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Hittite *tuk(kan)zi-* “cultivation, breeding” (*)

RÉSUMÉ. — Le mot rare hittite *tuk(kan)zi-* ne signifie pas «fourrage» ou «paille» comme on l’a proposé, mais plutôt «culture» des plantes et «élevage» des animaux domestiques. Le premier sens est prouvé par des passages se référant aux semences. Le second est démontré par une occurrence remarquable dans le contexte rituel d’une contre-malédiction chargée de violence sexuelle. Le mot hittite est donc égal à l’allemand *Zucht* pour la forme et pour le sens.

ABSTRACT. — The rare Hittite word *tuk(kan)zi-* does not mean “fodder, foraging” or “straw” as previously claimed, but rather “cultivation” of plants and “breeding, raising” of animals. The evidence for the first consists of passages referring to the sowing of grain, while the second is demonstrated by an occurrence in a remarkable ritual passage with a counter-curse charged with sexual violence. The Hittite word thus matches German *Zucht* in both form and meaning.

The rare Hittite word *tuk(kan)zi-* (once *tukzi-*) was first interpreted by E. LAROCHE⁽¹⁾ as “fodder”, a sense which fits the following examples well enough: [m...-i]š LÚ URU *Hurla* 3 PA ŠE *tukanzi hartu* “[]is, a Hurrian, had three measures of barley for *t*”. (*KUB* 31.65 Vo 8); 4 UDU.NITÁ *tukkanziyaš* [Š]A EZEN₄ *lilaš EGIR-pa ADDIN* “I gave back four rams of/for *t*. for the *lila*-festival” (*KUB* 31.53+ i 8-9; Vow of Puduhepa)⁽²⁾. In the first case one would have the concrete sense “fodder”, while in the second the reference would be to the action of foraging: the animals were returned to be further fattened. LAROCHE’S interpretation also seemed satisfactory for the following: ANA m^m*Hiellarizzi* = wa ANŠE.GİR.NUN.NA.-HI.A *tukkanzi dahhun* EGIR-pa = ma = wa = šši *kurkuš pehhun* “I took the mules from Hellarizzi for *t*., but I gave him back *kurka*’s” (*KUB* 13.35 iii 11-12)⁽³⁾.

On the other hand, neither “fodder” nor “forage/foraging” seemed appropriate in the passage from the Ritual of *Āllī* (cited in full below), where *alwanzata* “sorcery” is to turn into *tukkanzi* (or something related to *tukkanzi*). L. JAKOB-ROST in her edition of the text⁽⁴⁾ suggested rather “straw”, citing what she believed to be a parallel Akkadian simile. S. ALP⁽⁵⁾ seconded this idea, adducing the new evidence of the Maşat Letters, where he interpreted the recurring pair *halkin tukanzi* as “grain (and) straw”.

(*) I am indebted to Harry Hoffner, Gary Beckman, and Alan Nussbaum for valuable advice and references. Sole responsibility for the views expressed here remains mine.

(1) *Revue d’Assyriologie*, 43, 1949, p. 69. LAROCHE’S formulation is quite tentative: “Le sens ne se laisse pas déterminer; on songe à une nourriture, peut-être ‘fourrage’”.

(2) See the edition by H. OTTEN, *Das Gelübde der Königin Puduhepa (Studien zu den Boğazköy-Texten 1)*, Wiesbaden, 1965, p. 20, and Laroche, *op. cit.*, p. 63.

(3) See the edition by R. WERNER, *Hethitische Gerichtsprotokolle (Studien zu den Boğazköy-Texten 4)*, Wiesbaden, 1967, p. 18.

(4) *Das Ritual der Malli aus Arzawa gegen Behexung (Texte der Hethiter 2)*, Heidelberg, 1972, p. 62. For the correct reading of the name of the practitioner as *Āllī* see H. OTTEN, *Zeitschrift für Assyriologie*, 63, 1973, 81.

(5) *Hethitische Briefe aus Maşat*, Ankara, 1991, p. 302 f.

