Discussion Articles / Дискуссионные статьи

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Initial *sp- in Hittite and ūip(p)and- ‘to libate’*

The Proto-Indo-European source of Hittite ūip(p)and- ‘to libate’ has been the subject of much discussion, due to its implications for the treatment of initial clusters of sibilant plus stop in Hittite and potential implications for the much larger question of the status of the verbal category of the “perfect” in Anatolian: was the perfect, which in the oldest non-Anatolian IE languages expresses an attained state, inherited also in Anatolian and lost there, or is it an “Indo-Hittite” feature, i.e., a common innovation of “Core Indo-European”? Derivation of ūip(p)and- from a PIE reduplicated perfect *s(p)e-spónd- has justifiably been rejected on formal and functional grounds, but improvements in our understanding of the outcome of PIE *sp- in Hittite, as well as recent innovative proposals regarding the phonology of reduplication and its status in PIE verbal morphology call for a reconsideration of the issue.

Keywords: hi-conjugation, Indo-Hittite, Proto-Indo-European perfect, reduplication.

At the colloquium honoring Holger Pedersen in Copenhagen in 1992, Bernhard Forssman proposed that the Hittite stem ūipand- ‘libate; consecrate; offer’ reflects a PIE reduplicated perfect stem *s(p)e-spónd-, while its rarer OH variant īspand- continues a root present (published as Forssman 1994). This account was not favorably received by the Anatolian specialists present upon its initial presentation, and it has subsequently with rare exceptions met mostly with rejection: e.g., Kassian and Yakubovich 2002: 34–5; Jasanoff 2003: 78, note 39; Tischler 2006: 1058 (with further literature); Kloekhorst 2008: 405; and Yakubovich 2009. Positive endorsements known to me are by Schulze-Thulin (2001: 384), LIV: 577, and Hoffner and Melchert (2008: 27), the last of which elicited a renewed rejection by Yakubovich (2010a: 151).

All of those who have rejected Forssman’s derivation of ūipand- have explicitly or implicitly assumed that ūipand- and īspand- represent alternate spellings of a preserved initial cluster /sp-/.

As has never been disputed, the development in Hittite of initial sequences of *st- and *sk- is consistently īšt- and īšk- respectively: īštāntā(i)- ‘linger, be late’ < *steh2- ‘stand’, īštu(wa)- ‘be-

I am much indebted to Jay Jasanoff for making available to me the text of his forthcoming paper on the PIE perfect in advance of its formal publication and to Ryan Sandell and Sam Zukoff for extensive advice regarding the history of reduplication patterns. The standard disclaimer applies here with particular force, and I am solely responsible for any errors in the application of these authors’ views to the case at hand.
come known’ < *steu­, iškalla­ ‘slit, tear’ < *skelH­, iškar­ ‘prick, stick’ < *sker­. This is also the most common result for *sp­: išpai­ ‘be satiated’ < *speh(t)i­, išpant­ ‘night’ < *(k)sp­ént­, išpar­ ‘spread out, stew’ < *sper­, išparre­ ‘kick, trample’ < *sperH­ (on separation of the last two see Kloekhorst 2008: 406–9), išpart­ ‘escape’ < *sperdh­.

However, we now have solid evidence for two additional though rare outcomes of *sp­. The first is preservation as /sp­/, where the presence of a synchronic cluster is crucially indicated by alternate spellings with ša­, še­, ši­: ša/e/ipe/ikkušt­a- /spe/ikusta- ‘pin, needle’ (see now CHD Š: 397 for attestations). As seen by Poetto (1986: 52–3), Neumann (1987: 282), and Kimball (1999: 108–9), this word clearly reflects a virtual *sp(e)ik-us-to- to the enlarged root *spei/k­ ‘sharp, pointed’ seen in English ‘spike’, Latin spīca ‘ear (of grain)’, etc. The second rare result is anaptyxis of a vowel u: šuppištuwara- ‘adorned with appliqués, decorations’, šuppištuwari- ‘appliqué, decoration’. The meaning is now assured by the occurrence of the i-stem noun in the Hurro-Hittite Bilingual, KBo 32.14 ii 43 (see Neu 1996: 81 and 146). However, the popular etymology (already Neu 1970: 68) as a compound ‘brightly shining’, allegedly consisting of šuppi­ ‘ritually pure’ and ištu(wa)­ ‘become known’ makes no sense whatsoever either semantically or formally. Hittite šuppi­ means ‘ritually pure’, and there is no basis of any kind for a sense ‘shining’. Nor is the role of the purported second member ‘become known’ in a compound allegedly meaning ‘brightly shining’ explained (see the justified doubts of Kloekhorst 2008: 791). This derivation also cannot account for the alternate form iš-piš-du-wa-raš in KUB 42.64 Vo 2, which cannot be dismissed as a scribal error, since iš-piš-du-wa-ra­ does not remotely resemble šu-up-pi-iš-tu-wa-ra­ visually or aurally.

The decorations attached to a copper cup (thus in the bilingual) and the gold and silver adornments added to clothing may well have been shiny (for the latter see refs. in Tischler 2006: 1198), but they were also more fundamentally stuck or stitched onto their respective objects. We are thus surely dealing with a derivative of a different form of the PIE root *spei­ ‘pointed, sharp’ seen already above in /spe/ikusta-: the sense of /supistwara-­/ was ‘appliquéd’, decorated with something ‘stuck on’ (for the semantics compare the history of English ‘stick’ and ‘stitch’ and German stechen). Note, however, that at least one Hittite speaker knew this word in a form with the regular treatment of *sp- as išp­.

I had already recognized the existence of these two examples in Melchert 1994: 32, but found them as exceptional and inexplicable as šipand­. It is now clear, at least to me, that these forms do fit into a well-known Hittite pattern: they show the two regular results of prehistoric *sm-­: (1) preservation; (2) u-anaptyxis. The first treatment is shown by Hittite ša/e-me-en-zi, ša­am-na-an-zi ‘withdraw; relinquish’ where (pace Kassian and Yakubovich 2002: 12) the alternate spelling of the singular stem clearly shows synchronic /smen-/ (thus with Oettinger 1979: 104, Kimball 1999: 117, and CHD Š: 120), in an ablauting root *smén­, *smringbelown-énti even if the root etymology remains uncertain (thus also Kloekhorst 2008: 714–15).

There are now three examples for the treatment with anaptyctic –u­, which is quite real (contra Kloekhorst 2008: 782–5):

(1) šummittan­- ‘axe’ < virtual *smit-ént- ‘(the) cutting (one)’ (already Knobloch 1956: 67, Kimball 1999: 199 et al.);

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1 As per Kloekhorst (2008: 790), despite its clear behavior as an inherited word — an ablauting adjective — Hittite šuppi­ ‘ritually pure’ has no clear cognates or etymology. Unfortunately, the attractive comparison with Umbrian sopan/supa and interpretation as ‘taboo’ (Watkins 1975) is very doubtful: see the extended critique by Weiss (2010: 358–83).

2 I know of no basis for the meaning ‘animal representation or icon (usually of metal)’ adopted by Yakubovich (2009: 548, note 5). In any case, the word definitely does not contain šuppi­ ‘ritually pure’.
As emphasized by Rieken, the change of initial *sm- > šumn- with anaptyxis and gemination is a genuine Hittite sound law. She herself (2002: 408) left open the question of its precise conditioning versus that of the preservation as /sm-/. However, the contrast between ša/emen-< *smèn- and enclitic possessive šummai-< *sm- suggests that the different outcomes are conditioned by the accent: namely, that initial *sm- was preserved immediately before the accent but developed to *summ- when the following syllable was unaccented. We cannot be as certain about the accent in šummittant- and šum(m)um(m)ah-< but their morphological structure is more than compatible with supposing that the accent stood farther to the right than the original initial syllable.

Rieken (2002: 408) reasonably derives Hittite išmeri- ‘bridle, rein’ < *(h)₂mér-, but if the root etymology (to *seh₂- ‘bind’) is correct, as it surely is, this example does not prove a development of *sm- > išm-, since it is more likely that it was the *sh₂ that led to išš- (as in iššanittar-‘relative by marriage, as per Rieken 1999: 283–4). The resulting unsyllabifiable *išme- was then reduced to išme-. Pace Kloekhorst (2008: 394) nothing requires that the verb išhamai- ‘sing’ reflect a zero-grade *sh₂m-; it may easily continue full-grade *sh₂em-, as he himself assumes for the noun išhamai- ‘song’.

