

## PIH *uw* > *um*: A Reaffirmation

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Several decades ago Sturtevant proposed a change of *uw* > *um* in the parent speech prior to the separation of Anatolian, a view which apparently did not receive widespread acceptance. Some time later I suggested that Sturtevant's proposal would be correct if restricted to instances of *uw* followed by /n/ in the next syllable. Much more recently it has been held that an unrestricted change of *uw* > *um* occurred later in pre-Hittite as part of a broader change of *w* > *m* whether preceded or followed by *u*. The present article examines the evidence currently available and concludes that my earlier proposal may be reaffirmed with increased confidence.

That Hittite preserves evidence of a phonological change of *uw* > *um* has been proposed more than once over the past several decades. However, the forms taken by the proposals have differed with respect both to the date at which the change occurred and to the question of whether it stood alone or was part of a broader change of *w* > *m* when followed as well as preceded by *u*.

Apparently the first to treat this subject was Sturtevant (1929: 360-369), who held that *uw* > *um* is a change which took place in what he came to term Pre-Indo-Hittite and thus left traces in Indo-European as well as Hittite, a proposal which he repeated with some modification in his *Indo-Hittite Laryngeals* and comparative grammar (Sturtevant 1942: 26; 1951: 44). He obtained support for his position from Hittite by citation of four pairs of equivalent suffixes in which initial *w* alternated with *m*, the first plural endings of the present tense *-weni* and *-meni* and of the preterit *-wen* and *-men*, the infinitive endings *-wanzi* and *-manzi* and the endings of the verbal noun in *-war* (gen. *-was*) and *-mar* (gen. *-mas*), stating that with relatively few exceptions the forms with initial *m* occurred among verbs having *u* as stem final and those with initial *w* elsewhere. The evidence published somewhat later in the dictionary of Friedrich (1952-66) and its supplements is in accord with Sturtevant's description of the facts. Among the forms found there the suffixes with initial *m* are written exclusively with a preceding *u* with the single exception of *huimanzi*, infinitive of *huwai-*, *huya-* 'grow (of plants), run' and are the regular endings of

verbs with stems in *u*. Among the numerous causatives in *-nu-*, which supply the vast majority of verbs with *u* as stem final, the only *w*-forms are of the verbal noun in *-war*.<sup>1</sup> This is the only form of the ending attested for two verbs, *hatuganu-* 'frighten' and *kinu-* 'open', while three, *asnu-* 'prepare', *wahnu-* 'turn' and *warnu-* 'burn', show forms with both endings and *-mar-* alone is attested for sixteen, *annanu-* 'train', *arnu-* 'bring', *huisnu-* 'spare', *ispiyanu-* 'satisfy', *minu-* 'grow', *nuntarnu-* 'hasten', *pahsanu-* 'protect', *parkunu-* 'cleanse', *pukkanu-* 'offend', *sallanu-* 'enlarge', *dassanu-* 'strengthen', *tepnu-* 'diminish', *tittanu-* 'place', *duddunu-* 'pardon (?)', *weritenu-* 'distress' and *zaluganu-* 'delay'. The only other verbs which might be considered to have stems in *u* and for which pertinent forms are attested are *ardu-* 'saw' (first plural present in *m*), *au(s)-* 'see' (both first plurals in *m*), *eku-* 'drink' (the same two forms in *w*), *unu(wai)-* 'adorn' (infinitive in *m*), *duddu-* 'lead (?)' (verbal noun in *m*), *lahhu(wai)-* 'pour' and *watku-* 'jump' (both with verbal noun in *w*) and *tarku(wai)-* 'dance, rave' (infinitive and verbal noun in *w*).

Otherwise the *m*-forms are virtually unattested outside the *hi*-verbs with stem vowel *a*. Apart from *huwai-* the only verbs with *m*-forms which do not clearly belong at least in part to the *u*-stems or the *hi*-verbs in *-a* are *kuen-* 'strike, kill' (all four forms in *m*, first plural preterit also in *w*), *han-* 'draw (water)' (infinitive in *m* and *w*), *ispar-* 'stretch, spread out' (infinitive in *m*) and *uwate* 'bring' (first plural present in *m* and *w*, preterit in *w*). Among the *hi*-verbs in *-a*, however, the *m*-forms were relatively common, for of thirty-one *a*-stems with pertinent forms attested, twelve possessed *m*-forms alone, eleven *w*-forms and eight both. In view of this evidence most of the apparent exceptions identified above can be readily explained. As a sparsely attested *hi*-verb whose more precise classification is uncertain (Friedrich 1952-66: 1.50; 4.13), *han-* may well have belonged in part to the *hi*-verbs in *-a*. Moreover, if it had not done so originally, it could plausibly have acquired such forms through analogy with the fairly numerous *a*-stems in *-na-*, which would have possessed forms identical to those of a consonant stem in *-n-* in the plural of the third person regardless of tense, mood or voice. The thirty-one *a*-stems mentioned above as possessing pertinent forms included nine *na*-verbs, *sanna-*, *sunna-*, *penna-*, *zinna-*, *tarna-*, *unna-*, *hanna-*, *hurna-* and *duwarna(i)-*, among which four possessed *m*-forms, two *w*-

<sup>1</sup>It will be seen later that a single first person plural form in *-w-* has since been found.