This analysis can be made to work for the first passage cited above, if one assumes, with ALP, a neuter *i*-stem for *tuk(k)anzi-* and an asyndetic noun phrase. I do not see, however, how it makes any sense for the second and third examples. In the Vow of Puduḥepa we would have “four rams of/for straw” (??), while the deposition would say that the speaker took four mules for straw (6). As we will see, JAKOB-ROST’s entire interpretation of the ritual passage is unsatisfactory, and “straw” has no more place in the context than “fodder”. Finally, “straw” also produces a complete non-sequitur in the sole instance of the shorter form *tukzi*:
 5 PA KUNASŪ 5 PA šeppi<ta> ^mPallanaš ḥarzi 20 PA KUNASŪ (ras.) 28 ? PA šeppi<ta>
^mPappappaš ḥarzi 13 PA KUNASŪ ^mHatipa-LŪ ^{URU}Narapiduwa ḥarzi INA MU.IM.MA
tukzi taškanta “Pallana has 5 measures of emmer (and) 5 measures of *s.*; Pappappa has 20 measures of emmer (and) 28 (?) measures of *s.*; Hatipaziti of Narapiduwa has 13 measures of emmer. They will take (it) for themselves next year for *tukzi*”. (HKM 111 Ro 1-8) (7).

In seeking the true meaning of *tuk(k)anzi-*, we may begin with the last passage cited, whose context is quite clear. Following a double paragraph line, the entire rest of the text concerns the sowing of grain. I cite by way of example lines (Vo) 24-27: 28 PA ZÍZ.ḪIA INA ^{URU}Hariya ^mHimu-DINGIR ^{LIM}<^m> Maruwaš ^mTiwa-LŪ ^{LŪ}KUŠ, GUŠ[KI]N šuniškanzi “Himuili, Maruwa, and Tiwaziti the man of the gold-spear will sow 28 measures of barley in Hariya”. The reference of the three sentences preceding INA MU.IM.MA *tukzi taškanta* is thus to various individuals holding allotments of grain for seed: cf. the formulation of the land-survey texts: 1 A.ŠĀ warpuwaš 3 PA NUMUN-ŠU ŠĀ ¹Pikkuqa “One field of a riverbank. Three measures are its seed (allotment). It belongs to P.” (KUB 8.75+ i 64) (8). I therefore suggest that the next sentence in our passage merely spells out the purpose of the allotment explicitly: “They will take (it—scil. the grain) for themselves next year for *tukzi* (9). We are thus led to a sense “planting, cultivation” for *tuk(k)anzi-*. Obviously, this analysis may also be applied to the first example cited, where the context would once again be that of a seed allotment: “[Jis, a Hurrian, had three measures of barley for cultivation”.

A number of texts attest to the preoccupation of the Hittite king and the central administration with the proper allotment and handling of seed-grain. The Mašat Letters HKM 54 and 55 are entirely about this topic. In the latter the border commander (*bēl madgalti* = *auriyaš išḥaš*) Himuili is questioned about missing seed allotments and accused of putting the planting of the fields of “the lords” ahead of those of the palace. This Himuili may well be the same person cited in our text above as one who will sow seed in Hariya (10). See

(6) A reading “mules (and) straw” is not credible. Asyndeton for a semantically related pair “grain and straw” is not implausible, but this will hardly work for mules and straw.

(7) It helps little if one takes *tukzi* as nom.-acc. sg. and the object of the verb: “they will take straw for themselves in the following year” — the non-sequitur remains. ALP, *Hethitische Briefe aus Mašat*, p. 312, also takes *tukzi* as the same word as *tuk(k)anzi*, but does not explain how he understands the passage.

(8) See V. SOUČEK, *Archiv Orientalní* 27, 1959, 10-11.

(9) E. NEU - C. RÜSTER, *Hethitisches Zeichenlexikon*, Wiesbaden, 1989, p. 98, claim a distinction between MU.IM.MA-*anni* (= Hitt. *wettantanni*) “in the next/following year” and simple MU.IM.MA “in the past year”, citing W. von Soden, *Akkadisches Handwörterbuch* III.1123 as authority for the latter. I find no evidence adduced, however, to prove that MU.IM.MA without complement *must* mean “in the past year”. The present tense form *taškanta* in any case seems to exclude “in the past year” here. Note the distributive use of the *-ške-* form to underline the plurality of the object (see W. Dressler, *Studien zur verbalen Pluralität*, Vienna, 1968, p. 174 ff., on this phenomenon in Hittite). In any case, taking the sentence as referring to a past event would not alter the reference to planting.

