot be excluded that this verb too has lengthened grade. The nouns may derive from root nouns (see *Development* 246f.).