forms and three forms of both types. The original *mi-* verb *kuen-* would have shared the same forms with the verbs in *-na-*. At any rate, however one explains them, in addition to its forms in *m*, it possessed the *a-* stem forms 2nd pl. pres. *kuennateni* and 2nd sg. pret. *kuinesta* (Friedrich 1952-66: 1.113). It should be noted that the *nu-* form 1st sg. pret. *kuenunun* also occurred. However, that it stemmed from analogy with the *m-* forms seems more likely than that the reverse was true. Like *han-*, *ispar-* was a *hi-* verb of uncertain classification. Although it contained no *n* to account for them, it possessed *a-* stem forms in 2nd sg. pres. *isparatti* and 1st sg. pres. and pret. *isparahhi* and *isparahhun*, which occurred beside the consonant stem forms *isparhi* and *isparhun* (Friedrich 1952-66: 1.89). The explanation of the remaining two verbs is somewhat less certain. Although Friedrich (1952-66: 1.78) identified *huwai-* as well *huya-* as a *mi-* verb, the much larger collection of forms published more recently by Puhvel (1984: 3.419-420) indicates that it belonged primarily to the *hi-* conjugation. Since the *hi-* verbs in *-ai-* and *-a-* also possessed forms in common, it is possible that its infinitive in *m*, the only pertinent form attested, may be explained in the same manner as the *m-* forms of the verbs mentioned first. However, in this case the spelling *huimanzi* presumably results from a scribal error of some sort. Since it is not clear what the correct spelling would have been, one cannot be certain exactly what it is which requires explanation. In the case of *uwate-*, analogy with the synonymous *hi-* verbs *uda-* and *wida-* 'bring' would apparently provide a minimally adequate explanation for its variant in *m*.

Sturtevant attempted to account for the *hi-* verbs in *-a-* by proposing an additional rule, which was based on his views that the laryngeals were obstruents and that there existed in the parent speech a reduced vowel, which he felt free to reconstruct as an alternative to any instance of zero-grade vocalism. Since he considered the *a-* stem verbs to have originally contained his second laryngeal, he held that when followed by *w* the sequence of reduced vowel plus the second laryngeal had become *u* prior to the change of *uw* > *um* (Sturtevant 1942: 26, 34). Thus the frequent occurrence of *m-* forms among the *a-* stems was regarded as resulting from the introduction of *uw* into those forms in time to undergo the change to *um* when the reduced vowel had been present, while the sizeable number of *w-* forms among them could be attributed to the absence of the reduced vowel under conditions which could not be stated. It is probable that Sturtevant's second rule would have been met with considerable

skepticism today, for it now appears to be widely believed that the laryngeals possessed syllabic and non-syllabic allophones and that the reduced vowel did not exist. However, as was pointed out a number of years ago (Brosman 1958: 346-347), current views concerning the laryngeals would render his second proposal unnecessary as well as unacceptable. If the *a*-stem verbs had contained a laryngeal of any sort which could occur as either syllabic or non-syllabic, after a consonant or an additional resonant (or resonants) the cluster /Hw/ would often but not always have produced instances of [uw] subject to the original rule through variation of the sort described by Sievers, depending on what preceded the phoneme it followed.

The many occurrences of *w* written with a preceding *u* in Hittite Sturtevant explained as the result of analogy, the later development of a glide vowel or the writing of an unpronounced *u* before a *w* that was actually postconsonantal. There also are found a number of instances in which *m* was written where one would expect *w* in forms other than those on which he based his rule. Although there were several which were more isolated, a majority of them was confined to the accusative plural of the *u*-stems, where *-amus* was relatively frequent beside *-aus* and *-us*. Both the additional examples of unexpected *m* and those cited by Sturtevant had often been explained previously as irregular spellings in which under the influence of Akkadian scribal practice *m* was written but *w* was pronounced. Despite their curious concentration among the *u*-stem accusatives Sturtevant (1951: 23) inclined toward acceptance of such an explanation for the additional forms, which he considered probably to constitute a problem separate from that of those on which his rule was founded.

The Indo-European evidence cited by Sturtevant consisted primarily of the synonymous Indo-Iranian possessive suffixes *-vant* and *-mant*. As he pointed out, *-mant* was much more frequent after stems in *u*, while *-vant* was more common otherwise. He also noted that outside the singular the verbal endings of the first person occurred in pairs in *-w* and *-m* in Indo-European as well as in Hittite, though their distribution depended on number rather than stem final, and identified a few other, more isolated apparent traces of the proposed change, which he compared to the Hittite suffix *-war*, *-mar*. In the case of the verb endings Sturtevant held that the occurrence of the *w*-forms as dual and *m*-forms as plural in Indo-European had been produced by a secondary redistribution of the results of the change. The more

fragmentary evidence included infinitives such as Ved. *dāvane* = Cyp. *δοφεναι* 'to give' beside Hom. *δομεναι*, Thess. *δομεν* and the suffix *\*-wer/n*, *\*-mer/n* seen in Skt. *parvan* 'knot', Gk. *πεῖραρ* 'end' < *\*περφαρ* and Gk. *λῦμαρ*, *λῦμα* 'offscourings'.

