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The Position of the *hi*-Conjugation

§ 1 Although the Hittite verbal system presents many problems for IE comparative grammar, no morphological category of Hittite has proved so resistant to historical analysis as the *hi*-conjugation. The synchronic position of this formation is well-known. All non-deponent verbs in Hittite belong descriptively to one of two form-classes: the “*mi*-conjugation”, characterized by the endings *-mi*, *-ši*, *-zi* in the present singular active, and the “*hi*-conjugation”, characterized by the endings *-hi* (OH *-he*), *-ti*, *-i*. The distinction between the two types is maintained in the preterite singular, where the corresponding endings are *-(n)un*, *-š* (*-t*), *-t* (*mi*-conj.) and *-hun*, *-(š)ta*, *-š(ta)* (*hi*-conj.); it is effaced, however, in the plural, where both *mi*- and *hi*-verbs show the endings *-weni*, *-teni*, *-anzi* in the present and *-wen*, *-ten*, *-er* in the preterite². From a functional point of view the two conjugations cannot be meaningfully distinguished: *hi*-verbs, like *mi*-verbs, may be transitive or intransitive, and eventive or stative (cf. *wāki* ‘bites’ beside *kuenzi* ‘kills’, *ari* ‘arrives’ beside *merzi* ‘disappears’, *šakki* ‘knows’ beside *ešzi* ‘is’). Both groups include, beside athematic root presents, presents equipped with a variety of consonantal and vocalic suffixes (cf. *šarrai* ‘transgresses’, *dāi* ‘puts’, *lahui* ‘pours’, *iyannai* ‘proceeds’, *šuppiyahhi* ‘purifies’; *anniyaz(z)i* ‘performs’, *daškizzi* ‘takes (iter.)’, *hatarizzi* ‘writes’, *arnuz(z)i* ‘brings’, *maršešzi* ‘becomes false’).

The identity of the *mi*-series of endings with the endings of the IE athematic active, and the overall comparability of the *mi*-conjugation with the IE active present, have been recognized since the very beginning of Hittite studies. The general affinities of the *hi*-endings are known also: Hitt. *-hi*, *-ti*, *-i* strikingly recall both the IE perfect endings **-h₂e*, **-th₂e*, **-e* and the oldest forms of the middle endings, which in the 1–3 sg. and 3 pl. differed only in vocalism from those of the perfect (cf. J. Kuryłowicz, BSL 33, 1–4 (1932); Chr. S. Stang, NTS 6, 29ff. (1932)). Serious obstacles, however, stand in the way of a direct identification of the present of the *hi*-conjugation with either the IE perfect or present middle. The perfect denoted a state in the parent language (cf. Ved. *véda*, Gk. (F)οἶδε, Go. *wait* ‘knows’; Gk. μέμνε ‘intends’, Lat. *meminit* ‘remembers’, Go. *man* ‘thinks’), but stative *hi*-verbs are neither especially numerous nor associated with roots which can be shown to have formed perfects in Indo-European (cf. below). A straightforward derivation of the *hi*-conjugation from the middle is not easily reconciled with the fact that the middle remains a living category in Hittite, with endings (*-ha(ri)*, *-ta(ti)*, *-(t)a(ri)*, etc.) which contrast in both form and function with those of active *hi*-verbs.

§ 2 Indo-Europeanists have long been aware of these difficulties, and have repeatedly sought ways to circumvent them. Despite its weaknesses, the view that the *hi*-conjugation is the lineal descendant of the IE perfect is so widely held at

¹ I shall ignore, as basically irrelevant to our discussion, the fact that certain Hittite verbs hesitate between the two conjugations or show a mixture of *mi*- and *hi*-forms. Such cases are only to be expected in a language recorded over a period of half a millennium; in general the two classes are systematically distinguished.

² Similarly, there is no difference between *mi*- and *hi*-verbs in the middle.

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present that it may fairly be termed the "standard" theory. Its most important recent exponent is H. Eichner, *Flexion und Wortbildung* 71ff.³, who assumes that in early Anatolian, as, e. g., in Italic and Germanic, the perfect acquired the value of a resultative preterite: forms such as 1 sg. **akha* thus came to mean 'I have died' from earlier 'I am dead, *τέθνηκα*'. Preterites of this type, characterized by the endings **-ha*, **-ta*, **-e* in the singular and **-er* in the 3 pl., merged semantically, in Eichner's view, with the inherited preterite class in **-m*, **-s*, **-t* (3 pl. *(*-e*)*nti*). The two formations were then free to compete, and the type in **-ha* was extended to roots which had never formed perfects in Indo-European. Eventually, preterites in **-ha* came to be provided with analogical presents in **-hai*, **-tai*, **-ei*; a model for this development was furnished by the preterites in 1 sg. **-m*, which corresponded to presents in **-mi*, **-si*, **-ti*. There thus arose a second complete conjugational class. The present endings **-hai*, **-tai*, **-ei* developed regularly to *-hi* (*-he*), *-ti*, *-i*, while the preterite endings **-ha* and **-e* were ultimately replaced by *-hun* and *-š*. In the plural, where the distinction between the two types was lost, *-anzi* (< *(*-e*)*nti*) and *-er* became the general endings of the 3 pl. present and preterite, respectively.

Eichner's reconstruction of the *hi*-conjugation endings as **-hai*, **-tai*, **-ei* is certainly correct⁴, and, if accepted, his theory would adequately account for the non-stative value of most *hi*-verbs. Yet it is difficult to believe that the Anatolian perfect could ever have been as productive as Eichner supposes. Unlike other IE languages in which the perfect has spread as a preterite, Hittite lacks unambiguous relic forms like **wethi* 'I know' (cf. Go. *wait*) or *(*me*)*manhi* 'I remember' (cf. Go. *man*); strictly speaking, there is no unassailable evidence for the perfect in Anatolian at all⁵. Moreover, since Eichner's theory explains the vast majority of *hi*-presents as back-formations from secondarily created *ha*-preterites, it should be possible, if his explanation is correct, to identify individual instances in which an IE athematic active (*mi*-)present has been transferred, via its preterite, to the *hi*-conjugation. Such cases do not exist: it is significant that the Hittite correspondents of Ved. *ásti* 'is', *áti* 'eats', *éti* 'goes', *váṣti* 'wants', *sásti* 'sleeps' and *hánti* 'slays' are *éšzi*, *ezzaazi*, (*pā*)*izzi*, *wekzi*, *šéšzi* and *kuenzi*, rather than **ási*, **ati*, *(*pā*)*i*, **wakkti*, **šakki* and/or **kuani*⁶. And it is doubtful, even granting Eichner's initial assumptions, whether the hypothetical preterite type in **-ha* could have led to the creation of a present class in **-hai*. In no other IE language has the contrast between primary and secondary endings been productively extended as the sole device for distinguishing presents from preterite forms; Slavic, for example, has not created presents in 3 sg.