We may now return to the matter of the Hittite treatment of initial *sp-. The observed vacillation is now explainable. Pre-Hittite language learners were faced with two models for how to treat *sp-: since it consisted of sibilant plus voiceless stop, they could follow the model of *st- and *sk- and add a prothetic i-; however, since *sp- also consisted of a sibilant plus labial stop, speakers could also follow the model of the other sequence of sibilant plus labial stop, namely *sm-, and according to the position of the accent, either preserve the sequence or insert an anaptyctic -u-. Although m generally behaves as a sonorant in older Indo-European languages (that is, as a continuant), one must not forget that in articulatory terms it is also a stop. It is thus not unreasonable that Hittite speakers did not show absolute consistency in their treatment of initial *sp-, where *p belonged both to the class of labial stops and to the class of voiceless stops.

The dominant practice for most lexemes was to follow the model of the other voiceless stops and add a prothetic vowel i-. Contra Melchert 1994: 32, Kimball 1999: 110–11, Kassian and Yakubovich 2002: 33–5, and Yakubovich 2009: 545–7, there is not the slightest justification to doubt the linguistic reality of the prothetic vowel in išT-, as assumed by Kronasser (1966: 48–9), Eichner (1975: 98), Oettinger (1979: 416–17), Kloekhorst (2008: 61), and others. First of all, the alternations in personal names from the Old Assyrian texts of the Colony period cited by Yakubovich (2009: 546) not only all involve *sp-, as he admits, but show exactly the same variation as we have seen in šuppištuwarā- ~ išpištuwara-: šu-pu-da-ah-šu vs. IŠ-pu-da-ah-šu, Šu-pu-na-ah-šu vs. Iš-pu-na-ah-šu, Šu-pu-nu-ma-an vs. Iš-pu-nu-ma-an. I emphasize that we find no spellings in these names of the type Ša-pu-or ṭŠi-pu-, which is what we would expect were

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3 Since the word is hapax, the objection of Kloekhorst (2008: 784) that the word does not show geminate spelling for either of the two -mm- is not compelling.

4 I am not persuaded by Rieken’s two proposed examples of the change *-sm- > -summ- in morpheme-internal position. Hittite šumanzan- (sic!) means ‘(bul)rush’ and has basic single -m- (see Melchert 2004: 129–31); CLuvian te/iššummai- ‘(unfired) clay cup’ contains the Luvian suffix -mmali- also seen in annarummaldi- ‘powerful’.
we facing alternate spellings for /spu-/.

Unfortunately, there is no independent evidence for the position of the accent in the personal names or in šāle/ippelikkušta- ‘pin’, but nothing stands in the way of supposing that the names reflect original accent beyond the first syllable, while the appellative was /spékusta/- like /smén-/.6

Kimball (1999: 110) cites as "very convincing" my own argument (Melchert 1984: 110) that the Hittite adjective išhaškant- ‘blood-shot, blood-stained’ must reflect a compound *išhan-škant- with the participle of iškela- ‘anoint, smear’, thus showing that the i- of iškela- must be purely graphic. The argument is not at all compelling, however, since nothing precludes that the compound was formed in pre-Hittite before the addition of the prothetic i-. In any case, the overlooked new example i-is-ke-ez-[zi] in the fragment KBo 34.243:3 (Ritual of Zarpiya) now excludes both my etymology and that of Rieken (1999: 402), approved by Kloekhorst (2008: 402), which start from *(p)s-ske/o- and *sg<š>-yeló- respectively.7 The plene spelling (which would be entirely unparalleled for the prothetic vowel) appears to require a return to the etymology of Oettinger (1979: 327), despite the semantic difficulties associated with the root *(h)i-ešh₁.

The first two arguments adduced by Kassian and Yakubovich (2002: 33) against the reality of the prothetic i- in išT- are also without foundation. Their statement that the prothetic vowel is always spelled i- is correct, but their claim that iš/-eš- alternations are frequent in cases with etymological *i- is patently false: Hitt. iškiš- ‘back’, cognate with Grk. išk(ov) ‘loins’ (a quite certain equation, pace Kloekhorst 2008: 402) is spelled exclusively with iš-, while išhā- ‘master, lord’ < išnės-h₂-ô with regular raising of pretonic short *e to *i (see now on this word and its etymology Nussbaum 2014: 244–5) is also spelled exclusively with iš-, with the single exception of the totally aberrant form eš-ţê in the NS copy KBo 3.34 i 25, a copyist’s error that has no probative value.8 Their second point, that the prothetic vowel is never spelled with plene as i-iš-, makes no sense, since we would expect the prothetic vowel to be unaccented and thus never lengthened.9 The further argument adduced by Yakubovich (2009: 546, note 3) is also less than compelling. He claims that the HLVillian form sà-ma-ra/i-ka-wal-i-ni (URBS) for the city appearing in Hittite cuneiform as URûš-miše-ri-ka- shows that the Luvians learned this city name through the Hittites with /sm-/, since Luvian had eliminated all cases of initial *sC- in their own language. There are two problems here: first, to my knowledge we know only that Luvian eliminated initial *s+stop by deletion of the sibilant (e.g., HLVillian (*261)tapai vs. Hittite

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5 One could, of course, argue that the empty vowel used in the spelling for /spu-/ merely copied the following real /u/ vowel, but the evidence from Hittite appellatives for the reality of u-anaptyxis argues decisively against this.

6 The spelling of the “ethnic” suffix -umat(n) with plene, as in 𒏃-iš-tu-um-aš (KBo 23.99 i 19), provides some indirect support for an accent */Spunôman/- at least in the one personal name.

7 Contra Kloekhorst (2008: 402), the inflection iškezzi, iškanzi must be older than that of iškiyazzi, since the inflectional type in -e/-a- in base verbs is recessive in Hittite, while that in -ye/-ya- is notoriously productive. Thus Rieken’s etymology is excluded also on this basis.

8 Contra Kloekhorst (2008: 390) the form e-ša-ša-ši-iš is very unlikely to belong to this word (see Otten 1961: 130–1) and is irrelevant. There is thus no basis for appealing to the sporadic New Hittite change of iš- to eš- (see further below.)

9 The claim of Kloekhorst (2008: 61) that the prothetic vowel cannot be identified with the Hittite phoneme ś/ because it fails to undergo the New Hittite lowering to e- is also false, since Yakubovich (2010b: 309–15) has made compelling arguments that the very sporadic change of e > i in New Hittite is not a regular sound change.
ištāpi ‘blocks up’). I am not aware of any evidence that tells us the fate of initial *s+sonorant.

Second, even if Luvian had no native words with initial *sR-, the argument is not probative. There is no way to exclude that the Hittites adapted the name *Sme/iriga- in their fashion with prothetic i-, while the Luvians dealt with the initial *sm- by anaptyxis of an -a-. The Luvian form may easily be read as /Samariga/-.

We are thus left with šipand- alternating with išpand- as the only basis for doubting the reality of the prothetic i- in išt-. But we have now seen that this orthographic alternation cannot possibly be interpreted to stand for /spand-/, despite the assertions of Kassian and Yakubovich (2002: 33–5) and Yakubovich (2009: 547–8). We now know how a preserved initial /sp-/ was written where it existed, and as we would predict, it is expressed by alternation between ša-pV-, še-pV- and ši-pV- in ša/e/pi/ikkušta- ‘pin, needle’. Given that ši(p)and- is spelled several hundred times with absolute consistency as ši-(ip)-pa-an-t/d°, it is not credible that this spelling stands for /sp-/ The first syllable of the word must be read as /si-/.

Possible additional evidence for the reality of a stem /sipand/- comes from HLuvian and Lycian. Yakubovich (2009: 555) cites the suggestion of Hajnal (1995: 133–4) that HLuvian (CAELUM.*286.x)sá-pa-tara/i-i-sa (KARKAMIŞ A 2+3, §17a) might mean ‘libation priest’ and reflect an earlier */sVpentero/ī-/ also continued by Lycian hppñterus, which is a professional title or institution. It is now clear that Lycian hpp- must be derived from a prehistoric *sVp-(contra Melchert 1994: 304–5), and the HLuvian may be read /sapandaris/. For Yakubovich (2009: 556) these forms attest a hybrid Luvo-Hittite creation *sapantalli- ‘pertaining to a libation’ that underwent rhoticism in Luvian and was then borrowed into Lycian. The last step is pure speculation, and the very different morphology of hppñterus- argues rather for a native Lycian word that is at best a root cognate with the Luvian. That the verbal stem is not attested in Luvian or Lycian (thus far!) is not a compelling argument against a Proto-Anatolian stem *sepónd- that led by regular phonological developments to šipand-, */sapand-/, and *hppñt-.

