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A. AUFSÄTZE

A Note on Assibilation in Hittite*

0. In (at least) two of the standard handbooks on Hittite, Sturtevant
(1933: 61) and Kronasser (1966: 534), it is noted that the assibilation of
Proto-Anatolian *t (e.g. from PIE *t) to Hittite <z>, phonetically an
affricate [ts], before *i is blocked after s (graphic <š>).¹ This restriction is
based mainly on the evidence of the neuter nouns in -ašti-, e.g. *palhašti*-,
pargašti-, a class of nouns discussed in more detail below. Moreover,
accepting this restriction, as Sturtevant (loc. cit.) points out, entails taking
the third person singular (3 SG) forms of verbal stems ending in -š-, e.g.
ešzi, *damašzi*, *purušzi*, *idalawešzi* etc. to be the result of the analogical
extension of the -zi variant of the *-ti that arose in contexts other than
/s/

Recent remarks, though, by several scholars suggest that the acceptance
of this restriction on assibilation in Hittite and the ensuing analogical
account of the -zi in *ešzi*, etc. is not necessarily a communis opinio. For
example, Oettinger (1979: 89-90, 98) reconstructs *H₁es-ti for *ešzi and
*ses-ti for šešzi without comment, seemingly implying that the Hittite
forms contain a direct phonetic development of an Indo-European sequence
*-s-ti; similarly, Eichner (1975: 80) in discussing the development of the
3 SG present ending (though he may have been more concerned with the
fate of the final *-i than with the consonant) says: "3. Sg. Präs. -zi ist
regelmäßig nach Konsonant. Nach Vokal wäre wohl lautgesetzlich *-z zu
erwarten"; finally, Rosenkranz (1978: Section 4.3.4.3), in discussing assibi-

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¹ This is not the only case where surface sequences of -ti- from PIE *t and
PIE *i apparently fail to assibilate. The presence of an intervening laryngeal had
the same effect, even if the laryngeal was ultimately lost in that position (i.e.
suggesting that the laryngeal loss was subsequent to the assibilation process). This
effect is evident in *tiya* 'stand' from PIE *tH₂-(i)yo-.

lation of dentals before *-i-* in Hittite says that "t sich in dieser Stellung zu z (= ts) entwickelte (zum Beispiel Endung der 3. Singular idg. *-ti*, luw. *-ti*, heth. *-zi*)"; from which one might infer that the *-ti* to *-zi* change was phonetically regular throughout the verbal system, for all occurrences, in all environments.²

Indeed, when one considers the range of data which bears on the development of the sequence **-sti-* in Hittite, it becomes clear that there is legitimate cause for concern over the correctness of Sturtevant's restriction on assibilation. In particular, the evidence beyond the *-ašti-* forms mentioned above presents an ambiguous picture, and even some of those forms are ambiguous, as discussed below. It is appropriate, therefore, to reexamine this evidence in some detail and at the same time to bring to bear any additional considerations; even if external in nature, in the hopes of resolving the issue of the fate of **-sti-* in Hittite and deciding the question of the development of 3 SG forms like *ešzi*, etc.

1.0. There are three main pieces of evidence which can be taken to support Sturtevant's position.³ They are the *-ašti-* forms mentioned

² Additionally, neither Rosenkranz (loc. cit.) nor Josephson (1979) say anything about possible contextual restrictions on the assibilation process, though that may not have been among the central concerns in their respective works.

³ There is a significant number of forms which are irrelevant for one reason or another despite a superficial appearance of relevance to this question. Among these are several words with the sequence *-šti-* which are not native Hittite words, including some overtly marked as foreign with Glossenkeil marks, some apparently from Luvian, a language which did not share in Hittite's assibilation process, and some probably from other Anatolian, possibly non-Indo-European, languages: *huišti-* (Luvian, according to Reichert 1963: 83), ^{NA4} *hušti-* 'mineral substance' (probably Hurrian, according to Tischler 1978: 317; following Laroche's suggestion), *mištin* (Glossenkeil, KUB XIII 35 IV 19, with no clear meaning), *mištili-* (a word of unclear meaning possibly Hurrian in origin), and *kaškaštipa-* 'Torbau' (of Proto-Hattic origin, according to Tischler 1980: 535, following Laroche's suggestion). Similarly, there are numerous noun stems in *-šta-* or *-št-* in Hittite which in principle could show old IE locative case forms in **-i* (as does the adverb *hanza* 'in front', from **H₂e(ont-i)* but happen not to (or are not so attested); these include *šappikušta-* 'clasp, hairpin', and *kašt-* 'hunger', among others. The existence of forms of these nouns with the sequence *-šti-* in the synchronic Hittite dative/locative case, e.g. *kašt-i* or É *hešt-i* '(in/at/to) the mausoleum', is of no import regarding the development of PIE **-sti-* in Hittite, since the Hittite *-i* in these forms derives from PIE **-ei* and never triggers assibilation (cf. the dative/locative of the pure *t*-stems, e.g. *karaitt-i* 'in the flood'). The verbs *kišt-* 'expire', *markišt-* 'disappear, dwindle', and *šešd-* 'thrive, rest', show no forms in which the *-t-* is followed by an original **-i-* and so have no bearing here. The partial word *-a]ššira*

above, paradigms in which *-šti-* occurs as an ablaut variant as in *haštai-* 'bone' or *taištai-* 'to load', and apparent variant 3 SG forms such as *damašti* 'he oppresses' (KBo V 9 II 26) for regular *damašzi*. There are, however, some problems with each one of these, so that the net effect is that while suggestive, they are not entirely conclusive as evidence for a development **-sti-* to *-šti-*.