³ Almost identical views are offered by E. Risch in the same volume, pp. 247-258; see also J. Kurylowicz, *Proc. VIII Int. Cong. Ling.* 239ff.

⁴ See especially W. Cowgill, *Proc. XI Int. Cong. Ling.* 565f. That the *-i* of the *hi*-endings continues a diphthong was shown by B. Rosenkranz, *Jahrbuch für Kleinasiathe Forschung* 2, 339-49 (1953).

⁵ Such evidence is certainly not provided by the Luvian 1 sg. pret. in *-ha*: since the corresponding 3 sg. ending is *-ta* (< **-to*; cf. OIr. impf. 3 sg. *bered* < **bhereto*) it is at least possible that the Luvian preterite is based on an old middle paradigm.

⁶ Similarly, the Hittite nasal-infix verbs (type *harníkzi* 'destroys') and *nu*-verbs (type *arnuz(zi)* 'brings'), which indubitably continue IE athematic presents in **-mi*, **-si*, **-ti*, belong exclusively to the *mi*-conjugation. The prehistory of the *hi*-conjugation type in *-anna/-anni(ya)* (cf. *iyannai* 'proceeds', 3 pl. *iyanniyanzi*) is obscure; a direct comparison with the Sanskrit ninth class (cf. *krindti* 'buys' < **néh₂-ti*) is phonologically impossible.

**-sti* to sigmatic aorists in **-st*, nor has Germanic back-formed presents in 3 sg. **-ei* to strong preterites in **-e*⁷.

In short, the theory that the *hi*-conjugation continues the IE perfect can only be described as inadequate. Its relatively wide acceptance is due less to any striking merits of its own than to the apparent absence of serious alternatives.

§ 3 Proponents of the view that the basic affinities of the *hi*-conjugation are with the middle rather than the perfect have been hard-pressed to explain the fact, already noted, that the endings *-hi*, *-ti*, *-i* are synchronically active and contrast with middle forms in *-ha(ri)*, *-ta(ti)*, *-(t)a(ri)*. Rosenkranz' theory (JKF 2, 339ff. (1953)) that oppositional and non-oppositional (deponent) middles were formally distinguished in Indo-European and that the *hi*-conjugation originally consisted of middles of the latter type, is not unreasonable from an *a priori* point of view; it is flatly contradicted, however, by the fact that some of the best established IE deponents, such as **kés(i)to* 'lies' (cf. Ved. *śáye*, Gk. *κείταί*), *(*h₁*)*és(t)o* 'sits' (cf. Ved. *áste*, Gk. *ἵσταί*) and **ués(t)o* 'wears' (cf. Ved. *váste*) correspond not to *hi*-verbs, but to deponents in Hittite (cf. *kitta(ri)*, *éstari*, *wékta*). E. Neu's derivation (Studies Palmer 239ff.) of both the *hi*-conjugation and the middle from an IE category which he calls the "medio-perfect" is likewise unable to account for such agreements, and involves questionable assumptions about the antiquity of the middle as well.

Even less credence can be placed in the view, first put forth by F. Hrozný in 1917 (*Die Sprache der Hethiter*, 101; see also W. Couvreur, *Annuaire de l'Institut de Philologie et d'Histoire Orientales et Slaves* 4, 551ff. (1936)), that the endings of the *hi*-conjugation ultimately derive from those of IE thematic presents like **bhère/o* 'carry' and **uéghejo* 'convey'. To be sure, a significant number of *hi*-verbs, such as *šarra* 'transgress' and *arra* 'wash' are to all appearances thematic. Of these, however only one (*neya* 'lead'; cf. Ved. *nāya* 'id.') can plausibly be regarded as the reflex of an inherited form⁸; it would clearly be artificial to suppose that the numerous and well-entrenched athematic verbs of the *hi*-conjugation have simply taken their endings from the thematic type. The evident connection between Hitt. *-hi* and the thematic 1 sg. in **-ō* < **-oh₂* must be explained, but not in the manner envisaged by Hrozný.

§ 4 The difficulty of deriving the *hi*-conjugation from any traditionally recognized category of Indo-European has been seen by W. Cowgill, who in a paper presented at the 1974 Winter Meeting of the Linguistic Society of America attempted to

⁷ I choose these examples because both Slavic and Germanic appear prehistorically to have merged the IE perfect, imperfect and aorist into a single "preterite" category. Note that in Indo-Iranian and Greek, where the contrast between the primary and secondary endings is of considerable descriptive importance, the augment is employed in the secondary tenses as a redundant mark of their preterital value.

This argument is not seriously vitiated by the fact that a small number of IE root aorists, such as **dhéh₁-t* 'put', appear to have been provided with primary endings in Hittite (cf. *tezzi* 'says'). Once the imperfect and aorist had merged in Anatolian, the creation of occasional aorist-presents would have been all but inevitable.

⁸ Even here there are phonological problems. IE *(*h₁*)*ej-e/o* 'go, proceed' is the source of Hitt. *iya* 'march'; consequently, in order to derive *neya* from **neh₁-e/o* it would be necessary to assume that IE **ei* became **ē* in Anatolian before the loss of postvocalic **h₁* and/or **h₃*, and that in secondary hiatus this vowel subsequently merged with Hitt. *e* rather than with *i*. Neither assumption, so far as I am aware, can be independently motivated.

explain the *hi*-conjugation within the framework of the Indo-Hittite hypothesis. In Cowgill's scheme, both the *hi*-conjugation and the IE perfect represent different developments of a single Indo-Hittite denominative type, which became associated with "telic" roots in Hittite, but was specialized as a stative present in Indo-European proper. This is not the place to criticize Cowgill's views, which have yet to be set forth *in extenso*; for the moment, it should suffice to note that no "Indo-Hittite" theory of the *hi*-conjugation can be seriously entertained until every possible explanation along more traditional lines has been considered and rejected. And as we shall now see, there is one alternative theory which, though almost embarrassingly simple, has never been accorded the attention it deserves.