Sturtevant's proposal appears not to have received widespread acceptance. Although Kronasser (1956: 50-51, 170) at first agreed that variation between *m* and *w* had occurred quite early, he was not convinced that Sturtevant's explanation for it was correct. Friedrich (1960: 33) also held that the spellings with *m* in Sturtevant's suffixes represented the actual pronunciation of the scribes but gave no opinion as to when or how the *m*-forms might have arisen. Later Kronasser (1966: 81-86) revised his original view, stating that, although not wholly free of doubt, he had come to consider it much more likely than not that in the Hittite forms on which Sturtevant based his rule *w* was pronounced where *m* was written.

More recently, however, the proposal that a change of *uw* > *um* had occurred in these forms has been resurrected on the basis of virtually the same Hittite evidence (Melchert 1984: 23-27). The latest version of this view differs from that of Sturtevant in that the change is held not to have taken place until after the separation of Anatolian and Indo-European. Although Melchert initially placed it in Proto-Anatolian, he has since stated that he considers it to have occurred still later, in pre-Hittite (Melchert 1993: 244; 1994: 128), since he can find no evidence suggesting its occurrence elsewhere in Anatolian. The most recent form of his proposal has since been accepted in every particular by Kimball (1999: 374-378). Surprisingly there is no mention of Sturtevant in Melchert's original presentation of his views. However, when he subsequently summarizes them much more briefly in his historical phonology, he notes Sturtevant's earlier proposal but dismisses it quite cursorily, stating neither Sturtevant's arguments in its favor nor his own reasons for rejecting it (Melchert 1994: 127). Under these circumstances, one apparently should conclude that he considered the variants in *-mant-* and *-vant-* and the shreds of additional Indo-European evidence to be insufficient to serve as plausible traces of a change which should have produced much more far-reaching results.

As has been indicated, the evidence cited by Melchert concerning the change of *uw* hardly differs from that adduced by Sturtevant. In addition to the four pairs of suffixes on which Sturtevant relied, it includes two forms, *-ttuma*, the second plural

ending of the middle voice, and *sumes*, the second person plural pronoun (Melchert 1984: 26-27). Although these forms, unlike the *m-* forms among Sturtevant's suffixes, did not possess variants containing *-w-*, Melchert considers it probable, though somewhat less certain, that they too were produced by the change. As did Sturtevant, he notes that in addition to their close association with *u-* stem verbs, the *m-* forms with variants often occurred among the *hi-* verbs in *-a-*. His explanation for *ttuma*, *sumes* and the introduction of the *m-* forms into the *hi-* verbs is similar to the previously suggested emendation to Sturtevant's proposal, for he holds that in these cases *um* stemmed from instances of [uw] produced in accord with Sievers' law (Melchert 1984: 24-25). Of the other verbs discussed here, he mentions only *kuen-*, whose apparent *m-* forms he attributes to a secondary *na-* verb *kuenna-*, the origin of which he describes as obscure (Melchert 1984: 25-26).

A further difference between the views of Sturtevant and Melchert is that the latter held *w* also to have become *m* when followed by *u* (Melchert 1984: 23). In this case the only evidence adduced in support of the change is the occurrence of *-(a)mus* in the *u-* stem accusative plurals which Sturtevant had considered probably not to be connected to the change of *uw*.

During the interval between the publication of the views of Sturtevant and Melchert I proposed, in an article which obviously made little impression (Brosman 1958), that Sturtevant's belief in a change of *uw* > *um* prior to the separation of Anatolian would be correct if restricted to instances of *uw* followed by /n/ in the next syllable. Although the evidence available has not remained the same and I no longer agree with all of the statements made there, the view here continues to be that the narrower conditioned change described above took place and is capable of accounting for all occurrences of *m* where one would expect *w*, whether heretofore treated as a part of the problem or not.

In support of this view it may first be observed that when one turns back to the four Hittite suffixes upon which the original proposal was based, *-weni/-meni*, *-wen/-men*, *-wanzi/-manzi* and *-war/-mar*, one finds an *n* in all but the last, which is, however, from an old *r/n-* stem. It thus is appropriate that it was *-war/-mar* which alone showed inconsistency among the *nu-* verbs collected by Friedrich.<sup>2</sup> The other Hittite forms mentioned in connection

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<sup>2</sup>The attestation of a single *w-* form other than a verbal noun has since been reported by Kimball (1999: 377), who cites 1st pl. pres. *hu-is-nu-e-ni* of *huisnu-*

with the change of *uw* were *-ttuma* and *sumes*, which Melchert had somewhat tentatively added more recently. Although they did not contain *n*, they were also without variants in *w*. In fact, they are examples of *m* where one might expect *w* only if one accepts the etymologies provided for them by Melchert. The absence of attested variants makes them improbable examples of a change held to have occurred as recently as in pre-Hittite. For example, among the *hi*-verbs in *-a*, where the *uw* subject to the change was also explained on the basis of Sievers' law, *w*-forms were approximately as frequent as those in *-m* because of variation in what preceded /w/.