1.1. As is well known, Hittite has three nouns in *-ašti-* built on adjectives of dimension; these are *palhašti-* 'breadth' (neuter, with a common gender by-form *palhaštiš*) from the adjective *palhi-* 'broad', *pargašti-* 'height' (neuter, with a common gender by-form *pargaštiš*) from the adjective *parku-* 'high', and *dalugašti-* 'length', from the adjective *daluki-* 'long'.⁴ The suffix *-ašti-* has been connected (for instance by Benveniste 1962: 89ff.) with Old Church Slavonic *-ostb* as in *ozostb* 'narrowness', and thus apparently reflects PIE **-osti-*. If this etymology is correct, then these forms would indeed show the failure of assibilation of *-t-* to occur in the environment /s ____.

The only problem with this evidence is that other possibilities for the source of the sequence *-ašti-* in these nouns cannot be ruled out entirely. In particular, the attested form of *dalugašti-* is actually an adverbial usage, *dalugašti* 'der Länge nach [at full length, lengthwise]' a meaning for which a locative origin seems quite likely. Thus *dalugašti* might actually reflect a locative of a stem in **-ost-*,⁵ since the Hittite dative/locative ending *-i* seems to come from IE **-ei* and so does not trigger assibilation (compare a pure *-t*-stem such as *karaitt-i* 'in the flood' without assibilation), *dalugašti*, if from **-ost-ei*, would not be expected to show assibilation. Similarly, the other nouns in *-ašti-* could show a remaking within Hittite of consonant stems as *i*-stems and thus need not bear directly on the question of the outcome of a PIE sequence **-sti-* in Hittite.⁶

(Friedrich 1952: 37), if a place name is irrelevant since it has no etymology and if a form of 'star' probably has graphic ⟨i⟩ for **e*: (**H₂ste:r*/**H₂ster-*). Finally, *hapuštīya-* 'a (type of) drink', though suggestive, is to be discounted here since it has no etymology (see Tischler 1977: 168) and so could well be a nonnative word. See footnote 12 for other irrelevant forms.

⁴ This list purposely omits the Glossenkeil word *lu(m)pašti-* 'offense, nuisance' since it is not a native Hittite word.

⁵ This interpretation was suggested to me by H. Eichner (personal communication).

⁶ H. Eichner has pointed out to me that OCS *desetb* '10' (*i*-stem) shows a similar remaking from a consonant stem (attested in the old locative *deset-e*, a *t*-stem), possibly through merger in the accusative singular (**-t-m* > *-tb* and **-ti-m* > *-tb*, lautgesetzlich).

Still, there are nouns in **-sti-* in other Indo-European languages,⁷ and in addition there is a possibility (though discounted by Benveniste loc. cit.) of a word equation between *dalugašti-* and Common Slavic **dlugostъ* (based on Polish *dlugość*). These two considerations make it likely, quite apart from the problems noted above, that at least some of the Hittite forms in *-ašti-* continue an IE sequence **-osti-*. Nonetheless, the relevance of these *-ašti-* nouns for the question of assibilation cannot be accepted as uncritically as Sturtevant's (brief) presentation would suggest.

1.2. The second class of forms potentially providing support for Sturtevant's restriction on assibilation involves instances in which *-šti-* arises as an ablaut variant of a sequence in which the *-t-* and the *-i-* are not contiguous, e.g. *-štai-*. This class includes the oblique forms of *haštai-* 'bone', e.g. genitive *haštayaš*, the animate derivative *haštiyant-* 'bone', the participle *taištiyant-* (Laws, section 124, varia lectio (KUB XXIX 26), see Friedrich 1959: 66, n. 18) derived from the verb *taištai-* 'load', and the verb *huštaya-* 'soften (the voice)' which is a variant of *huštai-* 'idem'. The noun *haštai-* is clearly related to Greek ὀστέον etc. and so probably reflects **H₂est-oj* (strong) / **H₂st-i-* (weak);⁸ thus the *-šti-* in the genitive and in the derivative in *-ant-* would show the sequence *-sti-* preserved as such without assibilation, inasmuch as they derive from the weak stem variant. Similarly, the *-i-* in *taištiyant-* and *huštaya-* would reflect a zero-grade of the suffix in *taištai-* and *huštai-*. Thus on the face of it, these forms would tend to support the claim that **-sti-* developed into Hittite *-šti-*.

However, this evidence too is not all that conclusive. Since the forms with *-šti-* are morphologically related, both diachronically and synchronically, to full-grade forms in *-štai-*, the possibility is real indeed that allomorphy of the sort **-šzi-/štai-*, which would have resulted if assibilation were not constrained in the way Sturtevant suggested, would have been levelled out to *-šti-/štai-*. Thus, the *-t-* in these forms could represent the analogical reintroduction of the *-t-* from full-grade forms and therefore need not be the direct phonetic continuation of IE **t* in the sequence **-sti-*.⁹

⁷ Benveniste notes Vedic *gabhasti-* 'hand, arm' (as a concretization of 'enclosing, seizing'), Lithuanian *vaipstis* 'spindle' (from *verpti* 'spin'), OHG *kuñst* 'knowledge', among others.