§ 5 Virtually all previous attempts to interpret the Hittite verbal system have assumed that the *hi*-conjugation is an innovation — a development of the perfect, or of a variety of the middle, or of the thematic conjugation, or of a hypothetical Indo-Hittite formation such as that envisaged by Cowgill. Given the classical reconstruction of Indo-European, it is easy to see why this assumption has imposed itself: until recently, there has been no reason to doubt the traditional view that the endings of the IE perfect (and *a fortiori* those of the middle) were excluded from the active of the present-aorist system in the parent language. In the past decade, however, the legitimacy of this position has come into question. The work of C. Watkins has shown (Idg. Gr. III. 1, *passim*) that the thematic 1 sg. in **-oh₂* did not arise in late Indo-European as an isolated aberration for "regular" **-om₁*, but rather belonged to an ancient inflectional type in which the 2 sg. and 3 sg. ended in **-eth_{2e}* and **-e*, respectively. Thus, the basic affinities of the classical thematic active appear to have been with the perfect and the middle rather than with the athematic present type in **-mi* — a seeming paradox with important consequences for the reconstruction of the IE verbal system as a whole⁹. The thematic aorist may originally have constituted a similar category: under Watkins' analysis (*op. cit.*, ch. 7), the ending of forms like **yidēt* 'found, saw' was originally produced by suffixing **-t* to an earlier 3 sg. in **-é*.

Once the possibility is admitted that Indo-European had active presents and aorists with endings that belonged to the "*h₂*-series" rather than the "*m*-series", a new and straightforward approach to the problem of the *hi*-conjugation suggests itself. The IE present active, in my view, contained paradigms of two kinds — those characterized in the singular by the endings **-mi*, **-si*, **-ti* (3 pl. **(é)nti*), and those characterized by the endings **-h_{2e}*, **-th_{2e}*, **-e* (3 pl. **(é)r*), traditionally regarded as proper only to the perfect. Presents of the latter type included full-grade thematic stems (**bh₂ere/o-*, **yégh₂e/o-*, etc.) as a special case; here the 1 sg. ending apparently underwent shortening from **-oh_{2e}* to **-oh₂* within the common period¹⁰. More

⁹ It is important to stress that Watkins' reconstruction of the thematic paradigm does not depend on his hypothesis that the thematic vowel originally spread from 3 sg. forms like **bh₂ere*, where it was etymologically a desinence. The theory advanced below would tend weakly to argue against this view.

¹⁰ The thematic conjugation is marked by other peculiarities as well, e. g., the 3 pl. in **-ont₁*, which seems to have replaced a form with an *r*-ending within the common period (cf. § 12). In the 3 sg., the appearance of **-e* for expected **-e-e* (> **-ē*) is problematic: it is possible that forms like **bh₂ere* were athematic at an early period (cf. the preceding note), but equally thinkable that they were originally nominal forms which came to be integrated into the present system without an overt desinence. I think it much less likely that a pre-IE **bh₂ere-e* could have been reduced to **bh₂ere* by an inherited apophonic process.

importantly for our present purposes, however, the type in **-h_{2e}* also included athematic presents of several distinguishable varieties (see §§ 7–11 below); these, with the addition of the **-i* of the *hic et nunc*, directly yielded the basic subclasses of the *hi*-conjugation.

Put very simply, I propose to see in the *hi*-conjugation the direct formal and functional continuant of an IE category — one which, for want of a better term, I shall refer to below as the "**h_{2e}*-conjugation"¹¹.

§ 6 There are, of course, a number of apparent difficulties with this hypothesis, most notably the fact that outside the thematic conjugation the putative type in **-h_{2e}* is nowhere preserved in the non-Anatolian languages. But this, in the last analysis, is not very surprising. Athematic presents, as a synchronic type, are common only in Hittite and Indo-Iranian, and to a lesser degree in Greek, Balto-Slavic and Tocharian. Everywhere outside Anatolian the number of such presents has been restricted, in most cases very severely; statistically, inherited athematic stems are most frequently represented in the IE daughter languages by thematic presents in **-e/o* and **-ie/o-*. Clearly, the same forces which operated to eliminate the *mi*-class in the post-IE period would have worked to restrict the putative athematic type in **-h_{2e}* as well. In the latter forms, however, there was an additional factor which contributed to the instability of the inherited situation, namely, the coincidence of the athematic 3 sg. in **-e* with the thematic ending of forms like **bh₂ere*. Thus, there would have been intense pressure for any athematic *h_{2e}*-presents which survived beyond the early dialectal period to join the regular thematic type; as we shall see below, it is chiefly in a thematic guise that the non-Anatolian reflexes of the *h_{2e}*-conjugation are attested.

Less serious, it seems to me, is the potential objection that Indo-European, if it already had an active type in **-mi*, would have had no need for a second, and isofunctional type in **-h_{2e}*. This argument is no more cogent for Indo-European than it is for Hittite, where the *mi*- and *hi* conjugation endings exist side by side with no discernible difference in meaning. It is obviously tempting to speculate that the *h_{2e}*-presents of the parent language *originally* differed in some semantic particular from their counterparts of the *mi*-conjugation (see § 12), but it is not necessary to conclude from this that such a contrast was still operative at the end of the common period.

§ 7 The above theory would be completely *ad hoc* if the only motivation for assuming presents in **-h_{2e}* in Indo-European were the existence of *hi*-verbs in Hittite. But in fact there are several groups of presents in the non-Anatolian daughter languages which have never been adequately explained, and which readily lend themselves to analysis within the new framework.

We may begin by considering the present of the root **melh₁-* 'grind' outside Anatolian. Thematic forms with *o*-grade are attested in Germanic (Go. *malan*, Ger. *mahlen*) and Baltic (Lith. *malù*, inf. *màlti*), while *e*-grade is found in Old Irish (*melid*) and, with the suffix **-ie/o-*, Slavic (OCS *melj_o*, inf. *měti*). It is impossible to determine whether the *-o-* of Lat. *molō* is original or continues earlier **-e-*. Zero-

¹¹ A somewhat similar position was taken forty years ago by H. Pedersen, *Hitt. 80–86*, who posited a single IE formation as the source of the thematic conjugation, the perfect and the *hi*-conjugation. Pedersen's view of the *h_{2e}*-endings as basically intransitive, however, is clearly untenable; as it stands, his analysis cannot be seriously maintained.

grade vocalism is found in Umbr. *kumaltu* 'commolito', MW *malu* and Arm. *malem*, which reflect a stem **m̥h_xe/o-*. To account for these forms, which evidently stand apart from Ved. 3 sg. impv. *mamartu* and 2 sg. impv. *mṛṇīhi*, A. Meillet, in a little-noticed 1916 article (MSL 19, 181-90) proposed to derive them from an IE athematic root present **molh_x-* (**molə-*) / **melh_x-* / **m̥h_x-*. This analysis is clearly still the best available, and will be assumed in the discussion that follows¹². Given our current knowledge of the IE apophonic system, it may be surmised that **molh_x-* and **melh_x-* were respectively the strong and weak allomorphs of the inherited present stem, while **m̥h_x-* dialectally replaced **melh_x-* in much the same way that, e.g., 3 pl. *mṛjānti* 'wipe' and *stuvānti* 'praise' replaced **mārjati* and **stāvati* (cf. 3 sg. *mārṣti*, *stāviti*) in Vedic Sanskrit (cf. J. Narten, *Pratidānam*, 1968, 12ff.)¹³.