There remain the *u*-stem accusatives in *-mus*, which Sturtevant set aside but which Melchert made the basis of the proposed change of *wu* > *mu*. The confinement of these forms to a single case and number is consistent with the evidence of the verbal suffixes, for the accusative plural possessed the only case ending containing /n/. As Brugmann pointed out, among the *u*-stems the ending /ns/ in combination with a preceding /w/ should have yielded [-wŋs] or [-uwŋs]. He also noted that, although most of Indo-European points to *-uns* here, modelled on *-ons* of the *o*-stems, the original forms are found in the older stages of Greek and Sanskrit (Brugmann 1911: 222-223, 290). In Sanskrit, in addition to being the regular endings of the stems in *-ū*, reflexes of the original forms occurred in Vedic alongside the endings which were to become standard for the *u*-stems (Whitney 1889: 122). Among the large majority of Greek nouns there was almost no distinction between the *u*- and *ū*-stems. In the accusative plural *-vas* occurred as one of two variants of the common paradigm in Homer but later gave way to *-ῶς* < *\*-uns*. In addition, *víws* 'son', one of the rare *u*-stem nouns which remained distinct in inflection, usually occurred as *vías* in the accusative plural in Homer (Sihler 1995: 328, 326).

Since the rarity of correspondences between the Indo-European *o*-stems and the *a*-stems of Hittite indicates that the *o*-stems were of no more than slight importance prior to the separation of Anatolian, it is reasonable to assume that at that time the usual forms of the *u*-stem accusative plural were indeed

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'spare, let live', which she identifies as New Hittite and explains as analogical. That it resulted from analogy based on the occurrence of variants in *-m* and *-w* among the forms of the *hi*-verbs in *-a* is not improbable. However, because of its extreme isolation, it is perhaps equally likely that it was a scribal error consisting of omission of the symbol for *-me*.

\*-w<sub>u</sub>ns and \*-uw<sub>u</sub>ns (> \*-um<sub>u</sub>ns). However, the Hittite accusatives in -mus differed from the other forms discussed here in that they did not contain -um<sub>u</sub>- but instead ended almost exclusively in -amus. The -a- presumably is that which regularly occurs in both *i*- and *u*-stem adjectives before all case endings except nominative, accusative and instrumental singular but is excluded for the most part from the corresponding forms of nouns (Friedrich 1960: 49, 51), for Weitenberg (1984: 326, 378) has reported that -amus was the regular accusative plural of adjectives but is certainly found among only three nouns. However one chooses to explain -amus, its distribution based on grammatical category indicates that Weitenberg (1984: 369, 381) is correct in holding it to have been a secondary development. It may be added that the origin of final -us, which the *u*-stems shared with every other Hittite declension, is irrelevant from the point of view of a development held to have occurred prior to the separation of Anatolian, since it is safe to say that at that time every accusative plural still contained /n/.

Apparently the only occurrence of -amus outside the *u*-stems is GAL -lamus 'great', presumably the accusative plural of the *i*-stem *salli*-, which has been cited by Melchert (1984: 23) and explained by him through analogy with the *u*-stem forms. The explanation is plausible, since -aus, the usual *i*-stem adjectival ending in the accusative plural, could occur beside -amus among the *u*-stem adjectives. Within the *u*-stems the only exceptions to the otherwise uniform attestation of -mus with a preceding -a- were the forms of two words not mentioned by Melchert, both of which possessed accusatives in -emus, -imus. One was *he(u)au*- 'rain', also one of the three nouns with forms in -amus, which in addition to occurring in one instance each as *heamus* or *heyamus* also appeared twice as *hemus* in the accusative plural (and several times as *heus*) (Weitenberg 1984: 31; Puhvel 1984: 3.302). In this case it appears probable that *hemus* was formed from *he(y)amus* on the model of variant pairs such as gen. sg. *hewas* beside *heyawas* and nom. pl. *hewes* beside *he(y)awes* (Weitenberg 1984: 31). The other form was the curious heteroclititic *kistu(n)*-, apparently a single noun of variable gender which could occur with two different determinatives, GĪŠ and NINDA. In the plural it is found only as a common accusative attested (with each determinative) as *kestimus*, *kistemus* (Weitenberg 1984: 247). That it was a loanword seems subject to little dispute, though there is some disagreement as to whether the donor was Hattic or Hurrian (Weitenberg 1984: 238-239). The origin of *kistemus* is quite unclear, for from what has been seen here, it is difficult to see why a noun entering the



language through borrowing would have been provided with an accusative of any sort in *-mus* and especially with one in *-emus*. However, since *kistu(n)-* was apparently a loanword, its history is unlikely to have a bearing on a development proposed to have taken place prior to the separation of Anatolian.