(10) See S. ALP, *Hethitische Briefe aus Mašat*, p. 61.

also *KUB* 13.2 iii 38-40, where the *bēl madgalti* is instructed to be sure that a transplantee (*arnuwala-* = *NAM.RA*) is provided with seed grain ⁽¹¹⁾.

This meaning also is appropriate for the other instances of *tuk(k)anzi-* in the Mašat Letters. The context of planting is implicit in *HKM* 18 Vo 23 ff.: *kāšma ÉRIN.MEŠ^{URU} išhupitta ÉRIN.MEŠ^{GIS} zaltaiyašš = a kuin ḫalkin tukanzi ḫarka[nz]i kinun = a apēdani ḫalkī^{dUTUŠI} šer mekki ḫašket QATAMMA ḫaträtten ḫalkiš = (š)mas apiya aniyanza kuit nu EGIR-an tiyatten n = an anda ēpten n = an = kan ÉSAG.ḪI.A ? anda išhuwitten* “His Majesty has much ___ed up to now about the grain which the troops of Ishupitta and the z.-troops have for *t*. Write accordingly! Since grain (is) consigned there for you, see to it, take it in and pour it (into) the granaries” ⁽¹²⁾. The verb *ḫašket* is to my knowledge hapax, but the context suggests a sense “has worried” or the like. The King is concerned about how the grain consigned for seed is being handled, and the addressees are to see to it that it is duly collected and safe-guarded.

The other references to *ḫalkin tukanzi* are all similar. I cite *HKM* 24 Vo 47 ff., the best preserved example, in full (cf. also *ibid.* Vo 14 ff., following *kašti* in line 7, and *HKM* 45 Vo 19 ff.): *namma = kan KUR-e a[n]d]a kašza uet nu apūn ÉRIN.MEŠ^{URU} Marešta peḫute nu = za paiddu Š[A] É.GAL^{LIM} ḫalkin tukanzi daddu n = an = za = kan URU-ri šara peḫuteddu namma = an = ši = kan EGIR-an iškalli n = an uwandu INA BURU₁₄ EGIR-pa išhuwandu namma apūn ÉRIN.MEŠ^{URU} Kašepūra EGIR-an = pat tiya nu = za NINDA tūmatin šarā mekki ḫandāiddu* “Furthermore famine has come into the land. Take those troops of Marešta, and let them go and take the grain of the palace for *t*. and bring it up to the city. Then ‘slit’ it behind it (?), and let them go and pour it back into the harvest. Furthermore, stand by those troops of Kasepūra, and let them store up much *t*-bread for themselves”. The meaning of the injunction *āppan iškalli*, literally “slit behind”, applied to the grain, is opaque to me ⁽¹³⁾, but the gist of the passage seems clear enough. A famine has produced an emergency, and the King is instructing his officials to take grain belonging to the palace that had been reserved for seed and return it to the general stores, from which troops are to make bread rations.

So much for the instances of *tuk(kan)zi-* in connection with grain. What are we to do with those involving animals? In the Vow of Puduḫepa the 4 *UDU.NITÁ tukkanziyaš* would be “four breeding rams”, a quite reasonable characterization. English typically uses different terms for plants and animals, “cultivation” and “breeding”, but these are essentially the same act, and one can use “raising” or “rearing” for both. Compare also German *Zucht*, which in fact is surely cognate with Hittite *tuk(kan)zi-*, as discussed briefly below. We may infer from the provisions of the Hittite Laws that the Hittites practiced conscious breeding of domestic animals ⁽¹⁴⁾.

(11) E. VON SCHULER, *Hethitische Dienstanweisungen für höhere Hof- und Staatsbeamten*, Berlin, 1957, p. 48.

(12) I am indebted to Harry Hoffner for the suggestion that the sign “A” at the beginning of line 28 (lower edge) may be a run-over from line 4 (left edge) and belong with *ÉSAG.ḪI*^o. The lack of conjunction before *QATAMMA* remains surprising. The verb *aniya-* often means “plant” seed, but I find more likely here the meaning “furnish, consign” (for use as seed). See H. A. HOFFNER, *Alimenta Hethaeorum*, New Haven, 1974, p. 27 with note 123 and p. 48 with note 229 (“pay out, loan”), and E. VON SCHULER, *Dienstanweisungen*, p. 48 (“beschaffe”).