⁸ As H. C. Melchert has pointed out to me, both the collective sense of *haštai-* and the Hittite phonology point to such an "amphikinetic" IE paradigm for this word.

⁹ Another possibility concerning the lack of assibilation in *hašti-(yaš/yant-)*, suggested by H. C. Melchert (personal communication), is that a laryngeal intervened between the **t* and the **i* (cf. footnote 1). While the positing of a laryngeal could be considered to be confirmed by the voiceless aspirate in the Sanskrit

1.3. The final piece of apparent supporting evidence is a group of problematic verb forms such as the isolated *damašti* cited above which Sturtevant took to be a 3 SG form with *-ti* as the direct continuation of the IE 3 SG present ending **-ti* after the stem-final *-š-* of *damaš-*. Other forms of this type include *še-eš-ti* 'sleep(s?)' (KBo XIII 58, II 16, see Oettinger 1979: 18) and *e-eš-ti* 'is (?)' (KUB XXXVI 98c, 5, classified as 3 SG by Kronasser (p. 389)). These forms, however, are not probative as to the outcome of **-s-ti* because they are open to interpretations other than as 3 SG Hittite forms.

In particular, *damašti* has been taken by some (e.g. Friedrich 1960: 113 and Kronasser (p. 53)) to be a Luvianism and by others (Oettinger (p. 122, fn. 71)) to be the result of a sporadic cluster simplification of the group *-šz-*; ¹⁰ *še-eš-ti* and *e-eš-ti*, on the other hand, have been classified by Oettinger (pp. 16, 18) as 2 SG *-hi-* conjugation forms which sporadically occur in place of "proper" *-mi-* conjugation forms (compare *ku-e-ti* for *ku-e-ši*), from *kuen-* 'strike, kill', as in Oettinger, p. 22).¹¹

2.0. On balance, then, the best positive evidence for Sturtevant's proposed restriction on assibilation is the *-ašti-* nouns; tenuous though it may be. Counterbalancing these positive indications supporting Sturtevant, though, there are some negative indications, cases in which assibilation apparently did occur even though an **-s-* preceded the **-t-*.¹²

cognate *asthi-*, the Sanskrit *-th-* in this word could have arisen simply by contact with the preceding *-s-* (as in other words in Sanskrit), rendering a laryngeal reconstruction unnecessary. It is only if no laryngeal is assumed here that this word bears at all on the question of **-sti-* in Hittite.

¹⁰ Moreover, as H. Eichner (personal communication) has kindly pointed out to me, *damašti* cannot be old and it occurs in a chronological level in which 2 SG and 3 SG forms are occasionally interchanged (due probably to homonymy in the preterite), as with the 2 SG form *ištamašzi* (Friedrich 1930: 188); thus this could be a variant (i.e. *-hi-* conjugation) 2 SG used as a 3 SG and so need not even be considered Luvian.

¹¹ However, since *še-eš-ti* occurs in a broken context, any interpretation, whether as 2 SG or 3 SG is necessarily speculative. Similarly, *e-eš-ti* occurs in a context in which neither a 2 SG nor a 3 SG interpretation makes good sense. In any case, whatever the explanation of these forms, the case for their being old 3 SG forms is not at all strong. Note also that *e-eš-ti* cannot be a Luvianism because the Luvian root for 'be' is *aš-*.

¹² To be excluded from consideration here are the 3 SG forms such as *ešzi* and *šešzi*, since they are the focus of the question concerning the effects of analogy; see below also concerning *šešzi* 'thrives', from the root *šešd-*. In addition, nominative singular forms such as *ka-aš-za* 'hunger' from */kast-s/* are irrelevant here inasmuch as the source of the *(z)* is */t + s/* and not assibilation.

2.1. The first set of forms with these negative indications involves some ablative case-forms and adverbs probably derived from ablatives which contain the ablative case-suffix *-z(a)* occurring after a stem-final *-š-*. The ending seems to derive from **-ti*, as a comparison with the Luvian oblique ending *-(a)ti* (e.g. *iššarati* 'with the hand') and Lycian *-adi/-edi* would suggest;¹³ if this etymology is accepted, then the ablative *nepišza* (Anittaš text, line 2) 'from the sky' and the adverbs *tapuša* 'alongside' and *parša* 'backward' would appear to show the development of **-s-ti* to Hittite *-šza*, counter to Sturtevant's claim.

However, the weak link in this negative evidence is the assumption that *-šza* continues **-s-ti* directly. One form of the synchronic ablative case ending in Hittite, that for athematic nouns, is *-za*, and Jasanoff (1972) has shown that it was involved in the formation of ablative forms from endingless locative forms in the paradigm of the *-atar* nouns, giving synchronic by-forms such as *paprannanza* for *paprannaz* (from *papratar* 'sin'). In a similar way, *nepišza* could reflect the suffixation of *-za* to the attested endingless locative *nepiš* 'in the sky' (KUB XXXIII 111, 8, see Friedrich 1960: section 87), or even simply to the synchronic stem *nepiš-*. In either case, *nepišza* need not continue a preform **nepis-ti* directly.