With varying degrees of confidence it has been proposed that two other words not discussed by Melchert also possessed forms in *-mus*. Both were *ai-* or *i-* stems, which unlike *salli-* are thought to have occurred with accusatives in *-imus* rather than *-amus*. That acc. pl. *zashimus* was a form of *zashai-* 'dream, vision' has been stated unequivocally by Friedrich (1952-66: 1.260; 1960: 33, 49) and Kronasser (1966: 85), who cite it in connection with the present question of the occurrence of *m* for *w*. Since the *ai-* stem nouns, like the *i-* stem adjectives, usually occurred with *-aus* in the accusative plural, a form in *-amus* could easily be explained in the same manner as *\*sallamus* in this case. However, in view of the other evidence seen here, analogy with the *u-* stems is considerably less satisfactory as an explanation for *zashimus*. In my original article on this subject I suggested that the latest instances of *-imus* could have arisen through earlier confusion between the *i-* and *u-* stems, traces of which can be found in Indo-European (Brosman 1958: 350). This proposal should now be rejected, for it appears that the confusion between the *i-* and *u-* stems seen in Indo-European arose after the separation of Anatolian (Brosman 1984: 354, 360-361). However, *zashimus* may plausibly be accounted for as belonging to an abstract in *-ima-* rather than to *zashai-*. That the *ai-* stems were closely associated with verbal abstracts has long been recognized (Sturtevant 1951: 69; Friedrich 1960: 39; Kronasser 1966: 204-205). Kronasser (1966: 204) noted in this connection that the synonymous abstracts *kurkurai-* and *kurkurima-* 'injury (?)' are attested as used interchangeably on the same tablet. It is also pertinent that the occurrence beside the secondary verbs *maniyahh-* 'govern' and *istarnink-* 'sicken' of the further derivatives *maniyahhai-* 'government' and *instarningai-* 'sickness' indicates that the *ai-* stems were still productive in pre-Hittite in the derivation of action nouns (Friedrich 1952-66: 1.135, 92). It thus appears probable that *zashimus* belonged to a derivative in *-ima-* which occurred beside *zashai-* as did *kurkurima-* beside *kurkurai-*, as well as *maniyahhatar* beside *maniyahhai-* and *hullanizzardar* beside *hullanzarai-* 'battle' (Friedrich 1952-66: 1.135, 74), through the use of different alternatives available for the derivation of verbal abstracts. Friedrich (1952-66: 1.124) has also suggested much more tentatively that *lahlahhimus* was a form of a

possible *i*-stem *lahlahhi-* (?), the uncertain meaning of which is proposed as 'excited (?)' or 'exciting (?)'. In this case the abstract *lahlahhima-* 'incitement, excitement' is attested (Friedrich 1952-66: 2.11).

When the accusatives in *-mus* are removed, there apparently are left only seven Hittite forms which have been regarded as possible examples of the writing of *m* where *w* might be expected. Three may be considered individually: *nekumant-* 'naked', *nuwan/numan* 'never' and *humant-* 'all, whole'. Sturtevant, who did not discuss *numan*, held *nekumant-* to have been the only form containing the Hittite cognate of Skt. *-mant-* (Sturtevant 1951: 80). Since he did not discuss Sturtevant's Indo-European evidence, Melchert did not deal with this comparison. Otherwise he was skeptical of the participation of *nekumant-* in the change of *uw*. The participation of *numan* he considered possible but uncertain (Melchert 1984: 27-28). Neither Sturtevant nor Melchert mentioned *humant-*. The only reason for its inclusion here was that both Kronasser (1966: 85) and Puhvel (1984: 3.381) have suggested the possibility that it originally contained *w* despite its uniform possession of *m* in its many occurrences. Although the attitude here ranges from acceptance of *numan* to uncertainty concerning *nekumant-* to complete suspension of judgment in the case of *humant-*, the acceptability of these forms as examples of the change of *uw* is of no consequence from the present point of view, since each of them contains *n*.

All of the remaining forms are verbal. They include *wahnuman*, the participle of *wahnu-* 'turn', 3rd pl. pres. *arrumanzi* of *arra-* 'wash' the *hapax* 3rd. pl. pres. mid. *enumandari*, thought to be the only attested form of a verb given as *enumai-* 'make or become hot', and the verb *esharnumai-* 'make bloody', attested in 3rd sg. pres. *isharnumaizzi* and 3rd pl. pres. *esharnumanzi*.

Each of the first three forms is attested only in the horse-training texts of Kikkulis. One therefore might be inclined to dismiss them as errors due to a foreigner's ignorance of Hittite if no more satisfactory an explanation appears to be available. This has in fact been done in the cases of *arrumanzi* and *wahnuman* (Kammenhuber 1961: 80, 120-121; Puhvel 1984: 1.115; Melchert 1984: 23). Presumably the reason that *enumandari* was not treated similarly was the attestation of *esharnumai-*, which by indicating that verbs in *-numai-* could exist, permitted it to be interpreted as belonging to such a verb, an interpretation which allowed it to be viewed as wholly isolated rather than an obvious irregularity such as *arrumanzi* or *wahnuman*. However, it should be noted that, since

*arrumanzi* occurred beside *arruwanzi* as well as the more usual *arranzi* (Puhvel 1984: 1.113), as far as can be told at present there is as much reason to regard *enumandari* '(they) become or are made hot' as an irregular third plural form of attested *enu-* 'make hot' (Puhvel 1984: 1.11), in which the middle is used in a passive sense, as there is to consider *arrumanzi* to have been such a form of *arra-*, *arru-*. In the absence of additional evidence one cannot know whether *enumandari* should be paired with *arrumanzi* or *esharnumai-*. Nevertheless, the view here is that all three forms confined to the horse-training texts should be accepted as authentic examples of Hittite speech, since it will be seen later that they may be explained in the same manner as *esharnumanzi*, which is attested elsewhere. Although it is difficult to avoid the suspicion that more than coincidence was responsible for their similarly restricted attestation, it is not clear what other factor might have been involved. Ignorance on the part of Kikkulis is not the only possibility, or even the most plausible one, for it is unlikely that he himself actually wrote the words attributed to him.

Sturtevant, who did not discuss *enumandari*, considered *arrumanzi* and *wahnuman* to belong with the accusatives in *-mus* among the forms in which *m* was written but *w* may have been pronounced. Although he once included *esharnumai-* there also as an aberrant form of the synonymous verb *esharnu-*, he later revised his opinion, stating that *esharnumai-* had no connection with the causative suffix *-nu-* (Sturtevant 1951: 23, 129).