(13) Professor Hoffner tentatively suggests that this sentence might refer to slitting open baskets or sacks containing the grain.

(14) See §§ 57-58 on the fact that only a two-year-old animal counts as a “bull” or “stallion” and the prices of § 178. See now H. A. HOFFNER, *The Laws of the Hittites*, Leiden, 1996, pp. 70-71, 221 f.

As to the third example cited above, from *KUB* 13.35 iii 11-12, we now know that the word *kurkuš* means "foals" (15). This would at first glance seem to support the meaning "breeding" for *tukkanzi*: the speaker is claiming that he returned to Hellarizzi the results of the action for which he took the mules. Mules, however, as hybrids, are virtually always sterile. It is not credible that anyone with any knowledge of animal husbandry would take mules for the purpose of breeding. I therefore conclude that like German *Zucht*, French *élever*, or English "raise, rear", Hittite *tuk(kan)zi-* includes not only the act of mating animals, but also the entire process of care and training needed to produce a useful adult domestic animal. The verb *annanu-* is attested in Hittite for "to train" animals as well as people for various tasks (16), but that does not preclude another term for the overall process of "raising" an animal. Since the speaker would have taken relatively young animals for raising, it makes sense that he would have given foals in return, making an even exchange (for the relative value of animals of various ages see the references in note 14 to §178 of the Laws).

For confirmation that *tukkanzi-* could refer to "breeding" of animals we must turn to the occurrence in the Ritual of *Ālī*, which I now cite in full (*KBo* 12.126 i 17-21): [*n = a*]t TUG *kureššar ēšdu n = at = šan INA SAG.DU-ŠU šīyan hardu [n = a]t = za EGIR-pa dāu išhuziš = at = ši ēšdu [n = a]t išhuziddu* KUS *ESIR = ma = at = ši ēšdu n = at = za šarkuddu* (§) [*nu a*]lwanzata *dukanzi x[] ēšdu n = an haššannit dāu [(ŠA)] H = ma = aš = kan* GIS *GAG-az išparzašdu n = at EGIR-pa BELI-ŠU paiddu* "Let it (the sorcery) be a scarf, and let her hold it placed on her head, and let her take it back to herself. Let it be a belt for her, and let her gird herself with it. Let it be a shoe, and let her put it on herself. Let the sorcery be a t. [], and let her take it with her birth organ. Let it escape from the peg of a pig and go back to its owner".

My translation, which differs markedly from that of *JAKOB-ROST* (17), is based on the following considerations. First, the immediate context is one of counter-magic: the evil spell which a sorceress (NB: a woman!) has wrought upon the client is to be turned back against her. Specifically, the sorcery is to be transformed into various articles of clothing that the sorceress then puts on her body. It is worth stressing the crucial nature of the physical intimacy expressed in what is effectively a curse: the evil magic is to be attached to the body of the sorceress so that it has maximum impact and cannot easily be removed (18).

By *JAKOB-ROST*'s interpretation, the following sentences involving *tukkanzi-* come across not only as a non-sequitur, but also as a startling anti-climax: "Die Behexung soll *tukanzi* [] sein und ihn (den Zauberer) mit der Familie soll sie nehmen; aber er (der Opferherr) soll ihnen entkommen von dem Pflock, und sie (die Behexung) soll zu ihrem Herrn zurückgehen!". A closer examination reveals additional serious problems. First, *JAKOB-ROST* ignores the strictly parallel structure of the three preceding formulas: sorcery becomes X, sorceress takes X onto her body (syntactically, the sorcery is the subject of each intransitive verb, the sorceress the subject of each transitive verb). Second, the reading of the duplicate text *KBo* 10.43, 7, *ŠAH-š = at = kan* [], which clearly equates to [(ŠA)] H = ma = aš = kan

(15) See B. FORSSMAN, "Hethitisch *kurka-* 'Fohlen'", *Zeitschrift für Vergleichende Sprachforschung* 94, 1980, p. 78 ff., after A. KAMMENHUBER, *Orientalia* 41, 1972, p. 297.

(16) See J. PUHVEL, *Hittite Etymological Dictionary*, Vol. 1-2, Berlin, 1984, p. 59 ff.