I must emphasize, however, that I place no weight on this argument, since the meaning of the Luvian is not fully assured, and that of the Lycian is based entirely on the putative etymology.

Kassian and Yakubovich (2002: 33) and Yakubovich (2009: 547) argue that one cannot interpret the first vowel of the Old Hittite/Old Script spelling ši-pa-an-t/d° as real, because this could only imply a reading /siband-/ and voicing of the stop in this environment cannot be motivated by any known Hittite sound change. This argument reflects a fundamental methodological fallacy and a profound misunderstanding of how orthographies devised by and for native speakers work. Such orthographies cannot be compared to the International Phonetic Alphabet. Native speakers know how the words of their language are pronounced and also the grammar that predicts where they will occur, and writing systems (especially those used by a small elite) need only give just enough clues for another native speaker reader to successfully identify the word intended. Examples like the Anatolian hieroglyphs for Luvian and Linear B for Mycenean Greek show just how much information can be omitted! Many factors determine spelling practices in a given tradition: aesthetics (important in the Anatolian hieroglyphs used for public inscriptions), convention, convenience, and above all simply imitation of one’s teachers.

The Hittites knew that /sipand-/ contained a voiceless labial stop; there was no compulsion to indicate this in a word that occurred hundreds of times in Old Hittite ritual texts. Since the first vowel of ši-pa-an-t/d° has to have been linguistically real, Yakubovich’s attempt (2009: 550–55) to motivate a Luvian-influenced anaptyxis into the non-existent /spand-/ is beside the point, but he does raise the legitimate question of why, beginning in Middle Hittite, the spell-

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10 For a similar independent interpretation of the HLuvian word and comparison with the Hittite hapax ša-pa-an-ta-al-la (KBo 31.8+ i 7) see Giusfredi 2010: 123–4.
ing ši-ip-pa-an-t/d°- was introduced and in fact became the dominant orthography. Here the increasing role of Luvian native speakers among the Hittite scribes may well be the responsible factor. The Luvian-speaking scribes surely learned fairly quickly the general Hittite scribal practice of distinguishing intervocalic voiceless from voiced stops by -VC-CV- versus -V-CV spellings. It would be entirely natural if they chose to apply this to what seemed the unmotivated exception of ši-pa-an-t/d°-. I stress, however, that this scenario is by no means necessary. Since, I must insist, the word was pronounced /sipánd-/ from the beginning of attested Hittite, a senior scribe could have decided at any time that the exception should be eliminated and a new standard spelling be adopted. A number of changes were made in Hittite spelling practices from Old to New Hittite, and this is merely one of them.

I may cite as a parallel for the non-writing of a geminate stop in Old Hittite versus its expression in later manuscripts the example of /tarsikke-/ the older iterative of tar- ‘say’. In Old Script we find only tar-ši-kán-zi and tar-ši-ke-ez-zi in KBo 22.2 Ro 8 and Vo 4, but in Middle Script tar-ši-ik-ke-mi (HKM 46:27) and tar-ši-ik-ke-ši (KUB 14.1 Ro 34), and in New Script copies of Old Hittite texts tar-ši-ik-kán-zi (KBo 3.1 ii 33 and 3.16 iii 14).

Whatever the motivation may have been for the introduction of the spelling ši-ip-pa-an-t/d°-, the absolutely fixed spelling with initial ši- excludes the reading /spand-/ for Old Hittite, and since there is indeed no way to motivate a voicing of the labial stop, ši-(ip)-pa-an-t/d°- must be interpreted as /sipánd-/ while the rarer variant iš-pa-an-t/d° stands for regular /ispánd-/.

The problem then becomes: how do we account for the existence of these two stems and explain their attested shape and use?

The source of the stem išpant- is straightforward: it may continue a PIE root of the h2e-conjugation *spónd-ei, *spénd-/nringbelowti ‘libate’, yielding regularly attested išpánti, išpantanzi (Jasanoff 2003: 86) — but see below for an alternative account. An ablauting root present *spénd-, *sp̥nd- (Forssman 1994: 102) would also lead to išpant- phonologically, but such a reconstruction is morphologically incompatible with a Hittite hi-verb root present. That the hi-inflection of išpand- is secondary after šipand- (LIV2: 577) is unlikely. Other Hittite root mi-presents standing beside reduplicated hi-presents show no such influence: wekzi beside wēwakki ‘demands’.

Forssman (1994: 103) proposed to derive šipand- from a reduplicated stem *spe-spónd-, *spe-sp̥nd-, assuming a full reduplication of the initial *sp- of the root and differing simplifications leading to Hittite šipand- and Old Latin spepōndī. The need to assume a complicated double dissimilation for Hittite whereby the first *p but the second *s was lost has undoubtedly been one of the reasons for the widespread rejection of Forssman’s account.

However, there is now a growing consensus that the history of reduplication in Indo-European should be understood very differently, namely as an inherited synchronic process whose operation is subject to renewal (whatever theoretical approach one takes to its description): see the extensive argumentation of Keydana 2006, followed by Byrd 2015: 118–21 and others. Furthermore, one should in reconstructing the PIE state of affairs follow the standard procedure of giving most weight to isolated archaisms that cannot easily be motivated as innovations. On this basis, following already Brugmann 1897: 40–41(!), Keydana (2006: 107), Byrd (2015: 120) and others argue on the basis of non-productive forms like Latin present sistō ‘(cause to) stand; stop’, Grk. ἵστημι ‘stand’ plus Avestan hi-štaiti ‘stands’ and OIrish se-scaind ‘jumped’ that the PIE reduplication pattern with roots in initial *sT- was *sV-sT-.

11 Hittite šiš(h)- ‘order, decide’ may also be a relic reflecting *ši-sh₂- to the root *sht₂- ‘bind’ (thus Kloekhorst 2008: 758–9; cf. tentatively already Melchert 1984: 153, note 125). For the original stem as šiš(h)- see the MH/MS attestations cited by Kloekhorst and the CHD Š: 450–51.
This means that we may suppose that the PIE reduplicated stem behind Hittite šipand- was *se-spónd-, *se-spúd- (also considered as an alternative by Schulze-Thulin 2001: 384). These preforms will in terms of vocalism lead regularly to attested šipánti, šipant/danzi, with regular raising of pretonic short *e to i (see Melchert 1994: 101) and lengthening of the accented short *ó to Hittite ā in the strong stem (spelled plene a few times, as in KBo 17.11 iv 4&14, OH/OS).

What remains to be accounted for is the deletion of the second *s of the preform *sespVnd-. Once we regard changes in productive reduplication patterns as reflecting renewal of a synchronic process, there are (at least) two ways to account for the loss of *s in this context. The first may be formulated in terms of pre-Hittite constraints on the syllabification of consonants. Synchronically, an [s] in contact with another consonant at a syllable boundary appears to be treated as ambisyllabic in attested Hittite: note spellings such as ti-iš-ša-kán-zi ‘they (usually) step’ (IBOT 1.36 iv 30) beside usual ti-iš-kán-zi for [tis.skan.tri] or wa-aš-ša-pa-an ‘garment’ beside wa-aš-pa-an for [was.span] (see Bernabé Pajares 1973: 446–7 and passim; Melchert 1994: 150–52). However, we have compelling reasons to think that at an earlier stage of Hittite there was a constraint against [s]+stop as a syllable onset.

For word-initial position, of course, the evidence is the development of the prothetic i- before *sT-. As argued above, this was undeniably the regular treatment of such initial clusters. The (thus far) unique exception of /spekusta-/ ‘pin’ was “licensed” only by the pressure of preserved /sm-/ with [s] plus labial nasal stop. Addition of the prothetic vowel naturally enabled a prehistoric syllabification *[is.TV­]. Evidence for the same prehistoric constraint on [sT] in medial onsets is furnished by the pattern of anaptyxis in marked imperfectives with the suffix *-sko/o-, where a vowel was inserted between a preceding consonant and the *s or in the case of coronals between the *s and the *k: appiške- ‘take’, akkiške- ‘die’, but taršikke- ‘say’ (see Melchert 2012: 179–80). Once again, the anaptyxis solved the prehistoric synchronic syllabification problem, permitting *[ap.pis.kV­], *[ak.kis.kV­] and *[tar.si.kV­].12 I emphasize that the forms with anaptyxis became underlying representations by the time of attested Hittite, leading by then surely to phonetic realizations [ap.pis.skV­] etc.