That Melchert (1984: 23) regarded *wahnuman* as an error on the part of Kikkulis has already been indicated. Although he did not discuss *arrumanzi*, he could have accounted for it in the same fashion with equal plausibility. Accepting the existence of *enumai-*, held by him to mean 'make warm', he attempted to explain it and *esharnumai-* as resulting from the change of *uw > um* in verbs consisting of *enu-* and *esharnu-* extended by a suffix *-wai-*, assumed to have originated in its turn through resegmentation from denominative verbs in *-ai-* which had been derived from *u-* or *wa-* stems (Melchert 1984: 27). The explanation is improbable for more than one reason. The chief difficulty is that there is no reason to think that a suffix *-wai-* existed other than the apparent suffix *-mai-* it is intended to explain. Since *-ai-* could be used to derive denominative verbs from nominal forms of every stem class, a few *u-* stem derivatives in *-wai-* are in fact attested alongside a much greater number of forms derived from members of other declensions (Kronasser 1966: 476-480). However, there is no

indication that the *wai-* segment was detached from such forms and employed to derive verbs from roots, verbs or any other elements. The only basis for reconstruction of the suffix was the verb *hiswai-* 'lie open', attested in the *hapax* 3rd. pl. pres. mid. *hiswandari* and presumably related in some manner to *has(s)-*, *hes(s)-* 'open'. As has been observed before, the absence of reliable traces of a proposed original form in *-w-* is especially unlikely in the case of a change held to have occurred in pre-Hittite. It should also be noted that no meaning was suggested for the newly created suffix, though one would expect that the reinterpretation held to have produced it would have been based on a perceived semantic association of some sort. The reason for the failure to propose one obviously is that since *esharnumai-* and *enumai-* were synonyms of *esharnu-* and *enu-*, one apparently must regard the hypothetical suffix as meaningless. Although a conceivable alternative in the case of *-mai-* would be to consider it to have had a causative or factitive meaning which permitted its redundant use to reinforce a verb stem already characterized as of that type, acceptance of *hiswai-* as a derivative of *hes(s)-* would rule out such an interpretation. In that case, *-wai-* would also have been meaningless, if *hiswandari* was used in a passive sense. Otherwise, it would have rendered a transitive verb intransitive and thus could not have served as the source of *-mai-*.

A possible explanation for *esharnumai-* is the suggestion of Kronasser (1966: 456) and Puhvel (1984: 2.310-311) that it was a denominative derived from a form given as *\*esharnuma-*. Kronasser proposed that *\*esharnuma-* was an abstract derivative in *-(i)ma-* of *esharnu-*, while Puhvel was undecided as to whether it was a verbal abstract or a Luwoid participle. Although Puhvel (1984: 1.11) also suggested much more tentatively that the origin of *enumai-*, which he glossed as 'become hot (?)', could have been parallel to that of *esharnumai-*, Kronasser (1966: 480) described *enumandari* as wholly unclear.

If the view of Kronasser and Puhvel is correct, *esharnumai-* need not be dealt with here. Since grounds can be found for questioning the authenticity of *arrumanzi*, *wahnuman* and *enumandari*, it thus is possible that none of the final four forms should be considered a part of the present problem. However, as was mentioned earlier, it appears that all four may be explained in similar fashion. Their apparent common explanation indicates that they do belong here and that they provide additional traces of the change of *uw* in an area where the absence of its results would have called for comment. The four suffixes first cited by

Sturtevant were not the only verbal endings containing *n* in a position to bring about the conditions required for its occurrence. There were also the endings of the participle and of most forms of the third person plural. However, the two sets of suffixes differed in that the first four themselves contained the /w/ which was the necessary complement of /n/, while the others did not. One consequence of this difference was that among participles and third persons plural the change to *um* could occur only among stems in *-u-*, which were virtually limited to stems in *-nu-*. Another was that among such forms the morphological effect of the change was quite different. For example, in the first person plural the sound change produced a pair of variant endings which was duplicated in other conjugations. In the third person plural the result was a form with an apparently anomalous *m* which appeared to belong neither to the stem nor to the ending. That the latter situation would have been preserved unaltered is unlikely. What one would expect is that, although a few isolated relics would probably remain, the apparent formal irregularities would have largely been eliminated, usually by levelling out the aberrant *m* but occasionally by extending it to other forms of the paradigm.

The attested Hittite forms appear to conform to this expectation. For the most part the forms containing *m* were replaced by regular ones. However, at least one relic of one sort or another occurs among both the participles and the third person forms. The participle *wahnuman* presumably resulted directly from the change, while *arrumanzi* apparently was an indirect consequence of its effect among the third person plural forms. Since *arruwanzi* is attested alongside *arrumanzi* and regular *arranzi* among the forms of the *hi-* conjugation *a-* stem *arra-*, it appears that *arra-* had acquired a few secondary *u-* stem forms. It seems safe to say that the reason for this development was the analogical influence of the *m-* forms shared by the *a-* and *u-* stems in the four categories cited originally by Sturtevant. In this connection it is pertinent that among the forms of *arra-* infinitives and verbal nouns in *m-* greatly outnumbered those in *w-* in each case, while the relevant first person categories are not attested (Puhvel 1984: 1.111-114). Since the inherited *u-* stems could possess *m-* forms in the third person plural as well as the first, *arrumanzi* was then produced as one of the secondary *u-* stem forms of *arra-*. Its existence can thus be taken to suggest that *m-* forms had at one time indeed been fairly frequent in the third person plural of the *nu-* verbs. Although *enumandari* presumably originated as such a form, whether it should be considered an additional relic is not