(17) *Das Ritual der Malli*, p. 23.

(18) For this interpretation of the first three sentences cited (contra *JAKOB-ROST*), see H. EICHNER, *Sprache* 19, 1973, p. 224, followed by G. NEUMANN, *Zeitschrift für Vergleichende Sprachforschung* 87, 1973, p. 297, and F. JOSEPHSON, *Bibliotheca Orientalis* 32, 1975, p. 74.

of the main text, confirms that the sorcery must be the subject of *išpart-* “escape” (19). The neuter nom.-acc. singular *-at* cannot refer to the client. The animate *-aš* of the main text, and likewise the animate *-an* of the preceding sentence, must reflect merely that the predicate noun of the preceding sentence (*[nu a]lwanzata dukkanzi x[Jēšdu* “Let the sorcery become ___”) is grammatically animate. Hence the uncertainty of the gender of the following pronoun, which may reasonably take *alwanzata* (neuter) or the predicate noun as its antecedent. The duplicate, with its clear reading of ŠAH-š “of the pig” also falsifies JAKOB-ROST’s entire reading of the relevant sentence.

The parallel structure of the curse formulas and the evidence of the duplicate text that the pronominal reference of *...-aš...išparzašdu* is to the sorcery together show that the subject of *n = an haššannit dāu* is the sorceress, and *haššātar* is to be taken here in its meaning as a body-part: “birth-organ”. I stress that this entire line of reasoning is text-internal and quite independent of the meaning of *tukkanzi-* (20). It seems obvious to me, however, that the reference to the sorceress’ birth-organ and the independent evidence for a connection of *tukkanzi-* with breeding converge in a most shocking way. As the crowning curse, the person of the sorceress is to be violated in the most violent and degrading manner conceivable: she is to be raped by the sorcery in the form of (or at least in the manner of) a stud animal.

Such an interpretation immediately raises the question of how the very short break between *dukanzi* and *ēšdu* is to be restored. I believe the key to this problem lies in the next sentence, whose relevance to the rest of the passage has never been satisfactorily explained. OTTEN, who noted the reading ŠAH-š = *at = kán* of the duplicate, offered no interpretation of what “peg of a/the pig” might mean, while JOSEPHSON says merely “^{GIS}KAK is thus here, symbolically, a plug whereby the evil is considered as fastened to the evil person” (21). But the sentence says that the evil is to escape *from* the peg and return to the sorceress. The peg can hardly be fastening the evil to her. The relevance of “of the pig” is also left unexplained. We know that the Hittites used pegs in the horse-training texts to tether horses (22), and it cannot be excluded that the Hittites tethered pigs in a similar fashion for some purpose. But it is very hard to see the relevance of this to the curse in our ritual passage. There has been no mention anywhere in the preceding ritual of either a pig or a peg.

After puzzling over this sentence for many weeks, I venture to suggest that ^{GIS}GAG here may be a Hittite vulgarism for “penis”. The underlying Hittite word *tarma-* means “peg” or “nail”. Both German and Italian offer parallels for both words used vulgarly for “penis” (23).

(19) See OTTEN, *ZA* 63, 1973, p. 76 f., and JOSEPHSON, *BiOr* 32, 1975, p. 74.

(20) Jakob-Rost interprets the paragraph line preceding the sentence containing *dukanzi* as indicating a change of topic from the female sorceress back to the general case of any sorcerer. But the Hittites’ use of paragraph markers often does not match our conception of “change of topic”, and the manuscripts we have are copies in any case. Nor does the use of *BE-Lf-ŠU* “its owner” in the final sentence carry any weight. When writing Hittite, the Hittite scribes used *bēlu* to refer to any client, regardless of the sexual reference. In the absence of any positive evidence to the contrary, I take the entire passage to refer to the sorceress.

(21) See the references in note (19).

(22) See A. KAMMENHUBER, *Hippologia Hethitica*, Wiesbaden, 1961, p. 54 f. with references.