Similarly, *tapuša*, which is related to the neuter noun *tapuwaš* 'side' and undoubtedly contains the ablative ending *-z(a)*, can be explained in a like manner. It need not be the case that *tapuša* directly continues an old ablative, with the sequence **-us-ti*, as Friedrich (1952: s. v.) suggests; the suffixation of *-za* involved in the formation of *-anza* ablatives noted (and utilized) above regarding *nepišza*, was also involved in the derivation of adverbials in Hittite, with an existing (or presumed) adverbial (possibly an endingless locative) as the base, as in *kitkar/kitkarza* 'at the head of' (see Jasanoff 1972: 125-6). Thus *tapuša* could well be an internal Hittite development with *-z(a)* added on to an adverbial **tapuš*. The independent existence of an adverbial *tapuša* 'sideways, aside' speaks in favor of such an interpretation, for it necessarily presupposes a weak stem **tapuš-*. Somewhat more problematic is *parša*; since there is no attested stem **parš-* to point directly to an explanation along the lines of that given for *tapuša*, *kitkarza*, or *nepišza*. Although nothing stands in the way of

¹³ See, for instance, Jasanoff (1972) for this reconstruction. The symbol *-z(a)*, here and elsewhere, is to be taken to indicate the following variants: *-(z)a* after consonants and *-(z)* after vowels. Other possibilities for the reconstruction of the Hittite ablative exist, especially Sturtevant's **-ts* (as zero-grade of the IE suffix **-tos* as in Sanskrit *tā-tas* 'from that, then'), though that cannot account for the Luvian and Lycian endings and so probably is to be dismissed. Obviously, however, if one adopts Sturtevant's reconstruction for Hittite then these forms do not bear on the question of assibilation in Hittite.

assuming such a stem and in view of the evidence of *tapuša* and *kitkarza*, this assumption is certainly reasonable, it is not an altogether satisfying step to have to take. A possible alternative explanation would be to assume that via a resegmentation process so common with synchronically opaque forms, a morpheme *-šza* was created, possibly from *tapuša* itself,¹⁴ and that this figured in the derivation of *parša*; such an account, while admittedly ad hoc, does have the advantage of allowing one to explain the relation of *parša* to *parza* 'backwards' (Friedrich 1952: s. v.), an adverbial with a meaning parallel to that of *parša*, through the assumption of a stem **par-* to which *-za* and also the "pseudo-morpheme" *-šza* were added. At the very least, though, *parša* in itself need not represent a preform **pars-ti* directly.

2.2. More problematic yet is the stem *taišzi-* 'warehouse, shed', which is undoubtedly related to the verbal stem *taištai-/taištiya-* 'load'. On the face of it, *taišzi-* would appear to be from a stem **taisti-*, which could also have served as the basis for a denominative with the suffix **-ie/o-* which in turn could have yielded *taištai-* by whatever process gave such verbal stems (i. e. those in *-ai-*) in Hittite. Moreover, one must further assume that the variant *taištiya-* arose later based on *taištai-* (see above section 1.2). This derivation would entail, however, recognizing a development of **-sti-* to *-šzi-* lautgesetzlich in *taišzi-*, and a chronology in which the creation of *taištai-* from **taisti-ie/o-* predated the proposed **sti* to *šzi* sound change, for otherwise **taišzai-* would be the expected form for the derivative.

A plausible alternative account of *taišzi-* is available, however, again making it difficult, if not impossible, to simply take *taišzi-* at face value as prima facie evidence against Sturtevant's restriction on assibilation. In particular, if one assumes that *taištai-/taištiya-* are extensions of a verbal stem **taišt-*, then a deverbal noun derivation **taist-ti-* (or even **taist-tio*)¹⁵ could be the basis for *taišzi-*, without a direct development of **sti* to *šzi*. That is, a sequence of changes can be posited by which **-stti-* became **-szzi-*, with the leftmost **t* becoming *(z)* before a dental and the rightmost

¹⁴ As noted above, *tapuša* is connected in all probability with the noun *tapuwaš*, which is a neuter *š*-stem originally. However, *tapuwaš* itself passed over into the *a*-stem declension (e.g. genitive singular *tapuwaš*, KUB IX 4 I 9, see Friedrich 1952: s. v.), suggesting that for some speakers at least, the *-š-* was not felt as part of the stem. Such a reanalysis of the status of *-š-* in *tapuwaš* would have facilitated the resegmentation of a new morpheme *-šza* out of an adverb like *tapuša* (assuming some connection with *tapuwaš* was still perceived).