We may therefore assume that likewise there was a stage at which pre-Hittite (arguably Common Anatolian) *sespVnd(V) could no longer be syllabified as *[se.spVn.d(V)­], just as the word-initial *[spó/én.d(V)­] of the nominal stem (DUG)išpanduzzi- ‘libation’ and its derivatives could not be syllabified (likewise in the he-present if it existed at this point). In this case, solving the problem in the former by anaptyxis, producing *[se.sV.pVn.d(V)­] beside the new [is.pó/én.d(V)­] with prothesis, would have seriously disrupted the formal relationship of words that were in semantic terms transparently related. A simpler alternative solution was to resyllabify *[se.spVn.d(V)­] as *[ses.pVn.d(V)­].

However, there is now reason to believe that the syllabification *[ses.pVn.d(V)­] might itself have been problematic. Zukoff (2014: 272–5) has argued for a context-sensitive version of the well-known Obligatory Contour Principle that prohibits identical adjacent segments. Zukoff proposes that there was also operative in early Indo-European an OCP-SYLLABLE (OCP-σ) constraint: “Assign one violation mark * for every syllable that contains identical segments.”13 If we assume that this constraint also applied at some stage of pre-Hittite (or Common Anatolian), then it would have prohibited the syllabification *[ses.pVn.d(V)­], which

12 For the assumption that intervocalic voiceless stops spelled double were geminates that closed the preceding syllable see Melchert 1994: 18 with references and also Kloekhorst 2014: 545–6 (with a different phonological analysis).

13 For an extensive discussion of OCP effects in PIE and its descendants (including but not confined to OCP-σ) see Sandell 2016, who also duly notes (2016: 146) the notorious exceptionality of PIE ‘ses- ‘sleep’ and its reflexes.
would have been solved by deletion of the s in the syllable coda. If loss of the coda consonant led as expected to compensatory lengthening, producing a virtual *[se:p̪Vn.d(V)-], the pre-tonic long vowel could have been shortened in time to undergo the specific pre-Hittite change of pretonic short *e to i. Compare Hittite ʰhippara- 'serf' (or sim.) < *ʰsēp̪or-ó- (Eichner 1973: 72).

Hittite šipand- may thus be derived by regular phonological developments from a reduplicated stem *se-spónd-, *se-spćnd-, and I stress again that its absolutely fixed i-vocalism cannot be plausibly explained by any other means. There remains, however, the question of whether such a reduplicated stem is a viable source for the Hittite verb in its attested use. One of the few supporters of Forssman’s original proposal, expresses doubts: “Ist ein altes Zustandsperfekt semantisch sinnvoll?” (Kümmel in LIV 2: 577, note 5). Yakubovich (2009: 547) also reasonably protests that there is no discernible functional difference between attested šipand- and išpand- (cf. also Kloekhorst 2008: 406). I myself previously looked in vain for any such contrast in usage.

I now believe that such a venture failed because we based our search on false premises. A perfect with the standardly assumed value of an “attained state” hardly fits the usage of the Hittite verb, which is clearly eventive: ‘libate’, secondarily ‘consecrate’ (by pouring a libation over), then by metonymy ‘offer X (to a deity)’ and by syntactic change ‘worship (a deity) with X’: see CHD Š: 384–95. I had supposed that the reduplicated stem belonged to what I regarded as the small class of iterative-durative perfects, such as *we-w(o)r- ‘roll, revolve’ (on such a meaning for at least some instances of Vedic vavart- see Kümmel 2000: 462ff.). But I could find no clear traces of an iterative-durative or even processual value for šipand-.

Jasanoff (forthcoming) has now argued that the “attained state” value of the perfect in Core Indo-European is an innovation and that the classical “perfect” originates in a reduplicated ʰše-aorist of the shape *Ce-CoC-, *Ce-CC-, whereas the few “perfects” that show iterative semantics reflect rather reduplicated ʰše-presents of the form *Če-CoC-, *Če-CC-. Hittite wewakk- ‘request’ (repeatedly) and mēmal/i- ‘speak’ are direct reflexes of the latter category. By this scenario, *se-spőnd-, *se-spćnd- would have been a reduplicated ʰše-aorist and should have referred to the act of libating not as an activity (which would have been expressed by the ʰše-present), but as a single telic act.

If one examines all thirty-plus instances of šipand- in Old Hittite/Old Script, one finds that it is consistently used in such a fashion. It is used to refer to the act of libating once at a particular “station”, such as in front of the window (KBo 17.11+ iv 23) or to the hearth (KBo 17.19

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15 Zukoff (2015) has now refined his account of Indo-European reduplication patterns in terms of what he labels the POORLY-CUED REPETITION PRINCIPLE: “A CVC sequence containing identical consonants (CVC,) is dispreferred, due to repetition blindness; it is especially dispreferred if one or both of the consonants lack phonetic cues which are important for the perception of its presence (in contrast to zero) in the speech signal.” For reasons he sets forth, this principle applies especially to the second fricative [s] in a sequence #sVsT-. Since this newer formulation will also handle the case of šipand- < *se-spőnd-, I forego extensive discussion here and refer interested readers to Zukoff’s own presentation, available online.
16 While verbs of the latter class have mostly been assimilated to the true “attained state” perfects in the attested languages, Jasanoff stresses that in the oldest Greek their separate origin is still betrayed by a different plural-perfect inflection.
17 I do follow LIV 577 and others, against Jasanoff forthcoming, in supposing that the concrete meaning ‘libate’ of Greek and Hittite is original, from which already in PIE developed the secondary sense ‘pledge, dedicate’ (in the middle ‘pledge, dedicate oneself”).
ii 11). It alone (never išpand-) is used with specification of how many discrete times one performs the act of libating: ‘once’ (KBo 17.11+ iv 33, KUB 43.30 ii 11&15 and often), ‘twice’ (KBo 20.10 i 9), ‘three times’ (KUB 43.30 ii 14), ‘seven times’ (KBo 25.127 ii 25). It alone is attested in the telic sense ‘consecrate’ a sacrificial animal or other object (KBo 17.36+ iii 9 and 17.33+i 14). Finally, it may be used of worshipping a deity (in the accusative) by libating into a bowl (KBo 25.61 Vo 9).

Trying to determine whether the stem išpand- has a synchronically distinct sense and whether its absence in the contexts just cited for šipand- is systematic or merely due to chance is made extremely difficult by the very small number of examples, especially of examples with full context. Aside from the “Ritual for the Royal Couple”, which uses only išpand- in its attested portions (see Otten and Souček 1969: 97), there are a mere handful of other attestations, either in Old Script or later copies. However, the examples in KBo 20 ii 5&6 (OH/OS), where išpant ‘performs a libation’ occurs in the immediately context of ḫinga ‘bows’ is strongly reminiscent of that of KBo 25.104 ii 12–13 (OH/OS?), where we read LUGAL-uš Đuwaššaš UŠKE[N...] šipant. Similarly, the phraseology […] x 2 ekuži […]ḫuḫpaš išpant[i] ‘drinks two […] libates into a bowl’ (KBo 25.51 i 18–19; OH/OS) hardly differs from that of ḫuḫpaš šipant (KBo 25.61 Vo 9; OH/OS) cited above.

It therefore seems extremely unlikely that the stem išpand- has any different sense synchronically from that of šipant-. Both refer to libating conceived as a single telic act and to the other telic meanings derived from that. By the oldest attested Hittite šipant- survives only as a marginal variant of išpant-. In fact, one may reasonably ask: does the very rare verbal stem išpant- continue a genuine prehistoric present stem at all, or is it merely an analogical creation based on the nominal forms (DUG)išpanduzzi- ‘libation’, (DUG)išpanduzz(y)aššar- ‘libation vessel’, and (DUG)išpantuwa- ‘libation vessel’? Of course, if one opts for the latter interpretation, then one must ask in turn what the basis was for the nominal stems, which appear to be deverbative.