The present of **melh_x-* is by no means isolated. Several other twentieth-century scholars have addressed the question of whether Indo-European had a primary present type in **-o-*, the most important being R. Hiersche, IF 68, 149ff. (1963) and P. Gärtchen, Die primären Präsentien mit *o*-Stufe in den idg. Sprachen (Diss. Breslau, 1905). The list of verbs that follows, comprising only a fraction of the valid cases, is largely taken from these sources; note the seemingly promiscuous interchange of **-o-* and **-e-* in the root, and of **-e/o-*, **-e/o-* and occasionally zero in stem-final position.

**bherh_x-*: cf. OI *berjask* 'fight', Lith. *barù* 'I scold' (OLith. athem. *barmì*), OCS *borjō* 'I fight' with *o*-grade; Lat. *feriō*, *-ire* 'strike' with *e*-grade.

**bhedh(h_x)*¹⁴: cf. OCS *bodŭ* 'I stab', Lat. *fodiō*, *-ere* 'dig' (Ennius nom. pl. ptcip. *fodentēs*) with **-o-*; Lith. *bedù* 'I dig' with **-e-*.

**ghengh-*: cf. Go. *gaggan*, OI *ganga* 'go' with **-o-*; Lith. *ženŕiù* 'I step' with **-e-*. Watkins (personal communication) compares also OIr. *cingid* 'steps', from a root-variant **kengh-*.

**gheu-*: cf. Gk. *χόω* 'pile up' with **-o-*; *χέω* 'pour' with **-e-*. Note further the athematic subjunctive (< present) of *ku-* 'pour' in Tocharian B, where *o*-grade in the active singular (e.g. 1 sg. *kewu*) contrasts with zero-grade, probably replacing earlier **-e-* (cf. fn. 12), in the middle (3 sg. *kutār*).

**ghrebh-*: cf. Go., OHG *graban* 'dig' with **-o-*; OCS *po-grebŭ* 'I dig' with **-e-*. **g*hedh-*: cf. OIr. *guidid*, *guid* 'prays' with **-o-*; Lith. *gedù*, *-džiù* 'I long for', OP *jadīyāmiy* 'I ask for' with **-e-*. Note also perhaps OIr. *lase arān-neget* (3 sg.), gl. *orādo* (ML 61^b1), with **ged-* for **god-* (cf. Watkins, IE Origins of the Celtic Verb 120).

**g*her-*: cf. Lith. *garù*, 3 p. *gārì* 'burn', OCS *gorjŭ*, 3 sg. *goritŭ* 'id.' with **-o-*; Gk. *θέρουμαι* 'I grow warm' with **-e-*. As argued in my Stative and Middle in IE, § 90, the stem-vowel **-i-* of the Balto-Slavic forms probably indicates an athematic 3 pl. in **-inti* < **-nti*.

¹² Alternatively, of course, one might attempt to derive the *o*- and *e*-grade present forms of **melh_x-* from two distinct formations in the parent language. But while such an interpretation would be possible if **melh_x-* were an isolated lexical item, it will not account for the systematic tendency of all *o*-grade presents to appear with *e*-grade by-forms (see the following list). Other proposed explanations of the **molh_x-* / **melh_x-* type, none very persuasive, are summarized in the works cited below.

¹³ The replacement of "weak" full-grade forms by forms with zero-grade is a commonplace of IE linguistic history; it can be exemplified in every branch of the family. For the ablaut **molh_x-* / **melh_x-* compare IE **pod-* / **ped-* 'foot' (cf. J. Schindler, BSL 7, 31ff. (1972)).

¹⁴ For the reconstruction with a laryngeal see § 9.

**(h₁)eigh-*: cf. the Hesychian gloss *εἴεται* *οἴεται* 'departs'. The root **(h₁)ei-* 'go' is an enlarged form of **(h₁)ei-* 'go'.

**h₂uegs-*: cf. OHG *wahsan*, OI *vaxa*, *vera* (< **wahsjan*) 'grow' with **-o-*; Gk. *ἀ(φ)έξουμαι* 'I grow' with **-e-*. The root is an *s*-enlarged form of **h₂eug-* 'increase'.

**kjev-*: cf. Arm. *էօգայ* 'I went', 3 pl. *էօգան* (< **kijəy_{nto}*)¹⁵, perhaps also Gk. *σοῦμαι* 'I rush', with **-o-*; Gk. *σεῦμαι* (3 sg. also *σεῦται*) 'I hurry', Ved. *cyávate* 'goes off' with **-e-*.

**kenk-*: cf. Go *hahip*, OHG *hāhit* (< **hanhīp*) 'hangs (tr.)', OHG *hangēt* (< **han-gaiþ*) 'hangs (intr.)', Lat. *cunctor*, *-āri* 'delay' (presupposing an underlying **comcor*, *-ī*) with **-o-*. No *e*-grade forms are directly attested, but an earlier athematic paradigm is suggested by the unpalatalized velar of Skt. *śankate* 'hesitates' (for **śankte* or **śanke*).

**nes-*: cf. Toch. B *nesāri* (athem.) 'is' with **-o-*; Gk. *νέομαι* 'I return home', Go. *ganisan* 'be saved' with **-e-*. For the semantics of the Tocharian form compare Gk. *πέλεται* 'is' < 'goes' (: Ved. *cārati*).

**terp-*: cf. Go *ga-barban sik* (3 sg. *-aiþ*) 'abstain from', Toch. A *tsarwatār* 'is confident' with **-o-*; Gk. *τέρομαι* 'I rejoice' with **-e-*. On the Germanic and Tocharian forms, which point to a 3 sg. **torpo(r)*, see SMIE § 70.

**uelh_{xg}-*: cf. OE *wealcan* 'roll, turn over', Toch. B *woloktār* (athem.) 'stops' (cf. NE 'turns in') with **-o-*. Further evidence for an athematic present is provided by the unpalatalized velar of Ved. *vidgati* 'jumps' although, as in the case of **kenk-* (see above), no forms with *e*-grade are directly attested. The root-form **uelh_{xg}-* is presumably an enlargement of **uel(h_x)-* 'turn'.

§ 8 For Meillet in 1916 the assumption of an ablauting paradigm in **-o-* / **-e-* for the verbs above implied the original existence of active singular forms in **-mi*, **-si*, **-ti*. Note, however, that a paradigm in **-h₂e*, **-th₂e*, **-e* would be equally compatible with the view of the IE verbal system presented in §§ 5-6. Moreover, such a reconstruction would explain the failure of the **molh_x-* / **melh_x-* class to show overt *mi*-forms in Indo-Iranian and Greek: in place of direct reflexes of **ghouti*, **(h₁)dighiti*, **h₂uógsti*, **kijóuti*, **kónkti*, **nósti*, **tórpti* and **uólh_xgti* these languages attest only forms which are thematic or middle, or both¹⁶.