¹⁵ H. Eichner (personal communication) has suggested that this is a *nomen loci* or *instrumenti*, i. e. "place where one unloads/stores (things)", though one might then expect *taišzi-* to be neuter gender and not common gender as it is.

one undergoing the regular assibilation of **t* before **i* (cf. *ezzazzi*, phonetically probably [etstsi] with a phonetically empty vowel ⟨a⟩, 'eats', from **ed-ti* for a parallel combination of changes). Simplification of **-szzi-* to *-šzi-* would have to be further assumed in order to derive the attested *taišzi-*, but this is a change which is needed independently to derive *šešzi* 'thrives' from the root *šešd-*, i.e. **sed-ti* > **sesz-zi* > *šešzi*. In this account, no ad hoc steps are needed, and Sturtevant's restriction can be preserved.¹⁶

3.0. Putting the data and analyses from sections 1 and 2 together, one is confronted with a somewhat ambiguous picture concerning Sturtevant's restriction on assibilation. Each piece of positive evidence is open to different interpretations as is each negative piece. As noted earlier, though, the best positive evidence is the nouns in *-ašti-*, whereas the strongest negative evidence probably is *taišzi-*. However, *taišzi-* is just a single lexical item and can be explained in a way that involves no unreasonable or ad hoc steps and is compatible with Sturtevant's hypothesis, while the *-ašti-* nouns, though admittedly forming a small closed class, nonetheless would oblige one to accept two or more alternative explanations, possibly one for each item in the class, if one is to deny Sturtevant's proposal. Thus it seems best to accept Sturtevant's claim that *-šti-* is the regular outcome of **-sti-* and that assibilation was therefore blocked after **-s-*.

Still, this conclusion is quite tenuous, for it involves making judgments as to which alternative explanations "count more" than others, a risky business indeed. Thus it is essential to find any additional evidence bearing on the question of the development of **sti* in Hittite, even if of an external nature, and to apply it to the results arrived at here. As it happens, a restriction on assibilation by which the change of [t] to [ts] is blocked after [s] turns out to be fairly common crosslinguistically. Thus the slender balance in favor of Sturtevant's restriction arrived at on Hittite-internal grounds finds added support from external considerations.

4. In presenting the proposed contextual restriction on Hittite assibilation, Kronasser (1966: 53–4) noted a parallel between it and the failure of **t* before **i* in Greek to assibilate to *-σ-* when it occurred after a Greek *-σ-*

¹⁶ Admittedly, in this account one must assume that the change *ti* > *zi* could occur after ⟨z⟩ (= [ts]) itself; however, if there is some phonetic motivation for Sturtevant's restriction (see discussion below) and if the sibilant part of [ts] is of shorter duration than in a full [s], then one need only assume that the brief sibilant offset of the [ts] does not have the same phonetic "strength", especially in terms of its power to block assibilation, as the full [s].

(from whatever source, compare βά-σις with πίο-τις); presumably the Greek sequence *-ti* passed through an affricate stage **tsi*,¹⁷ so the parallel with the Hittite situation is striking indeed.

However, much more can be said concerning the blocking of assibilation by a preceding *-s-*, adding plausibility to the notion that it is not an unusual or unexpected restriction to find on such a process. In particular, additional parallels which are virtually identical to the Greek case and the presumed Hittite one are to be found. A good example of this type is afforded by the Old High German (Second Germanic) sound shift in which the Proto-Germanic voiceless stops **p* **t* **k* became the affricates *pf*, *ts*, *kh* respectively,¹⁸ in a variety of environments including after consonants as in OHG *herza* 'heart' from Germanic **hert-an-* (from PIE **kerd-*). However, the shift to an affricate did not occur after a voiceless spirant, including *(-)-s-*, as shown by forms such as OHG *stein* 'stone' from Germanic **stainaz* (cf. Gothic *stains*) or OHG *gast* 'stranger' from Germanic **gastiz* (cf. Gothic *gasts*).¹⁹

Furthermore, when one takes into account the phonetic explanation given for the Greek restriction on assibilation by Lejeune (1972: 63, fn. 2) following Grammont (1965), then numerous other parallels, not exactly similar but relevant nonetheless, become available. Lejeune calls the Greek restriction a case of "différenciation préventive", defined by Grammont (p. 237) as follows:

La différenciation est toujours préventive en ce sens qu'elle empêche une évolution, en général une assimilation, en remplaçant le changement attendu par un autre; mais on ne lui donne d'ordinaire ce qualificatif que dans les cas où, au lieu de changer la direction de l'évolution d'un phonème, elle empêche un phonème d'évoluer, alors que isolé et abandonné à lui-même il aurait éprouvé un changement déterminé.

¹⁷ This is suggested by Lejeune (1972: 63).

¹⁸ Only the shift of **t* seems to be found throughout the Old High German area, with the **p* to *pf* and **k* to *kh* changes being geographically restricted: see, for instance, Prokosch (1938: 78ff.) for details.

¹⁹ As R. Wallace has pointed out to me, Umbrian (Buck 1928: 89–90) shows palatalization of *-k-* to the apparent palatal sibilant ⟨ç⟩ (also written ⟨š⟩ and ⟨s⟩), before the front vowels *-i-* and *-e-*, with the restriction that this sound change does not occur when the *-k-* is preceded by *-s-*, as shown by *veskles* 'vasculis' from **ues-kelo-*. While this example involves a *-k-* and not a *-t-* and so is not an exact parallel to the cases under discussion here, these Umbrian facts are suggestive of a parallel, especially if similar phonetic processes are involved in the assibilation of *-t-* (to *-ts-*) and in the palatalization of the velar stop *-k-*.