As to (DUG)išpanduzzi- (from which (DUG)išpanduzz(y)aššar- obviously is further derived), if one looks at the class of Hittite nouns in -uzzi-, some are indeed undeniably deverbative, formed to synchronically existing verbal stems: e.g., KUŠ annanuzzi- ‘(part of a) harness’ < annanu- ‘train’, kuruzzi- ‘cutting tool’ < ku(e)ər- ‘cut’. Others, however, appear to be rather deradical, being derived from forms of the respective roots whose existence in pre-Hittite as verbal stems is dubious: e.g., išhuuzzi- ‘belt, chain’ < *s(e)h₂- ‘bind’ (but all verbal forms are based on išhi- < *šjoininge-, tuzzi- ‘camp; army’ < *dh(e)h₁- ‘place’ (whereas the present stem of the verb is dai- with an *-i- suffix).18 The nominal stems (DUG)išpanduzzi- and (DUG)išpanduzz(y)aššar- are thus not probative evidence for a genuine pre-Hittite verbal stem išpand-. The stem išpanduzzi- may be a primary derivative from the root *spend-. It is true that (DUG)išpanduwa- is hypothesized from the verbal noun (thus with Carruba 1966: 23, note 35), but precisely in this case there are also a number of spellings as (DUG)išpandua- (see CHD Š: 396). In this noun, then, the variant išpanduwa- may be analogical, just as in the other verbal forms.

I therefore must conclude that evidence for a pre-Hittite present stem of any kind is less than compelling. A h₂-e conjugation present *spōnd-ēi, *spōnd-ēti may well have existed, but its existence must be based on other evidence (see Jasanoff 2003: 78 on Greek σπένδω ‘pour, libate’ and Latin spondeō ‘vow’). The fundamentally telic senses of the Hittite verb šipand- are in any case fully compatible with the proposal that it continues a reduplicated h₂-aorist. With due revisions, then, the much maligned derivation suggested by Forssman more than twenty

18 The primary meaning of tuzzi- is ‘camp’, as shown by the derived verb tuzziya- ‘encamp’. One must with Kloekhorst (2008: 908) insist on this etymology of Carruba (1966: 23, note 35). There is no connection with western Indo-European *tētū-. 195
years ago may be upheld. However, one must not overlook that the functional side of the scenario presented here, following Jasanoff, has implications for Indo-European dialectology that are diametrically opposed to those of Forssman’s original formulation: by the present account Hittite šip(p)and- reflects a PIE reduplicated aorist whose development into an “attained-state” perfect is a common innovation of “Core Indo-European”.

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Response to C. Melchert *

It is appropriate to begin this response by thanking H. Craig Melchert for submitting the paper under discussion to the Journal of Language Relationship. Given the fact that the main claim of this paper radically contradicts the views expressed earlier by two editors of the journal, Alexei Kassian and Ilya Yakubovich, the publication of this piece in our journal is obviously conducive to resuming the discussion on this controversial topic. I hope that our readers will benefit from comparing different approaches to interpreting Hittite cuneiform spellings.

In the first part of the response I will dwell on Melchert’s specific claims pertaining to the Hittite verbal stem špand- ‘to libate’. It is my intention to demonstrate that its analysis offered immediately above is fraught with so many complications and arbitrary assumptions that it cannot be acceptable as a viable hypothesis regardless of the broader considerations that have motivated it. The second part of the response turns to a more general issue of how the Anatolian cuneiform reflects the evolution of consonant clusters in the Hittite language. I have to acknowledge here that Melchert’s new approach is internally consistent and has some advantages over his older views. This prompts me to present an alternative account of how špand- may have evolved within the history of Hittite, which largely accommodates Melchert’s contemporary interpretation of Hittite orthography but strives to avoid the pitfalls of his etymological analysis.

* This reply is subject to the usual disclaimers. I am grateful to Alexei Kassian and H. Craig Melchert, whose comments to its first drafts led to the overall improvement of my argumentation, and to Stephen Durnford, who has kindly agreed to improve my style. My work on this piece was conducted within the framework of the project “Digitales philologisch-etymologisches Wörterbuch der altanatolischen Kleinwortsparench (RI 1730/7-1)” funded by the Deutsche Forschungsgemeinschaft.
Table 1: špand- ‘to libate’ and its derivatives in Old Hittite

<table>
<thead>
<tr>
<th>Case</th>
<th>Form</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>prs. 1 sg.</td>
<td>išpantahhi/e</td>
<td>6×</td>
</tr>
<tr>
<td>prs. 3 sg.</td>
<td>išpāl/anti</td>
<td>8×</td>
</tr>
<tr>
<td>prs. 3 pl.</td>
<td>išpantanzi</td>
<td>1×</td>
</tr>
<tr>
<td>prs. 3 sg.</td>
<td>išpanzaškizzi</td>
<td>1×</td>
</tr>
<tr>
<td>prs. 3 sg.</td>
<td>šipantahhi/e</td>
<td>not attested</td>
</tr>
<tr>
<td>prs. 3 sg.</td>
<td>šipāl/anti</td>
<td>27×</td>
</tr>
<tr>
<td>prs. 3 sg.</td>
<td>šipantanzi</td>
<td>7×</td>
</tr>
<tr>
<td>prs. 3 sg.</td>
<td>šipanzaškizzi</td>
<td>not attested</td>
</tr>
</tbody>
</table>

išpantuzzi ‘libation vessel’

<table>
<thead>
<tr>
<th>Case</th>
<th>Form</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.-acc. sg.</td>
<td>išpantuzzi</td>
<td>7×</td>
</tr>
<tr>
<td>dat.-loc. pl.</td>
<td>išpantuzziaš</td>
<td>2×</td>
</tr>
<tr>
<td>acc. sg.</td>
<td>išpantuzzijaššar</td>
<td>1×</td>
</tr>
<tr>
<td>acc. pl.</td>
<td>išpantuzzijaššaruš</td>
<td>1×</td>
</tr>
<tr>
<td>nom.-acc. sg.</td>
<td>šipantuzzi</td>
<td>not attested</td>
</tr>
<tr>
<td>acc. sg.</td>
<td>šipantuzziaššar</td>
<td>not attested</td>
</tr>
<tr>
<td>acc. pl.</td>
<td>šipantuzzijaššaruš</td>
<td>not attested</td>
</tr>
</tbody>
</table>

hypothesis proposed in Kassian 2000 and elaborated in Yakubovich 2009: 549–549 (with fn. 6), the innovative spelling ši-pa-(a)-an-ti ‘libates’ arose as an instance of graphic disambiguation with iš-pa-an-ti ‘in the night’ and later spread to the other forms belonging to the paradigm of the same verb. The gradual generalization of a spelling pattern from the most frequent form of the paradigm to the rest of it appears straightforward. This solution is cited with approval in Giusfredi 2014: 186–187, who also points out that the disambiguation never spread to the nominal derivatives of špand- ‘to libate’, because they are always accompanied by the determinative DUG ‘vessel’ and thus could not be taken for the derivatives of išpant- ‘night’. At the same time one has to acknowledge that a hypothesis of graphic disambiguation between lexemes in a dead language is normally not amenable to independent verification in view of its irreducible character. It can only be falsified, for example, by demonstrating that the phenomenon is not merely graphic, and / or replaced with a superior account.

Quite a different view is entertained in the paper to which I am now responding. It is argued there that only the Old Hittite spellings with iš-pa- reflect the etymological stem *spand-, whereas their counterparts beginning with ši-pa- continue the pre-Hittite reduplicated stem *sipand- < *sipand-. Melchert acknowledges his inability to trace the synchronic difference between the two stems within the paradigm of the finite verb. This prompts him to advance a tentative hypothesis that the variant ši-pa- had originally been restricted to the non-finite forms and only secondarily spread to the finite paradigm in Old Hittite. The reason why the reconstructed stem distribution became skewed in Old Hittite only to be restored in Middle Hittite remains unclear under such an analysis, even though one must acknowledge that one cannot always predict the direction of analogical change.