It is Hittite, however, that supplies the decisive evidence for the reconstruction of a paradigm in **-h₂e*. As is well-known, Hittite has athematic verbs in which a strong stem in *-a-* alternates with a weak stem in *-e-*, and these belong exclusively to the *hi*-conjugation. There are five examples: *ar-*, *er-* 'come, arrive'; *asāš-*, *asēš-* 'settle (tr.)'; *haš-*, *heš-* 'open'; *k(a)rap-*, *k(a)rip-* 'eat, fressen'; *šak(k)-*, *šek(k)-*, 'know'. (A sixth case, *ak(k)-* 'die', shows ablaut only in the late pret. 3 pl. *ekir* and probably did not originally belong here.) These verbs have always presented difficulties. Under the theory that the *hi*-conjugation continues the perfect it is easy to account for the apparent *o*-grade of the strong forms, but not for the *e-* of the weak forms; Eichner's suggestion (*op. cit.*, 87) that *-e-* was diffused from a reduplicated stem **h₁e-h₁r-* > *er-* (cf. Lat. *ēmī* < **h₁e-h₁m-*) is unlikely in view of the absence of re-

¹⁵ G. Klingenschmitt, in a personal communication, has suggested that the *-a-* of the Armenian passive aorist originated in the 3 pl., where **-nto* regularly gave *-an*.

¹⁶ The athematic presents of OLith. *barti* and Toch. B *nes-* constitute only apparent exceptions; see note 32. Among other *o*-grade presents, Lat. *tonō*, *-ere* (beside *tonāre*) 'thunder' has an apparent cognate in Ved. 2 sg. impv. *stanīhi*, but the vocalism of *tonō* has probably been influenced by that of *sonō*, *-ere* (beside *sonāre*) 'sound' < **suenh_x-*.

duplication in the corresponding strong stem *ar*.¹⁷ Other things being equal, it would clearly be preferable to take the forms in question at face value, i. e., as inherited presents with **-o-/*-e-* apophony and *h₂e*-inflection. The roots *ar*, *haš*.¹⁸ and *karap*- easily lend themselves to comparison with the **molh_x-/*melh_x-* type *ar*-, like Go. *gangan*, Gk. *οἴεται*, Arm. *Եօգայ* and Ved. *váḡati*, is a verb of motion; *karap*- is conceivably cognate with Go. *graban* and OCS *po-grebo* (the original sense would then have been 'rummage'; compare NE (slang) *grub* 'food' from the same root). Although stative in meaning, *sak(k)*- can be analyzed in the same way¹⁹. Only *ašaš*-, with its exceptional intensive reduplication, clearly represents a different formation; I have already suggested (SMIE § 62) that it is to be compared formally with Ved. *lalāya* (MS) 'wavers' and Go. *reiraiþ* 'trembles', which appear to reflect a type of intensive which inflected as a perfect in the parent language.

§ 9 The ablauting verbs of the *hi*-conjugation are few in number and restricted to stems ending in a single consonant. It is probable, however, that such verbs were once more common. Roots of the structure *TERT*-, for example, do not form apophonic presents in Hittite, but there is every reason to believe that they were originally as capable of showing ablaut as roots of the form *TERT*-.: the absence of paradigms of the type 3 sg. **TaRT-i* : 3 pl. **TeRT-anzi* (**TRT-anzi*) reflects nothing more than the fact that before sequences of liquid or nasal + consonant IE **e*, **o* and zero merged as Hitt. **a*²⁰. In effect, therefore, we should expect to find the **molh_x-/*melh_x-* type largely represented in Hittite by non-apophonic *hi*-verbs with *a*-vocalism. At least three such examples present themselves.

The family of Lat. *molō* and Go. *malan* is represented in Hittite by *malla*- 'grind', a thematic verb of the *hi*-conjugation. The root-vocalism of this form is ambiguous, although the treatment of IE **-lh_x-* as Hitt. *-ll-* makes it likely that **molh_x-* or **melh_x-*, rather than **mlh_x-*, was the ablaut-grade of the preform. The thematic inflection of *malla*-, like that of its Italic, Celtic, Germanic and Baltic cognates, is clearly secondary. It is not impossible that, as elsewhere in Indo-European, the coincidence of 3 sg. **molh_x-e* with thematic forms like **bh₂ere* led to the establishment of a pre-Hittite thematic stem **molh_x-e/o-*; the rarity of inherited thematic presents in Hittite, however, makes such an explanation less attractive for Anatolian than, e. g., for Italic. But whatever the mechanism by which *malla*- was thematized, it is almost unthinkable that an athematic stem **mall-* could have survived: it is a little-discussed, though easily verified fact that virtually all Hittite *hi*-verbs with roots in *-ll-*, *-rr-* and *-nn-* are at least partly thematic, as are the majority of *hi*-verbs with root-final clusters of any kind²¹. In effect, the creation of *mallaḫhi*, *mallaṭti*, *mallaṭai*, etc.²² from inherited **molh_x-h₂e(i)*, **molh_x-th₂e(i)*, **molh_x-el(i)* would

¹⁷ Nor would it matter significantly if a derivation of *ar*- from **h₁e-h₁or-* were phonologically possible: reduplication of the "perfect" type plays only a minor role in the *hi*-conjugation, and there is no reason to believe it was inherited here.

¹⁸ Note that the weak stem *heš*- must be analogical; **h₂es-* and **h₃es-* would both have yielded Hitt. **haš*-.

¹⁹ It is also possible, of course, that contrary to the usual pattern, *sak(k)*- continues an old perfect.

²⁰ I use R to stand for any sonorant, and T to represent any sonorant, obstruent or laryngeal.

²¹ In such cases it is not impossible that the thematic vowel was originally epenthetic.

²² The 3 sg. in *-ai* is clearly analogical, reflecting the addition of the productive ending *-i* to stem-final *-a*-. The thematic 3 sg. in **-ei* would regularly have yielded *-i*, which is in fact abundantly attested.

have been a completely straightforward development — far more easily intelligible, in particular, than a derivation of the same forms from an earlier *mi*-conjugation paradigm.