Other examples of such preventative differentiation involving the effects of a preceding *s* include the failure of the PIE voiceless unaspirated stops to shift to Germanic voiceless spirants (presumably through a stage of voiceless aspirated stops) after *s*, as in Proto-Germanic **pu*: 'you' Gothic *þu*:, OHG *du*:) from PIE **tu*: but **ster*- 'star' (OHG *stern(o)*) from PIE **H₂ster*-, and their failure to shift to voiceless aspirates in Armenian after *s* (Meillet 1936: 29, 32) as in *t'e* 'that' from PIE **te*- (cf. Old English *te*, Lithuanian *te*) but *sterf* 'sterile' from PIE **ster*- (cf. Greek *στειρα*, Latin *terilis*). The phonetic motivation for this effect, in Grammont's view, is as follows (loc. cit.):²⁰

d'une part l'aspiration de cette consonne [i.e. the preceding consonant] a dépensé une quantité de souffle qui n'en a pas laissé suffisamment de disponible pour munir aussi la consonne suivante d'une aspiration... d'autre part... l'augmentation de pression que demande une occlusive venant après un élément spirant attire sur le deuxième phonème l'attention des organes phonateurs, qui le renforcent jusqu'à occlusion de la glotte.

Applying this principle to the case of assibilation in Greek, for instance, Grammont (loc. cit.) says that the "action de l's ... a été si nette pour empêcher le développement d'un élément spirant après l'occlusion".²¹ Viewed in this light, the case becomes stronger for accepting the evidence of the *-asti*- nouns²² as being supportive of Sturtevant's claims about the

development of PIE **-sti*- in Hittite, for his proposal represents a common and fairly natural restriction on a sound change.

5.0. Additionally, support for this view comes from another source. As noted above, Sturtevant himself pointed out that accepting the proposed contextual restriction on assibilation entails treating the *-zi* of 3 SG forms like *ešzi* to be an analogical replacement for expected *-ti*. Thus any way in which the analogical account of *-zi* in *ešzi* etc. can be made more plausible would provide added support for the proposal that **-sti*- yielded *-šti*- and not *-šzi*- in Hittite.

5.1. The case for analogical reformation of the 3 SG ending can be bolstered even more by a consideration of some facts internal to Hittite concerning the form of this verbal ending. As noted above, based on a comparison of the Hittite ablatival ending *-az/-z(a)* with Luvian *-ati* and Lycian *-adi/-edi*, and the Hittite reflexive particle *-z(a)* with Luvian *-ti* and Lycian *-ti*, it has been suggested, e.g. by Jasanoff (1972: 125, 127 fn. 2), that the regular development of Proto-Anatolian **-ti* (e.g. from PIE **-ti*) in absolute final position is *-z(a)*²³ in Hittite; one would expect then that the 3 SG ending would have developed into *-z(a)* also.²⁴ Accordingly, as Jasanoff (loc. cit.) points out, "*-zi* in the ending of the third singular... could well have restored the final vowel by analogy with other present endings [e.g. 1 SG *-mi*, 2 SG *-si*]". In this account, then, Hittite shows evidence of a move towards morphological uniformity in the *mi*-conjugation present endings through the analogical reformation of the 3 SG ending. Thus, the generalization of the 3 SG allomorph with *-z*- at the expense of the post-*s* variant with *-t*- can be seen as a consequence of the same system-internal pressures leading to an absence of paradigmatic allomorphy of any sort in the *mi*-conjugation endings. Thus from an original

²⁰ As my colleague R. Fox has kindly informed me, there are problems with Grammont's phonetic explanation because the volume of air expended in the production of a voiceless fricative would not in itself rule out the possibility of aspiration or spirant formation with a following stop consonant; questions of timing may be more relevant. Nonetheless, since there are numerous examples of his effect of a preceding *-s*-, presumably a phonetic explanation for it does exist. Grammont's is offered here as the only one currently available in the historical phonological literature.

²¹ Based on the relatively small number of examples presented here for différenciation préventive" by a preceding *-s*-, it would be dangerous to posit this effect as an absolute universal, but it seems safe to call it at least a tendency. Moreover, there are potential counterexamples to this effect attributed to *-s*-, for instance, if the change of *(-)k(h)-* to *ts/tš* before *-i*- is parallel to the assibilation of *t*-, then the existence of Modern Greek dialects with *(-)sts*- and *(-)šts*- from earlier sequences of *(-)sk(h)i*- as in *στσιζω* from *σχίζω* or *στσουλι* from *σκολι* (with *ou* from *i*- secondarily), noted by Thumb (1964: 17) provides such counterevidence.

²² Concomitantly, one must also therefore accept the derivation of *taišzi*- from **taišt-ti*-.

²³ See footnote 13 regarding the interpretation of *-z(a)*.

²⁴ There are occasional 3 SG present forms in *-za* in Hittite, some of which are old, e.g. *(e-eš-za)* (Laws, article 98, from the Old Hittite version, Siglum A in Friedrich 1959), *(ḫa-ar-za)* (KBo IX 73 Vs. 12, an Old Hittite manuscript), and *(ta-ru-uḫ-za)* (KUB XLIII 75 Rs. 9, classified as New Hittite by Oettinger (p. 220) but actually a New Hittite copy of an Old Hittite text according to H.C. Melchert (personal communication)), among others. These forms may well show the preanalogical stage at which *-z(a)* was the 3 SG ending, presumably with **-ti* as an allomorph (assuming the correctness of Sturtevant's restriction on assibilation). The existence of such forms is easy to explain under an analogical account of the formation of the ending *zi*, and thus they can be taken to support this position.

system of endings in early Hittite: 1 SG *-mi*, 2 SG *-ši*, 3 SG *-z(a)/-ti*,²⁵ a new system developed which displayed uniformity in two respects — each ending had a *-Ci* shape and furthermore, each ending had one and only one phonetic realization. The fact that one analogy involving the 3 SG ending *-z(a) > -zi* is independently needed makes another such case (*-ti > -zi*) that much more likely and therefore that much more reasonable a development to posit, for in both instances the 3 SG ending was the target of analogical pressures towards uniformity with the other endings.