A more serious flaw of the proposed alternative is that it neither simplifies the account for the spelling ši-pa-(a)-an-ti ‘libates’ nor increases its value for the theory of writing. Melchert acknowledges that according to Sturtevant’s rule the expected reading of /sipánti/ would be ši-ip-pa-(a)-an-ti, the form that is regular in New Hittite, but rare in Middle Hittite and completely unattested in Old Hittite / Old Script texts. He also concedes that **/sibánti/, the expected reading of OH. ši-pa-(a)-an-ti, cannot be derived from /sipánti/ by known sound laws. Thus Melchert essentially concurs with the observation of Kassian and Yakubovich 2002 that the form ši-pa-(a)-an-ti is graphically irregular. His account for the observed irregularity is, however, different and considerably more generic:

Kassian and Yakubovich (2002: 33) and Yakubovich (2009: 547) argue that one cannot interpret the first vowel of the Old Hittite/Old Script spelling ši-pa-an-tld- as real, because this could only imply a reading /siband-/ and voicing of the stop in this environment cannot be motivated by any known Hittite sound change. This argument reflects a fundamental methodological fallacy and a profound misunderstanding of how orthographies devised by and for native speakers work. Native speakers know how the words of their language are pronounced and also the grammar that predicts where they will occur, and writing systems (especially those used by a
In its application to the Hittite cuneiform, this statement logically implies that Sturtevant’s rule can be randomly violated in each and every case where this does not lead to the confusion of lexemes. Given the far-reaching character of this implication, it is not fully clear to me whether the citation above should be taken literally or perceived as a rhetorical device. At any rate, I stand by the description of Sturtevant’s rule in Hoffner & Melchert 2008: 35, where it is regarded as a consistent pattern. To be sure, it can be violated by occasional simplified spellings, but I am aware of no instances where such violations would be generalized for any frequent form or lexeme. Therefore the exceptional orthography ši-pa-(a)-an-tī remains fully ad hoc under Melchert’s analysis.

The final vulnerability of the new hypothesis concerns the way /sipānti/ is derived from the alleged reduplicated formation. Here Melchert begins with the stem *sespo/end- and postulates its subsequent development to *sēpo/end-, which supposedly reflects a universal constraint on the identical segments belonging to the same syllable. No Hittite parallels are, however, cited for such a development, while the forms of the Hittite root šēlaš- ‘to sleep’ represent patent counter-examples. The last difficulty is implicitly acknowledged by Melchert (p. 193, fn. 13), but the change *sespo/end- > *sēpo/end- is nevertheless called regular! This is arguably the first occasion in the history of Anatolian studies where optimality-theoretical constraints are invoked not as a metalanguage for the empirically proven sound laws, but rather in order to overrule the available empirical evidence.

To illustrate the potential dangers of such a practice it is enough to mention that one of the prominent markedness constraints within the framework of Optimality Theory is the constraint on closed syllables. This constraint came to be top-ranked, for example, in Old Church Slavic, where a number of processes conspired in order to trigger the law of open syllable. Does this suffice to claim that any coda simplification on the morpheme boundary, whether regular or not, can be now licensed for ancient Indo-European languages with reference to the sudden prominence of such a constraint at the point when the respective morphological derivation has taken place? For example, one could use such an assumption in order to argue that Hitt. tērzī ‘says’ goes back to an earlier *tērzi, a putative singular counterpart of taranzi ‘they say’, while e.g. kuerzi ‘cuts’ reflects a later analogical development. I doubt, however, that Melchert or any other mainstream Indo-Europeanist would subscribe to such a radical break with the traditional comparative method. While it is true that reduplications have a particular propensity to periodical renewals due to their iconic character, this has little to do with the assumed change *sespo/end- > *sēpo/end-, which is applied to the preexisting reduplication template according to Melchert’s own analysis. Naturally, if one assumes that the attested Old Hittite forms of špand- ‘to libate’ reflect just one stem, the need for such an irregular development simply disappears.

Summing up, I claim that the proposed phonetic interpretation of the alternation between iš-pa- and ši-pa- in the paradigm of špand- ‘to libate’ is inferior to its graphic interpretation on three independent counts. First, it cannot account for the dynamics of distribution between the two stems. Second, it operates with an ad hoc violation of Sturtevant’s rule. Third, it implies a phonetic scenario that contradicts the known sound laws. The first problem can be regarded as merely complicating the proposed analysis, but problems two and three plainly render it untenable, particularly when taken together. It remains to be seen what the considerations that prompted Melchert to give up his original analysis of the stem ‘to libate’ are.

2. Melchert’s new interpretation of the spelling variation in špand- ‘to libate’ represents a consequence of his second thoughts on the development of initial sC-clusters in the history of Hittite. Melchert’s old view on this topic are tentatively put forward in Melchert 1994: 31–32, while his change of opinion is already clearly expressed in Hoffner & Melchert 2008: 27. Nevertheless, since Melchert proposes a very detailed explication of his new stance, I will generally follow his most recent line of presentation in my further discussion.

The development of initial clusters in Hittite was a matter of much controversy in the twentieth century (see references in Melchert 1994: 31, and above p. 187 ff. with ref.). But an important contribution to the debate on the wake of the new millennium consisted of two articles that focus on this precise issue, namely Kavit-skaya 2001 and Kassian & Yakubovich 2002. The first paper invokes the theory of syllable structure in order to advocate the view that the spelling iš-CV- for rendering such clusters always reflects phonological reality, thus implicitly taking issue with the stance of Melchert 1994 and anticipating certain assumptions of the present paper by Melchert. Curiously enough, this theoretically informed piece of work is not cited by Melchert above, possibly because Melchert’s own analy-
sis focuses on the structure of Anatolian cuneiform rather than on cross-linguistic generalizations about syllable structure. The second paper dwells on orthographic issues and argues, following the observations of Melchert 1994, that the spelling iš-CV- for etymological sC-clusters represents a graphic convention. Melchert rejects several claims advanced in Kassian & Yakubovich 2002, naturally grouping some of them together with his own dated views.

The logical starting point of Melchert can be formulated as follows. The main graphic indicator for a synchronic consonant cluster is the presence of irregular spelling alternations, such as those characterizing the initial signs of ša-le-me-en-zi ‘withdraws’ or ša-lei̯ppee/iškušta- ‘pin’. In Kassian & Yakubovich 2002, such alternations were taken as instances of schwa insertion followed by schwa-harmony (e.g. [sɔːmɛntsi] ~ [sɔːmɛntsi]). This interpretation, however, is not compelling, as pointed in de Vaan 2003: 285 with reference to a similar “harmony” in Mycenaean Greek orthography, which clearly has a graphic explanation.1 Furthermore, the data collected in Kassian & Yakubovich 2002 indicate no statistically significant correlation between the alternations of the ša-le-me-en-zi type and the plene spellings of the type ša-(a)-li-qa ‘touches, defiles’, which are surely indicative of vocalic epenthesis (cf. Kavitskaya 2001: 275, fn. 11). On the methodological level, Kassian & Yakubovich 2002 did use irregular spelling alternations in order to recover consonant clusters in some other instances (e.g. za-aš-ki- / zi-ki- for /tse-/, on which see below). Therefore it appears fair to invoke the same principle in the case under discussion. So far the critique of Melchert can be regarded as internally consistent.

If ša-lei̯ppee/iškušta- and similar alternations reflect scribal uncertainty in dealing with word-initial consonant clusters, then cases like išpant- ‘night’ must reflect something else. Hence the next claim by Melchert: prothesis in iš-CV- clusters is phonetically real. An independent argument in favor of this hypothesis, which is not directly mentioned by Melchert, is the broad agreement between the relevant conventions of the Old Assyrian and Hittite cuneiform. Decksen 2007 reviews evidence for the spelling iš-CV- in Anatolian appellatives borrowed into Old Assyrian. Thus Old Ass. išpuruzzínum (3×) ‘roof batten’ cannot be separated from Hitt. išparuzzi- ‘rafter’, itself possibly a derivative of Hitt. išpar- ‘to spread, strew’. Old Ass. išhíülüm (1×, perhaps a commodity) may refer to a physical object used for binding rather than a written treaty, but this is hardly a compelling reason to doubt its connection with Hitt. išhí- išhíja- ‘to bind’, the base of Hitt. išhíul- ‘treaty’. Finally, given that nasals before stops are not reflected in writing in Old Assyrian orthography, Old Ass. špadalum (3×, a commodity) can be either a derivative of išpant- ‘night’, or perhaps that of the root špad- ‘to libate’, which is treated in this paper.2 Kassian & Yakubovich 2002 and Kloekhorst 2008 concur in reconstructing consonant clusters in the roots under discussion.