clear. Finally, in *esharnumai-* the *m-* forms have spread from inherited 3rd pl. pres. *esharnumanzi-* to the singular, where *isharnumaizzi* was created on the model of forms such as *handaizzi/handanzi* of *handai-* 'join, prepare', the same influence as produced *tarnaizzi/tarnanzi* beside *tarnai/tarnanzi* among the forms of *tarna-* 'release'. As was noted earlier, the failure of a form such as *isharnumaizzi* to be attested beside *enumandari* prevents one from deciding whether a verb *\*enumai-* also existed or *enumandari* belongs with the relics *wahnuman* and *arrumanzi* as an irregular form of *enu-*.

The Indo-European evidence cited by Sturtevant is also consistent with the narrower statement of the phonological rule, since the variant suffixes *-vant-* and *-mant-* contain *n* and the more isolated Greek and Sanskrit forms were all plausibly held to correspond to the *r/n-* stem seen in Hitt. *-war/-mar*. The support provided by the more fragmentary evidence for the early occurrence of the change of *uw* is thus not insignificant, for it includes the only reliable examples of cognates (other than the now probable 1st pl. Gk.  $-\mu\epsilon\nu =$  Hitt. *-men*) stemming from a form which had undergone the change prior to the separation of Anatolian. In connection with the Indo-European evidence it is also significant that any problems concerning its quantity may now be considered to have been eliminated by the restriction of the change to the minority of instances of *uw* which were followed by *n*. In the case of Hittite, the restriction combines with the early date indicated for occurrence of the change to obviate similar concerns about the evidence there, whereas the proposal that the change took place in pre-Hittite and affected every instance of *uw* in existence at that time should have raised at least as many questions about the absence of additional *m-* forms as did Sturtevant's view in connection with the Indo-European evidence.

The same combination also permits one to account more plausibly for the instances in which *w* is written with a preceding *u* in Hittite. The narrower statement of conditions eliminates the need to explain the large majority of the occurrences of *uw*, those not followed by *n*. Wherever *n* occurs, the explanations suggested by Sturtevant continue to be available. Moreover, the restatement of the rule provides an additional one, the loss of a phoneme which originally intervened between /w/ and /n/ and thus prevented its application, as in *huwant-* 'wind', in which a laryngeal previously kept /w/ and /n/ apart (Puhvel 1984: 3.429). However, since the change apparently took place prior to the separation of Anatolian, it is probable that in the largest

number of cases the explanation is that the Hittite form arose after its occurrence.

Concerning the last point it may be noted in particular that because of the familiar productivity of the suffix *-ant-* in a variety of uses in Hittite, Hittite forms in which *-ant-* is preceded by *-uw-* may easily be explained as derived following the change to *um*. Two other forms which should be mentioned specifically are the possessive suffix *-want-* = Skt. *-vant-* and the supine in *-wan*. Although Sturtevant's view that *nekumant-* contains the only example of a Hittite cognate of Skt. *-(u)mant* < *\*-(u)went-* seemed too uncertain for acceptance, unmodified *-want-* occurs in a number of Hittite forms. One possible instance of its use with a *u*-stem is found in *akuwant-* 'stony' beside *aku-* 'stone'. However, as Friedrich (1960: 41) and Kronasser (1966: 87) have noted, it is not certain that *akuwant-* contained *-want-* rather than *-ant-*, since it appears from forms such as *perunant-* 'rocky' beside *peruna-* 'rock' that *-ant-* could be used in the same manner as *-want-* in Hittite. If *akuwant-* indeed contained *-want-*, it nevertheless could have originated after the separation of Anatolian, for the spread of the possessive suffix *-want-* to use in the derivation of adjectives from verb stems in Hittite indicates that whether or not it had remained a living suffix there, it had functioned as such for a while in pre-Hittite (Kronasser 1966: 267).

That the supine in *-wan* was in origin a case form of the *r/n*-stem seen in *-war/-mar* is generally agreed (Sturtevant 1951: 74; Kronasser 1966: 309; Melchert 1984: 24). It thus might seem remarkable that it possessed no variant in *\*-man*. Because of its origin Sturtevant (1942: 26) once included it in his examples of the change of *uw* but later eliminated all mention of it, presumably because he came to realize that no occurrences of *\*-man* could be found. Nor does Melchert mention its failure to have undergone the change. The explanation must lie in its virtual confinement to the iterative in *-sk-*, to which it was connected by a thematic vowel, and its complete confinement to constructions in which the supine was combined with forms of the verbs *dai-* 'put' or *tiya-* 'step' to represent the inception of an action (Sturtevant 1951: 74, 130; Friedrich 1960: 95-96, 111, 137, 143). If inherited, the supines of iterative verbs would not have been subject to the change of *uw* > *um*, because the preceding thematic vowel would have prevented the occurrence of /w/ as [uw]. However, it seems clear that the actual explanation for their failure to have undergone the change is that they were not inherited. Although both the verbal suffix in *-sk-* and *-wan* had

cognates in Indo-European, in no Indo-European language is there an indication of a tendency for the two to become associated. It thus seems safe to say that the nearly complete restriction of the supine to the iterative was a Hittite innovation or that the supines involved arose after the change of *uw*. Since there also is nothing in Indo-European corresponding to the Hittite inceptive construction, the few supines not belonging to iteratives may be similarly explained.