5.2. In fact, if *(e-eš-za)* 'he is', of the Hittite Laws (article 98, see discussion in footnote 24) really does reflect the stage before the analogical reformation of the 3 SG ending to *-zi*, then the relative chronology of the two analogies can be worked out — the elimination of the *-z(a)/-ti* allomorphy must have preceded the *-z(a)* to *-zi* change. From this observation, one can infer that the first analogy provided the impetus for the second, that is, one move towards uniformity in one of the endings set the stage for the second and more decisive analogy involving the whole system. In a sense, then, this situation is reminiscent of, in an inverse way though, the developments covered by Kurylowicz' First Law of Analogy²⁶ and so may

²⁵ One must assume that the final **-i* remained after an unassibilated *-t-* but not after the assibilated outcome [ts]. However the imperative *(i-it)* 'go!' from Pre-Hittite **i-t(h)i* or **i-d(h)i* from PIE **(H₁)i-dhi*, shows the loss of final **-i* after an unassibilated dental. Presumably the difference between PIE **t* and **dh* did not somehow condition the retention (or loss) of final **-i*, and numerous instances of final **-i* are retained elsewhere in Hittite (e.g. in *-mi* and *-ši*). Thus in order to account for *(i-it)*, it seems that one must assume a sporadic apocope of final vowels in an imperative, similar to that found in Latin and in Modern Greek. Latin shows lexically governed but nonetheless optional and sporadic loss of final *-e* (from PIE **i* and **e*) in the imperatives *du:c*, *di:c*, and *fac* (and a few others, see Meillet-Andriyevs 142, for example), all of which occur in Old Latin together with by-forms with the final *-e* intact, and ultimately predominate in Classical Latin. In Modern Greek, as Thumb (1964: 155) notes, "the termination *ε* of the 2nd sing. imperative] is occasionally dropped, particularly if a conjunctive pronoun of the 3rd pers. follows: *ἄφες' το* ['leave it!'] ... *κόψ' το* (κόψ' το) ['cut it!']".

²⁶ Kurylowicz (1945: 125) states this "law" as follows: "Un morphème *iparti* tend à s'assimiler un morphème isofonctionnel consistant uniquement en un des deux éléments, c.-à-d. le morphème composé remplace le morphème simple". The situations described by Kurylowicz involve morphemes with same function, whereas here the 3 SG ending is not doubly characterized functionally but rather in terms of how it fits into patterns of allomorphy in the overall system of endings. Thus it is only when viewed in this general sense of morphemes having double characterization of any sort instead of simply a double functional marking that the case discussed here becomes parallel to those given by Kurylowicz.

have been governed by the same tendencies he was trying to characterize; in this case, it seems that the system tolerated a doubly-"deviant" 3 SG ending with two allomorphs and with aberrant vocalism for one allomorph as well (*-z(a)/-ti*) better than it did a singly-"deviant" one, with *-z(a)* only.²⁷ The parallel with Greek is instructive again, for in Greek, *-σι/-τι* allomorphy in the 3 SG ending was retained and there was no independent movement towards a uniform *-Ci* shape for the *-μi*-conjugation endings;²⁸ thus the two types of analogies seem to go together in both languages, positively so in Hittite and negatively so in Greek.

6. To sum up, the facts as presented here tend to support the restriction proposed by Sturtevant on the assibilation of **t* to [z] in Hittite and the subsequent analogical development of the 3 SG present ending with verbal stems ending in *-š-*. This conclusion is of interest for a number of reasons.

First, since it confirms an aspect, albeit a minor one, of the historical phonology of Hittite and bears on the development of the system of personal endings in the language as well, this result is of consequence for Hittitologists.

Second, in what it says about the types of analogical pressures that have to be recognized as operating within verbal systems, this account of the development of **ti* in Hittite is noteworthy from the point of view of general historical linguistics.

Finally, the facts discussed here raise an important methodological point. In arriving at the results reported above, a range of possibilities for each form in question needed to be considered, and even then external considerations, having to do with cross-linguistic parallels of a typological nature and with morphological developments, needed to be brought into

²⁷ Eichner (op. cit.) gives a different account of the 3 SG ending, namely that **-ti* became *-zi* after consonants (but see above footnote 3 regarding *hanza* from **H₂e/ont-i*) but *-z* after vowels and therefore that the uniform *-zi* ending is the result of the generalization of the post-consonantal variant. A form like *(e-eš-za)* for Eichner is the result of the analogical extension of the post-vocalic variant. In this account, then, two analogical reformations are needed for the 3 SG ending (the widespread *-V-z > -V-zi* and the sporadic *-C-zi > -C-z*) and the generalization of the ending *-zi* can be seen as a move towards paradigmatic uniformity inasmuch as the 1 SG and the 2 SG endings *-mi* and *-ši* respectively would apparently have retained the final **-i* in all contexts. Thus his account differs in detail from the one presented here but the effect and the motivations are largely parallel.