A similar case is presented by *gangaḫhi* 'I hang (tr.)', which invites identification with the Germanic strong verb **hanhan* 'id.'. We have already seen indications that the thematic forms of **kenk-* in Germanic and Vedic are late; traces of an originally athematic paradigm in Hittite can be detected in the verbal noun *gankuwar* 'weight' and in the Old Hittite spellings 3 sg. *ka-a-an-ki*, 3 pl. *ka-an-ka-an-zi*, which suggest a difference of stress between singular and plural forms²³. The Hittite and IE facts can easily be accounted for by assuming an IE singular paradigm **kónk-h₂e*, **-th₂e*, **-e*.

The third Hittite *hi*-verb which corresponds to an **-o-/*-e-* present elsewhere is *padda-* (or *pedda*-²⁴) 'dig', the counterpart of Lat. *fodiō*, OCS *bodō* and Lith. *bedū*. Note that the graphic *-dd-* of this word represents not [t], but an authentic geminate [dd], which probably arose from an earlier sequence of stop + laryngeal (cf. *mekki-* 'much' < **meg-h₂-i*). Given the regularity with which "heavy" *hi*-conjugation roots are thematized in Hittite, it would be attractively simple to derive *padda-* from an IE type **bhódh_x-h₂e*, **-th₂e*, **-e*²⁵.

§ 10 *malla*-, *ganga*-, *padda*-, and perhaps *karap*-, are the only *hi*-verbs which are directly equatable with *o*-grade presents elsewhere, but a number of further examples can be similarly interpreted. The *hi*-verbs *išgar*- 'stick, stab' and *iškalla*- 'cut up' lie in the same semantic sphere ("violent action"; cf. Hiersche, *op. cit.* 155—6) as 'grind' (**molh_x-/*melh_x-*), 'dig' (**bhódh(h₂)-/*bhédh(h_x)-*, **ghrobh-/*ghrebh-*) and 'strike' (**bhorh_x-/*bherh_x-*); the corresponding extra-Hittite forms (cf. Gk. *κείρω*, Arm. *k'erem* 'cut'; Lith. *skeliū*, *skėlti* 'split') were probably originally athematic, and can reasonably be supposed to have belonged to the **-o-/*-e-* type. Note also *ḫatta*- 'chop' and *ḫarra*- 'smash', which lack convincing etymologies²⁶. Though less well-marked semantically, the correspondences *šip(p)and(a)*- 'libate': Gk. *στένω* 'id.', *išpar(ra)*- 'lay out': Gk. *σείρω* 'scatter' and *warš*- 'wipe off': Lat. *uerrō* 'sweep' may in principle reflect IE presents **spond-/*spend-*, **sporh₁-/*sperh₁-* and **yors-/*yurs-*, respectively.

Thus, when due allowance is made for the incomplete state of preservation of the **molh_x-/*melh_x-* type outside Anatolian, the degree of correlation which can be established between the probable continuants of this type in Greek, Germanic, Balto-Slavic, etc. and root and thematic *hi*-verbs in Hittite is by no means insignificant. No regular relationship, on the other hand, can be observed between **molh_x-* presents and verbs of the *mi*-conjugation; as we have already seen, forms of the type **molh_x-mi* are attested neither in Anatolian nor elsewhere in Indo-European. The natural inference, in my view, is that the *hi*-conjugation inflection of Hitt. *malla*- and its congeners is an inherited archaism.

²³ Compare the originally oxytone accentuation of Gmc. **hangaiþ* 'hangs (intr.)', reflecting an earlier middle **konkói*; both Hittite and Germanic have evidently extended the accentual mobility of other athematic presents to the **molh_x-/*melh_x-* type.

²⁴ The first syllable of this verb is always written with the sign *pát* = *pá*; the true reading is not known.

²⁵ The possibility remains open, of course, that the laryngeal of this root was originally an enlargement parallel to the **-s-* of OHG *wahsan* and Gk. *ἀέξουαι*.

²⁶ Similarly, *arra*- 'wash' corresponds semantically to an *o*-grade present in Greek (*λάω* < **louh₂e/o-*); the root recurs in Toch. A *yār*- 'bathe' (< **h₁erh_x-*).

§ 11 It is not my intention, of course, to claim that all Hittite *hi*-verbs continue IE presents of the **molh_x/melh_x*-type. Such a claim, obviously false in any event, would serve no useful purpose: one of the most attractive features of the present theory is that, unlike other current views, it permits us to envisage more than one IE stem-type as a potential source of *hi*-verbs in Hittite. At least two additional classes of *h₂e*-presents can in fact be identified in the parent language; we can do no more than give a brief account of them here.

Hitt. *lahu-* 'pour', an athematic verb of the *hi*-conjugation, is one of the clearest examples in Hittite of a "u-present": the unextended root *lah-* is directly attested in forms such as 2 sg. impv. *lāh*, 1 sg. pret. *lāhun* and verbal noun *lāhuwar* (= *lah-* + *-war*; *lahu-* + *-war* would have yielded **lahum(m)ar*). Presents containing an enlargement **-u-* are known from other IE languages as well; in general, they are well-attested as athematic middles (cf. Ved. *tarute* 'overcomes', Gk. *ἔρμαι* 'I save'), but ordinarily form thematic actives (cf., from the same roots, Ved. *tārvati* 'overcomes', Av. *haurvaiti* 'protects'). Thus, the thematic type in **-ye/o-* appears at least in part to occupy the structural position of an athematic active. Significantly, it is marked by hesitation between full- and zero-grade root-forms; the clearest example is the IE word for 'live', which appears as **g^ui_h₂-ye/o-* in Indo-Iranian (Ved. *jīvati*), Italic (Lat. *vivō*) and Balto-Slavic (OPr. 2 sg. *giwasse*, OCS *živō*), but as **g^ui_h₂-ye/o-* in Greek (ζῶω) and Tocharian (B 3 sg. *šaiṃ* < **šawā-*). An earlier athematic formation with apophony is probably indicated, and in view of the almost universal establishment of thematic inflection in the daughter languages, it is attractive to assume that the endings of the original paradigm were those of the *h₂e*-series (3 sg. **g^ui_h₂-*y*-e*, 3 pl. **g^ui_h₂-*y*-ēr* (or **g^ui_h₂-*y*-ēnti*; see below)). Under such an analysis Hitt. 3 sg. *lahui* would directly continue an inherited **lēh₂-*y*-e(i)²⁷*.