The root etymologies offered in this paragraph are admittedly speculative, especially given the fact that in two of the three cases we cannot determine the semantics of the nouns involved. But if scholars are right in seeing here Hittite loanwords of Indo-European origin, structural considerations would strongly plead for reconstructing *sC- in išpuruzzínum, išhíülum, and špadalum. The morphemes išpur-, išhi-, and špad-, all segmentable with a reasonable degree of confidence, are unlikely to reflect Indo-European disyllabic roots beginning with i, which vindicates its status as the prothetic vowel. One may argue that two largely independent cuneiform orthographies were unlikely to adopt the same default device of i-prothesis for rendering word-initial etymological sC- clusters unless there was some phonetic substance behind it.

The data above need to be reconciled with the synchronous alternation between word-initial iš-pu- and šu-pu- in the Old Assyrian transliteration of Hittite personal names, which were added in Yakubovich 2009: 546. Melchert (p. 189) treats the cases of Šu-pu-da-alty-šu vs. iš-pu-da-alty-šu, Šu-pu-na-alty-šu vs. iš-pu-na-alty-šu, and Šu-pu-nty-na-an vs. iš-pu-nty-na-an as recurrent instances of genuine phonetic variation. Although this claim derives a degree of support from the over-

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1 To be sure, there is a significant difference between the Hittite and Mycenaean conventions. In Hittite, it is the a-vowel that is usually inserted in writing for rendering the etymological sC-clusters represents a graphic convention. In Mycenaean, on the contrary, the “dummy” epenthetic vowel normally replicates the vowel that is pronounced in the relevant syllable, e.g. du-ru- for /dru-/ or du-ro-for /dro-/ etc. (Melena 2014: 111–112). Deviations from this practice represent exceptions (Melena 2014: 113).

2 The first interpretation is maintained in CAD (UJ): 257a, where the meaning ‘lodging’ is assigned to the noun under discussion, since it is mentioned together with the donkey food. The editors of the CAD were, however, familiar only with one occurrence of špadalum, whereas its two additional occurrences apparently tip the scales in favour of its interpretation as an object (Dercksen 2007: 36). Can it be some sort of libation vessel, or alternatively a chamber pot (vase de nuit)? Cf. Luv. (CAELUM.*286-xl)ša-pa-tar-‘i-ia ‘libation-priest’ and its discussion in Yakubovich 2009: 555–556 vs. Melchert, p. 191 above.
whelming lexical distribution of the two variants in later Hittite (see below), the data above demonstrate that in the Colony period we are still dealing with free variation, which in turn strongly suggests that this variation was subphonemic. What it means in practice is that the Hittite speakers of the Colony period targeted the phonemic representation /sp-/ and, were possibly even able to render it accurately in thorough pronunciation, but optionally implemented either prothesis or epenthesis in spoken forms, perhaps depending on personal idiolects. The only logical alternative to the proposed solution would be to assume that the Assyrian scribes encountered two different Hittite dialects, which were characterized by phonological prothesis and phonological epenthesis respectively, whereas the later dialect of Hattusa represents a sort of koine that drew upon both of them. In the absence of independent evidence for such dialectal divisions, the hypothesis of free subphonemic variation must be preferred as more economical. In a sense, this is the same kind of logic that prompts Melchert to accept free graphic variation in šalei/ippe/i̯kkušta- ‘pin’ and similar cases, as opposed to postulating unattested Hittite dialects.

Melchert plausibly hypothesises that the Hittite *sp-clusters represented an arena where two different strategies of breaking *sC-clusters were in competition with each other. One was the i-prothesis, typical of the ‘s-stop’ clusters, the other one was the u-epenthesis, which characterized clusters “s+labial” (or perhaps only those of them that had /u/ in the first syllable). But if one assumes that both strategies were allophonic in a particular environment in the Colony period, the simplest solution is to assume that they were always allophonic at the same historical period. In other words, the source of Old Assyrian š̱hiššu was phonetically [šxiulu], or something similar, but phonologically /sxuːl/. Naturally, the Hittite loanwords into Old Assyrian reflect the Akkadian phonotactics and therefore the prothetic vowel must have acquired there the phonological status. They also appear to have generalized i-prothesis before *sp- at the expense of u-epenthesis, if the available occurrences of ı̯spuruzzinnum and ı̯spadallum have enough persuasive force.

So much for the situation in the Colony period (20–18th centuries BC). Moving to the Old Hittite / Old Script corpus (15th century BC), one can observe the ongoing lexicalization of different processes affecting the etymological *sp-clusters. If one follows Melchert’s new phonetic interpretation, one encounters here numerous instances of stable i-prothesis, e.g. ı̯spant- ‘night’, stable preservation of the original cluster in šalei/ippe/i̯kkušta- ‘pin, needle’, and overwhelming u-epenthesis in šuppištuwara- ‘decorated (vel sim.’). In phonological terms, this situation can be, in principle, interpreted in two different ways. On the one hand, it is possible to argue that we observe here an emerging orthographic convention, which manifests itself through the selection of one phonetic variant per lexeme merely for purposes of writing. According to such an approach, the treatment of clusters in Old Hittite orthography would not be indicative of the actual evolution of language. On the other hand, the standardization of lexical representations may reflect the development of spoken Hittite, in which case one has to conclude that prothesis and epenthesis were well on the way to acquiring phonological status by the 15th century BC. Since there is no independent evidence for the subphonemic character of these processes in later Hittite, in this reply I will pursue the second solution, which also appears closer to Melchert’s own views.

One must, however, stress that the phonological prothesis and epenthesis discussed here do not represent mechanical consequences of universal constraints on syllable structure, contrary to what is asserted in Kavitskaya 2001. On the one hand, the diverse reflexes of the etymological sp-clusters strongly suggest that both phonological processes spread by way of lexical diffusion. On the other hand, as shown in Kassian & Yakubovich 2002, there is evidence for even more complicated initial clusters, which are nonetheless synchronically reflected in Old Hittite orthography. The best example is the verbal stem za-aš-ki- alternating with zi-ık-ki- and zi-ki- in the meaning ‘to put (around)’ (Kassian 2002: 136, cf. Yates 2016: 169 fn. 16), the imperfective derived from dāi/i̯tiya- ‘to put, place’ which can only represent /tskei-. Furthermore, there is enough morphological evidence to argue that zaškaraiš ‘anus’ and zaššai ‘dream’ synchronically contain the clusters /tsk-/ and /tsx-/ respectively (cf. Kloekhorst 2008: 80, 875, Hoffner & Melchert 2008: 47). One needs a vivid imagination in order to build up a hierarchical of universal syllabic constraints that proscribes, for example, word-initial /sk-/ but accommodates word-initial /tsk-/.3

3 This is not to deny the hypothesis that the universal constraints were quietly at work behind the scene as the evolution of Hittite clusters took its particular course. But one is unlikely to acquire a reputation like that of Sherlock Holmes if one begins with invoking the fallen nature of human beings (or the inherent injustice of capitalism) as a motivation for a particular crime. On a more positive note, it is worth pointing out that the Proto-Anatolian word-initial initial *sC-clusters appear to have received differential treatment not only in Hittite but also in Lu-
It is under the prism of this observation that one has to approach the development of the verb šspan-di- ‘to libate’ in the history of Hittite. If different strategies of cluster simplification spreading by way of diffusion were competing for the etymological sp-clusters in Old Hittite, it is perfectly possible that none of them had yet been generalized in pronunciation for certain lexical items. This is, in fact, more or less what is argued by Melchert in the instance of suppištumawara-, which is once attested in the shape ispiš-du-wa-ra- (KUB 42.64 Rev. 2). The only reason that appears to preclude Melchert from extending the same type of explanation to the variation between is-pa- and ši-pa- in špan-di- is that the strategy of i-epenthesis appears to be otherwise unattested with the etymological sp-clusters.

Nevertheless, i-epenthesis has been claimed for other Hittite clusters involving a combination “s+stop”. Thus Kloekhorst (2008: 808) plausibly argues that /tské/á-/ ‘to put around’ began to develop epenthesis already in Old Hittite, as the spelling variant /tski-/ from /tské/á-/ ‘to put around’ began to develop epenthesis from az-zi-ik-ki-. whose stem reflects the imperfective of tarn(a)- ‘to let (off)’, in the Old Hittite / Old Script corpus (Kassian & Yakubovich 2002: 34). In the later period epenthesis of the same type becomes common in other imperfective forms formed from roots ending in coronal stops, e.g. az-zi-ik-ki- /atsiki-/ from ad- ‘to eat’, ar-ši-ik-ki- /arsiki-/ from arr- ‘to wash’. But the stems ending in labial and velar stops implemented a different strategy of attaching.