From what has been seen here, it appears that the Hittite scribes had no practice of using *m* to represent *w*. Nor was there at any time a change of *wu* > *mu*. It appears instead that the previous proposal of the Proto-Indo-Hittite change of *uw* > *um* when followed by /n/ may be reaffirmed with greater confidence than before and that all instances in which *m* is written where one should expect Hittite *w* may be explained on that basis.

One topic related to the change which has not yet been discussed here is its effect on the non-singular verb forms of the first person in Indo-European. As was indicated earlier, one no longer need hesitate to equate Gk.  $\mu\epsilon\nu$  with Hitt. *-men(i)*. However, the view of Sturtevant that the Indo-European opposition between dual *w-* and plural *m-* arose through a redistribution of the results of the change clearly should be rejected. The evidence that the change occurred only in the position preceding *n* indicates that none of the other *m-* forms, including those of the perfect and middle, would have been produced phonologically. Nor is it plausible that the origin of a single variant in *m-* would have led to the analogical creation of a complete set of *m-* forms to match those in *w-*. However, the existence of a variant in *m-* among the *w-* forms should have caused a measure of confusion which would not have been wholly free of further consequences. Of the four Hittite and/or Indo-European forms, *-wen*, *-men*, *-wes* and *-mes*, at least two must be held to have been original: *-wen*, which served as the source of *-men*, and *-mes*, since the *m-* forms were otherwise inherited. Once *-men* occurred beside *-wen*, analogy could have produced *-wes* to be paired with *-mes*. In Hittite the initial pair of *-wen*, *-men* was preserved and the eventually superfluous *-mes* eliminated. Whether *-wes* was also eliminated in Hittite or did not come into being until after the separation of Anatolian cannot be said. In Indo-European the pairs of *-wen*, *-men* and *-wes*, *-mes* were realigned as *-wes*, *-wen* and *-mes*, *-men* on the model of the other *w-* and *m-* forms. Thereafter *-wes* and *-mes* remained in existence, while *-wen* was ultimately eliminated everywhere at a stage which cannot be



determined. Although it survived the period of Indo-European unity, *-men* was lost in the separate dialects other than Greek, where it continued to exist beside *-mes* for a while before the generalization of one or the other in each of the different Greek dialects. As can be seen, the attested Hittite and Indo-European forms can be reconciled rather easily with the restated description of the sound change and thus do not raise any questions concerning the conclusions reached here.

## References

- Brosman, Paul  
 1958 Pre-Indo-Hittite *uw > um*: a suggested restatement. *Language* 34: 345-352.  
 1984 The IE cognates of the Hittite *ai-* and *au-* stems. *Journal of Indo-European Studies* 12: 345-365.
- Brugmann, Karl  
 1911 *Grundriss der vergleichenden Grammatik der indogermanischen Sprachen*. 2nd ed. vol.II. pt. II. Strassburg: Trübner.
- Friedrich, Johannes  
 1952-66 *Hethitisches Wörterbuch*. 4 vol. Heidelberg: Winter.  
 1960 *Hethitisches Elementarbuch*. 2nd ed. vol. I. Heidelberg: Winter.
- Kammenhuber, Annelies  
 1961 *Hippologia Hethitica*. Wiesbaden: Harrassowitz.
- Kimball, Sara  
 1999 *Hittite historical phonology*. Innsbruck: Universität Innsbruck.
- Kronasser, Heinz  
 1956 *Vergleichende Laut-und Formenlehre des Hethitischen*. Heidelberg: Winter.  
 1966 *Etymologie der hethitischen Sprache*. vol. I. Wiesbaden: Harrassowitz.
- Melchert, Craig  
 1984 *Studies in Hittite historical phonology*. Göttingen: Vandenhoeck and Ruprecht.  
 1993 Historical phonology of Anatolian. *Journal of Indo-European Studies* 21: 237-257.  
 1994 *Anatolian historical phonology*. Amsterdam and Atlanta: Rodopi.
- Puhvel, Jaan  
 1984 *Hittite etymological dictionary*. Berlin and New York: Mouton de Gruyter.
- Sihler, Andrew  
 1995 *New comparative grammar of Greek and Latin*. Oxford: Oxford University Press.

Sturtevant, Edgar

- 1929     A Pre-Indo-European change of *w* to *m* after *u* or *a*. *American Journal of Philology* 50: 360-369.
- 1942     *The Indo-Hittite laryngeals*. Baltimore: Linguistic Society of America.
- 1951     *A comparative grammar of the Hittite language*. 2nd ed. vol. I. New Haven: Yale University.

Weitenberg, Joseph

- 1984     *Die hethitischen u- Stämme*. Amsterdam: Rodopi.

Whitney, William D.

- 1889     *Sanskrit grammar*. 2nd ed.
- [1950]   [Reprinted Cambridge, MA: Harvard University.]