Indo-European appears also to have had a present type in **-i-*, which plays a much more conspicuous role in Hittite. As is well-known, a number of IE roots in **-eh_x* form Hittite presents in 3 sg. *-āi*, 3 pl. *-ianzi*; a representative example is *dāi* 'puts' (1 sg. OH *tehhe* < **daihi_he*, 2 sg. *dāitti*, 3 pl. *tiyanzi* (1 pl. *tiyaweni*, 2 pl. *dāitteni*) < **dheh₁-*). The apophony which these verbs show cannot be explained as an inner-Hittite development²⁸; it is probably an inherited feature, and can be given a natural interpretation under the *h₂e*-conjugation theory. In the parent language, in my view, certain roots of the structure *TEH-* formed presents of the type 3 sg. *TÉH-*i*-e*, 3 pl. *TEH-*i*-ēr* (-ēnti). In Hittite, where this class was extended to include the majority of *TEH*-roots, preforms of the type **dheh₁-*i*-ei* developed (via the intermediate stage **dēi_i*) to *dāi*; forms such as 1 sg. **dheh₁-*i*-h₂ei* and 2 sg. *dheh₁-*i*-h₂ei*, which would regularly have given **ti_hhe* and **titti*, were analogically provided with the vocalism of the 3 sg.²⁹ Occasionally, as in the case of *išhāi*,

²⁷ An obvious difficulty is presented by Hitt. *tarhuzzi* 'is able', which belongs unambiguously to the *mi*-conjugation. It is not impossible, however, that this form reflects the influence of the corresponding unextended 3 sg. *tarhzi*; note also that the causatives in *-nu-*, which constitute the overwhelming majority of Hittite verbal stems in *-u-*, inflect according to the *mi*-conjugation. Greek appears to lack active forms of the type **ἔρμαι*; Armenian verbs like *gehm* 'I turn' quite possibly continue middles like Ved. *tarute*.

²⁸ Middle Hittite forms like 1 pl. *piweni*, *halziweni* establish *-i(y)-anzi* as the historically correct segmentation of the 3 pl. in *-ianzi*. It is thus not possible to regard *tiyaweni*, *tiyanzi*, etc. as transfer forms from an originally autonomous **je/o*-paradigm.

²⁹ Alternatively, one could speculate that *dāi* was reanalyzed as root *dāi-* + ending *-i*, and that the new stem was then extended to the other strong forms.

-ianzi 'bind', a Hittite present of the *dāi*-type corresponds to a "long-diphthongal" root outside Anatolian (cf. Ved. perf. 3 sg. *siṣṭya* < *sā-* 'bind', Lat. *saeta* 'bristle', etc.). It is tempting to suppose that the **-i-* which optionally characterizes such roots originated in inherited presents like **sh₂eh_x-i-/*sh₂h_x-i-*, which were reanalyzed as root formations at an early period. Outside Hittite the athematic inflection of the type in **-i-* was ultimately lost, the 3 sg. in **-i-e* serving as the starting point for the creation of a complete thematic paradigm in **-ie/o*.³⁰

§ 12 It has been stressed throughout the preceding discussion that the *h₂e*-verbs of Late Common Indo-European were synchronically active presents, distinguishable formally, but not functionally, from the traditionally recognized active types in **-mi*. Despite its seeming novelty, the resulting picture of the IE verbal system is typologically quite unremarkable, and accounts in a relatively simple way for a variety of independently troublesome facts.

It is clear, however, that the identity of the *h₂e*-conjugation endings with those of the perfect, and the resemblance of the perfect endings, in turn, to those of the middle, raise important questions about the relationship of the *h₂e*-conjugation to these two categories. Unfortunately, the only technique by which the prehistory of the IE verbal system can be recovered is internal reconstruction, and the line which separates this method from mere guesswork must in the present case be a thin one. The remarks that follow, therefore, are intended less as firm conclusions than as tentative hypotheses, to be revised or replaced as needed.

A reasonable inference from our results thus far is that the classical IE perfect originally constituted yet another type of *h₂e*-conjugation present, formally similar to the **molh_x/melh_x*-class but differing from it in showing reduplication³¹. By the close of the common period, however, the special semantic status of the perfect must have set it sufficiently far apart from the other *h₂e*-present types to guarantee it a distinctive development in the daughter languages; while reflexes of the IE perfect retain features of their inherited inflection almost everywhere, presents like **molh_x/melh_x*, as we have seen, are characteristically thematized or replaced by forms in **-je/o*.³² It is not unlikely that the beginnings of this formal divergence date from

³⁰ The zero-grade stem-alternant is perhaps to be identified in the Vedic present stem *s(i)ya-* 'bind', which, however, is restricted to injunctive and modal functions. The clearest case of an *i*-present outside Hittite is **dheh₁-*i*-/*dhh₁-*i*-* 'suck'; cf. from the strong stem Latv. *dēju* 'I suck', Arm. *diem* 'id.', OHG *tāen* 'suckle', and, from the weak stem, OI *dīa* 'suck'. Note also Ved. *dhh₁yati* 'sucks'; here the metathesized zero-grade **dhh₁-*, which regularly replaced **dhh₁-* before consonants (cf. Winter, Evidence for Laryngeals² 192f.), appears to have led to the introduction of a new 3 sg. **dheh₁-*i*-e* in place of inherited **dheh₁-*i*-e*.

Other Hittite verbal types which seem originally to have contained an athematic *i*-element may be illustrated by *walḥannāi* 'plays (a musical instrument)', 3 pl. *walḥannianzi* (**-neh₂-*i*-/*-nh₂-*i*-*); *memāi* 'speaks', 3 pl. *memūyanzi* (with intensive reduplication; cf. perhaps Ved. intens. ptp. *mēmāi* 'bleating') *piddāi* 'runs', 3 pl. *piddūyanzi* (**p_heh₂-*i*-/*p_hh₂-*i*-*).

³¹ It would then be attractive to regard the zero-grade of the weak forms of the perfect as having supplanted an earlier *e*-grade; the presence of a reduplicating syllable would have been conducive to such a replacement. If, as often assumed, reduplication in the perfect was at first merely facultative, there would originally have been no formal difference between simple durative presents like **g^uhor-/*g^uher-* 'burn' and perfects of the classically reconstructed type.

³² In Tocharian, however, the *h₂e*-conjugation endings of the 2 sg. (**-ih₂e* > A *-iā(r)*, B *-ta(r)*) and 3 sg. (**-e* > A *-ā(ṣ)*, B *-ā(ṣ)*), with analogical absence of palatalization) were

the late common period; in particular, the appearance of Hitt. *-anzi* for expected **-eri* in the 3 pl. pres. of the *hi*-conjugation suggests the possibility of an IE replacement **(é)r* → **(é)nti* in the *h_{2e}*-present types, parallel to the introduction of **-onti* for original **-or* in the 3 pl. of the thematic conjugation (see Die Sprache 23, 167f. (1977)) and to the partial substitution of **-nto* for **-ro* in the 3 pl. middle³².