As Melchert (p. 190–191) justly points out, we have sufficient evidence for Luv. */st/ > */t/, but not for the analogous development in clusters containing velar stops. In fact, Rieken (2010: 657) has plausibly argued that Luv. *šk evolved into *[k] in the verb sak-ta-li-sa- [kantan:l:a] ‘to provide with decorations, make shine’. Rieken’s interpretation of the Anatolian hieroglyph <sà> as a designated syllabogram for rendering the sound [ʃ] is also conducive to taking Luv. (CAELUM.*286.x)sà-pa-tara/i-i-sa ‘libation-priest’ as [pantaris], or something similar. Note, however, that a different development can be observed in Luv. parr(⟨a⟩)- ‘to spread’ vs. išpar- ‘to spread, spread’ (Melchert 2014: 504) and Luv. part(i): ‘leg (of animal)’ vs. Hitt. išpart- ‘to jump, escape’ (Oettinger 2015: 271–272). Therefore I continue to believe that Luv. (CAELUM.*286.x)sà-pa-tara/i-i-sa represents a loanword from Hittite.

4 Note, however, that even for the Middle Hittite period one can still confidently reconstruct the (optional) lack of epenthesis between the Hittite verbal roots ending in coronal consonants and the imperfective sk-suffix. Cf. such forms as uzza-ki-tin HBM 17 Rs. 43 (M5), ši-pa-ar-zak-a-ku KUB 40.56 + KUB 31.88+ Rs III 7, 12 (M5). See Kassian & Yakubovich 2002: 37–38 for additional synchronic evidence from Old Hittite. The claim that “there are examples to show that prehistorically there was epenthesis in all sequences of VC-skë-/i- except those in Vs-skë-/i-” (Melchert 2012: 179) is not illustrated with empirical data and therefore can be disregarded for the time being.

5 The most recent brief discussion of i-epenthesis in Hittite imperfectives known to me, namely Yates 2016: 169–170, strives to account for it within the framework of the Optimality Theory. This discussion, however, does not go quite to the heart of the matter, because it fails to refer to the faithfulness constraint(s) that interact with the Sonority Sequencing Principle. In my opinion, of utmost relevance here is the No Breaking constraint, which prohibits splitting the phonological units of the input representation. As already pointed out in Kassian & Yakubovich 2002: 43, albeit in different terms, the difference between the derivations /apskV-/ → [apskV-] and /atskV-/ → [atskV-] lies in the fact that /ts/ is a Hittite phoneme, whereas /ps/ is not. The derivation /atsk- → [atsk-] satisfies both the Sonority Sequencing Principle and No Breaking constraint at the cost of violating a lower-ranking principle “align epenthesis with morpheme boundaries”. Such an explanation may not, however, be applied to the case of /arskV-/ → [arskV-] (as opposed to /arskV-/) and similar cases, which must, therefore, be explained as an imitation of /atskV-/ → [atskV-] and similar cases. Since the process under discussion involves a proportion between the underlying ad phonetic representations, it is more appropriate to define it as diffusion of epenthesis rather than analogy.

6 The change in the phonetic treatment of *sC-clusters finds a typological parallel in the history of Persian. Thus it is usually
Naturally, we would have to assume that at the point when $i$-prothesis, $i$-epenthesis, and $u$-epenthesis had been in competition with each other, all the three processes had been subphonemic. Now it is possible to compare the predictions of my new hypothesis with those of Melchert. I see the variation between the spellings $iš$-$pa$- and $ši$-$pa$- in the forms of $špand$- ‘to libate’ as a vestige of free allophonic alternation, of a kind that I also reconstruct behind spelling variations $š$p-$u$-$d$-$a$-$h$-$š$-$u$ and $Šu$-$p$-$u$-$d$-$a$-$h$-$š$-$u$ in Old Assyrian. For Melchert, the forms $išpand$- and $šipand$- reflect two different stems, so the opposition between them must be phonological. I submit that $ši$-$pa$-(a)-an-ti and similar spellings provide a straightforward argument for preferring my analysis. The seeming violation of Sturtevant’s rule in this form, dismissed by Melchert as a random phenomenon, indicates that the phonological representation of the root was still $/spand-/ in Old Hittite. It probably became $/sipand-/ in the Middle Hittite period, after the phonetic variant $[spənd]$- came out of use in finite forms, although the conservative scribal tradition retained the spelling $ši$-$pa$-(a)-an-ti for a while. Eventually, however, it was replaced with the predictable $ši$-$ip$-$pa$-(a)-an-ti, which again fully conformed to Sturtevant’s rule. The likely sociolinguistic reasons for this orthographic reform were discussed in Yakubovich 2009, and I hope that the assumption of a real phonetic epenthesis can only make this account more credible. Two additional advantages of the proposed account over the reduplication hypothesis of Melchert consist in avoiding synchronic suppletion and irregular dissimilation $*səspo/ends-* > *səpo/ends-$ (compare the previous section).

At the same time, the hypothesis of $i$-epenthesis comes at a considerable price when compared with the graphic disambiguation hypothesis, which was advocated in Kassian & Yakubovich 2002. Beside the necessity of assuming the arbitrary spread of $i$-epenthesis from $[tske/a:j]$ to $[spənd]-$, one has to reckon with the loss of direct motivation for the distribution of graphic variants in the Old Hittite paradigm of $špand$- ‘to libate’. To be sure, a broad explanatory account still remains possible. If the phonetic process of $i$-epenthesis were spreading by way of lexical diffusion before the $i$-prothesis was generalized across the board, one might argue that it initially affected the 3sg form $[spəndi]$ in conformity with the general tendency of diffusional sound changes to target first the most frequent forms [Labov 1994: 483]. The subsequent spread from 3sg to 3pl, but not to 1sg, stays within the pool of trivial analogical patterns. But the assumption of graphic disambiguation between $ši$-$pa$-$an$-$ti$ ‘to libate’ and $iš$-$pa$-$an$-$ti$ ‘at night’ would have an advantage of immediately restricting its scope to the specific form where it happens to be most frequently observed. On the other hand, the scenario of Kassian & Yakubovich 2002 complicates the account for the New Hittite spelling $ši$-$ip$-$pa$-(a)-an-ti and is rendered more problematic by new suggestive evidence for the phonetic character of $i$-prothesis, as argued earlier in this section.

Summing up, the accounts in terms of graphic disambiguation and phonetic epenthesis remain viable alternatives, the selection between which will ultimately depend on the broader question of what happened to etymological $sc$-clusters in Hittite. I am now leaning toward the phonetic explanation, but I do not consider the issue fully settled. But whichever of these two solutions one prefers, there is no need to assume that the variants $išpəl$-$ant$- and $šípə$-$ant$- historically reflect two different stems.

References


CAD = The Assyrian Dictionary of the Oriental Institute of the University of Chicago. Chicago: The Oriental Institute, 1956–.

CHD = The Hittite Dictionary of the Oriental Institute of the University of Chicago. Chicago: The Oriental Institute, 1989–.
Крейг Мелчерт. Начальный кластер *sp- в хетском языке и глагол ši(p)and- ‘жертвовать’.

Статья посвящена механизму развития из праиндоевропейского источника хеттской формы ši(p)and- ‘совершать возлияние’. Эта тема остается достаточно противоречивой ввиду того, что от решения данного вопроса существенно зависит не только реконструкция развития начальных сочетаний вида «свистящий + смычный» в хетском языке, но и определение статуса глагольной категории «перфекта» в анатолийских языках — были ли формы перфекта (которые в древнейших неанатолийских и.-е. языках выражали значение достижения того или иного состояния) унаследованы и затем утрачены в анатолийских языках, или же их следует считать, в рамках «индо-хеттской» гипотезы, общей инновацией на уровне индоевропейского «ядра»? Попытка вывести форму ši(p)and- из редуплицированного и.-е. перфекта *s(p)e-spónd- в свое время была справедливо отвергнута по целому ряду формальных и функциональных причин; однако, учитывая достигнутый прогресс в изучении рефлексов и.-е. *sp- в хетском, а также ряд новейших гипотез относительно фонологической природы редупликации и ее роли в и.-е. глагольной морфологии, мы находим веские основания вновь вернуться к этому вопросу.

Ключевые слова: hi-спряжение, индохеттская гипотеза, праиндоевропейский перфект, редупликация.