²⁸ It is well worth noting, for instance, that the 2 SG ending of these verbs was not generally remade to *-σι* (excepting Homeric *ἔσ-σι*) and that 2 SG forms like *τίθησι* remained unaffected by any analogical pressures (excepting Epid. *συντίθησι*).

the picture to strengthen the tenuous decision made on internal (especially phonological) grounds. Thus the case of **-sti-* in Hittite demonstrates quite vividly how difficult it can be in practice to determine the regular (i. e. lautgesetzlich) outcome of a sequence of sounds, even when an abundance of potentially relevant forms is available.

Department of Linguistics
204 Cunz Hall
The Ohio State University
Columbus, Ohio
USA 43210

Brian D. Joseph

References

- Benveniste, E. 1962. *Hittite et Indo-Européen. Études comparatives*. Paris: Librairie Adrien Maisonneuve (Bibliothèque Archéologique et Historique de l'Institut d'Archéologie d'Istanbul V).
- Buck, C. D. 1928. *A Grammar of Oscan and Umbrian*. Boston: Ginn and Company.
- Eichner, H. 1975. "Die Vorgeschichte des hethitischen Verbalsystems", in H. Rix, ed., *Flexion und Wortbildung. Akten der V. Fachtagung der Indogermanischen Gesellschaft Regensburg*, 9.—14. September 1973. Wiesbaden: Dr. Ludwig Reichert Verlag, pp. 71—103.
- Friedrich, J. 1930. *Staatsverträge des Hatti-Reiches in hethitischer Sprache*. II. Leipzig (Mitteilungen der Vorderasiatisch-Aegyptischen Gesellschaft 34.1).
- . 1952. *Hethitisches Wörterbuch. Kurzgefaßte kritische Sammlung der Deutungen hethitischer Wörter*. Heidelberg: Carl Winter Universitätsverlag.
- . 1959. *Die hethitischen Gesetze*. Leiden: E. J. Brill.
- . 1960. *Hethitisches Elementarbuch*. 1. Teil. *Kurzgefaßte Grammatik*². Heidelberg: Carl Winter Universitätsverlag.
- Grammont, M. 1965. *Traité de Phonétique*⁸. Paris: Librairie Delagrave.
- Jasanoff, J. 1972. "The Hittite Ablative in *-anz(a)*", *Münchener Studien zur Sprachwissenschaft* 31.123—128.
- Josephson, F. 1979. "Assibilation in Anatolian", in E. Neu and W. Meid, eds., *Hethitisch und Indogermanisch. Vergleichende Studien zur historischen Grammatik und zur dialektgeographischen Stellung der indogermanischen Sprachgruppe Altkleinasiens*. Innsbruck: Institut für Sprachwissenschaft der Universität Innsbruck (Innsbrucker Beiträge zur Sprachwissenschaft 23), pp. 91—103.
- KBo = Keilschrifttexte aus Boghazköi. Leipzig 1916—1921, Berlin 1954ff.
- Kronasser, H. 1966. *Etymologie der hethitischen Sprache*. Band I. Wiesbaden: Otto Harrassowitz.
- KUB = Keilschrifturkunden aus Boghazköi. Berlin 1921ff.
- Kurylowicz, J. 1945. "La nature des procès dits 'analogiques'", *Acta Linguistica* 5 (1945—1949), 121—138.
- Lejeune, M. 1972. *Phonétique historique du mycénien et du grec ancien*. Paris: Editions Klincksieck (Tradition de l'Humanisme IX).

- Meillet, A. 1936. *Esquisse d'une grammaire comparée de l'arménien classique*². Vienna: Imprimerie des PP. Mekhitharistes.
- Meillet, A. & J. Vendryes. 1966. *Traité de grammaire comparée des langues classiques*⁴. Paris: Librairie Ancienne Honoré Champion.
- Oettinger, N. 1979. *Die Stammbildung des hethitischen Verbums*. Nürnberg: Verlag Hans Carl (Erlanger Beiträge zur Sprach- und Kunstwissenschaft 64).
- Prokosch, E. 1938. *A Comparative Germanic Grammar*. Baltimore: Linguistic Society of America (William Dwight Whitney Linguistic Series).
- Reichert, P. 1963. "Glossaire inverse de la langue hittite", *Revue Hittite et Asianique* 21 (Fasc. 73), 59—145.
- Rosenkranz, B. 1978. *Vergleichende Untersuchungen der altanatolischen Sprachen*. The Hague: Mouton Publishers (Trends in Linguistics, State-of-the-Art Reports 8).
- Sturtevant, E. 1933. *A Comparative Grammar of the Hittite Language*. New Haven: Yale University Press.
- Thumb, A. 1964. *A Handbook of the Modern Greek Language* (translated from the German second edition of 1910 by S. Angus). Chicago: Argonaut, Inc., Publishers.
- Tischler, J. 1977/1980. *Hethitisches etymologisches Glossar*. Lief. 1 (1977). Lief. 3 (1980). Innsbruck: Institut für Sprachwissenschaft der Universität Innsbruck (Innsbrucker Beiträge zur Sprachwissenschaft 20).