It is less easy to interpret the relationship of the *h_{2e}*-conjugation, including the perfect as a subtype, to the present middle. Although no proof is strictly possible, I find it convenient to suppose that the *h_{2e}*-conjugation and middle endings were once identical, and that, as suggested in SMIE § 47, the contrast between the 3 sg. endings **-e* (*h_{2e}*-conjugation) and **-o* (middle) was originally conditioned by the position of the IE accent, **-e* being properly the post-tonic variant of **-o*³⁴. What, if any, was the basic function of this pre-IE "*h_{2e}*-series" of endings is difficult to determine³⁵. It would follow, however, that well within the common period, **-o* alone came to be associated with the values traditionally termed "middle" in the historical languages, and that in these values it was extended to environments where only **-e* was phonologically regular³⁶. The result would have been a morphological split into two categories: the middle proper (3 sg. **-o*, later also **-to*), characterized by fixed accentuation, invariant root-vocalism and "marked" diathesis³⁷; and the *h_{2e}*-conjugation (3 sg. **-e*), characterized by root-accented singular forms, paradigmatic ablaut and unmarked, or "active" voice. Under such an interpretation the *h_{2e}*-conjugation would not at first have had active value; it could properly be described as a "middle *déclassé*".

seemingly retained and extended to all athematic presents; athematic verbs like A *nas-*, B *nes-* 'be' thus do not constitute evidence for a *mi*-present in Indo-European. Similarly, the 1 sg. athematic ending in Baltic (**-mai*) appears to rest on a contamination of **-ai* (< **-h_{2ei}*) and **-mi*; it is probable that here too certain athematic *h_{2e}*-presents, such as **bhorh_x-/*bherh_x-* (Lith. *barà*, OLith. 3 p. *barti*), merged with the *mi*-type into a single formal category.

³³ But **(é)r* was retained in the perfect and, at least in Anatolian, in the preterite (= imperfect) of the *h_{2e}*-conjugation. The extent to which Indo-European may have contrasted other primary and secondary *h_{2e}*-endings is unclear.

³⁴ It is not known whether parallel variants **-h_{2o}* and **-th_{2o}* once existed beside **-h_{2e}* and **-th_{2e}* in the first and second persons, respectively. The 3 pl. in **-ro*, basically medial in function, seems to have arisen analogically; cf. Die Sprache 23, 167 (1977).

³⁵ One possibility which suggests itself is that the pre-IE endings ancestral to those of the middle and the *h_{2e}*-conjugation were originally used to characterize durative, as well as stative and properly middle presents; a form like **mth_x-e* 'goes on grinding, is in the process of grinding' might thus once have been opposed to an unmarked active **m_l-n-éh₂-ti* 'grinds'. While of course conjectural, such an interpretation would accord well with the semantics of the majority of identifiable *h_{2e}*-presents.

³⁶ In this way, it will be noted, *h_{2e}*-conjugation verbs would have acquired a potential contrast between active and middle forms.

³⁷ Since the ending **-o*, under this analysis, originated in oxytone paradigms with no internal ablaut, it is not surprising that accentual immobility and apophonic invariance have everywhere become hallmarks of the middle proper. Note the contrast with the *h_{2e}*-conjugation, where the accent was typically on the root in the singular, and inherited alternations were retained into the dialectal period.

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Assibilation in Anatolian

Hittite *s* not only represents IE *s* but may reflect an assibilated palatalized *d^l*. Hittite *z* may alternate with *s* in the same word², but is also known to represent an assibilated palatalized *t*. Some words have initial *s-* that seems to correspond to initial laryngeal, notably *suwais* [swais] "bird"³ and *sankui-* "nail"⁴. Other Hitt. words with initial *s-* have been considered to show assibilation of initial palatal *k'* in front of *u* and have been discussed in connection with the general problem of satem traits in Anatolian languages and HL *asuwa-* "horse", *šurna-* "horn" and *šuwana-* "dog". A. Goetze suggested⁵ that assibilated *k'* may be found in Hitt. *suppi-* "clean, pure, holy" (← **k'eubh-*) and that *suppala-* "cattle" would contain **(p)k'u-*. *suwa-* "swell, fill" would go back to **k'eu-*. A. Kammenhuber⁶ followed F. Sommer in not accepting *k'u* → *su* for any An. language except HL. She derived *suwa-* from **seu-* and excluded *k'u* → *su* for *suppi-* and *suppala-* because palatal *k'* was not assibilated in *tekkusanu-* (supposedly = Skt. *dīśāti*)⁷, even though she acknowledged that *u* is secondary in this word, and also because *sup-* is ← **swep-* and *suel-*, *šummanza-* belong together with Lat. *suere*. These arguments are not strong, and it would have been better to cite an example such as *kunna-* "right hand side", if it belongs together with Skt. *śundām*. In a contemporary article⁸ the opposite road is taken by H. G. Güterbock and E. P. Hamp, who accept A. Goetze's etymologies for *suppi-* and *suppala-* and propose that Hitt. *suwaya-* "to look" is related to Kelt. **k'wey-s-* (with OIr. *clall* and W *pyyll* ← **k'weislā*). *šuwant-* "full" is compared with Skt. *śasvanti*. Hitt. *parkus*, *pankus* are thought of as showing a blocking of the expected assibilation by the aspiration (or laryngeal) of *g'h*.

G. R. Solta⁹ observed that Anatolian is not the only branch of IE that shows assibilation of palatal (and palatalized) *k'* and cited the studies of N. Jokl¹⁰ for a similar development in Albanian (affecting *k'u-*, *k'w-* and *k'yu-*) and the Gk. development *k^{wi} → ti*¹¹ (*k'u* → *su* is not corresponded, in Alb., by a similar development *g'h* → *s*). The *u* vowel was supposed to be a condition for the palatalization in Albanian and Greek.

The mechanism of assibilation has recently been described in an important chapter of J. Foley, Foundations of Theoretical Phonology¹² (ch. 6). He tries, on the basis

¹ Cf. **dyeris* → *suis*.

² *sakkar/zakkar*.

³ Vocabulary 902/z I 15: *šu-ya-iš* = MUŠEN-*eš* in HT 42 obv 2, 4. Cf. StBoT 7, 40.

⁴ For both words, cf. J. Schindler, Die Sprache 15, 159–160.

⁵ Language 30, 403–5.

⁶ RHA 58, 1 sq.

⁷ Cf. the etymology of J. Puhvel, /dek^wsai-/ = Av. *daxš-*, based on A. Goetze, Language 27, 471 (JAOS 94, 292).

⁸ RHA 58, 22–25.

⁹ Palatalisierung und Labialisierung, IF 70, 276–315.

¹⁰ Mélanges H. Pedersen (1937), 127–161.

¹¹ Cf. W. S. Allen, Lingua 7, 116: *k* before front vowel → labioalveolar velar → labial prepalatal affricate [tʃ^w].

¹² Cambridge Linguistic Studies 20, 1977.