(23) For German *Nagel* and the corresponding verb *nageln* see already J. GRIMM, *Deutsches Wörterbuch* 7, p. 263, as well as E. BIRNEMAN, *Sex im Volksmund*, Hamburg, 1971, and H. KÜPPER, *Illustriertes Lexikon der deutschen Umgangssprache*, Stuttgart, 1984, s. v.. The latter two works also cite a more modern usage for *Pflock*. For the Italian see S. BATTAGLIA, *Grande Dizionario della Lingua Italiana sub cavicchio and chiodo*. The use of the determinative ^{GIS} “wood” is not problematic, since such determinatives are merely conventional. Note ^{GIS}GAG URUDU “nail of copper” cited by E. NEU - C. RÜSTER, *Hethitisches Zeichenlexikon*, p. 128.

The sorcery is thus to escape from the penis of a pig and return to the sorceress (24). If this interpretation is correct, it implies that what the evil spell is to turn into is sperm. I therefore tentatively suggest that the preceding sentence should be restored [nu? a]wanzata dukanzi A².[A] ēšdu.

The Hittite reading for A.A is *muwa-*, probably a Luvian loanword. There were earlier suggestions that this word meant precisely “sperm”, but this has been amply refuted (25). The word refers to awesome “power, might”, and the derived verb *muwā(i)-* (plus reflexive *-ti*) means “conquer, overcome”. However, as noted by M. WEISS (26), there is evidence that the word also refers specifically to “reproductive power, potency”. See especially the Hieroglyphic Luvian curse formula (CARCHEMISH A 11c, 4-5): *wa/i-tu VIR-ti-ya-ti-ya-za-ha* (“CULTER”) *pa+ra/i-tú-ni-tú-u FEMINA-ti-ya-ti-ya-ha-wa/i-tú-u* (“CULTER”) *pa+ra/i-tú-ni-i-tú wa/i-tú VIR-ti-ya-ti-i-na mu-wa/i-i-ta-na NEG₃ ta-ti-i FEMINA-ti-ya-ti-pa-wa/i-tú 4-ta ta-ti-i* “From him may they (the gods) sever virility, while from her may they sever femininity. For him may they not take male potency, and for her may they not take female fertility”.

Note first of all that the first two sentences of this curse confirm that Hittite-Luvian culture had no qualms about including in curses physical attacks against a malefactor’s sexuality (27). The restoration of A.A = *muwaš* in our Hittite curse would also explain the specification *dukanzi*: “Let the sorcery be potency for breeding” (which would be unnecessary if the restored word meant directly “sperm”). Any doubt about the meaning of this sentence is erased by the next. One might object that it would be a more logical progression if the sperm escaped from the penis of a pig *first*, before the sorceress “takes” it with her womb. I believe the order of the references is conditioned by the required (or at least desired) parallelism with the preceding curses, each of which has the formula: “Let the sorcery be X; let the sorceress X it”. My proposed restoration A.[A] must remain conjectural (28). Unsurprisingly, our knowledge of this area of Hittite vocabulary is extremely limited, and I do not exclude another restoration. Given the internal evidence that *haššanit dāu* means “let her take with her womb” and the other evidence for associating *tukkanzi-* with “breeding”, I am confident that my overall reading of the passage is essentially correct.

I cited above German *Zucht* as an example of a single word covering the senses of both “cultivation” (of plants) and “breeding” or “training” of animals, but the comparison with Hittite *tuk(kan)zi-* goes beyond a mere semantic parallel. The modern German word continues Old High German *zuht*, a feminine *i*-stem, cognate with Old English *tyht-*, a masculine *i*-stem. We also find in Latin an adverb *ductim* “in (full) draughts”, the frozen accusative singular of a animate noun **ducti-*. From these we may reconstruct a virtual PIE animate *i*-stem

(24) The specific choice of a pig is probably due to the animal’s status among the Hittites as unclean (see e.g. *KUB* 13.4 iii 64ff in the Instructions for Temple Officials — a reference I owe to Billie Collins). This factor adds the final note of horror to the degradation of the sorceress.

(25) See H. G. GÜTERBOCK and H. A. HOFFNER, *The Hittite Dictionary of the Oriental Institute of the University of Chicago*, Vol. L-N, fasc. 3, 1986, p. 314 ff.

(26) “Greek *μυρία* ‘countless’, Hittite *mūri-* ‘bunch (of fruit)”, *Historische Sprachforschung* 109, 1996, pp. 199-214. See especially p. 206 ff. As per WEISS, following David Hawkins, *4-ta* is also a “rebus” writing for /*muwita-*/.

(27) If the intriguing proposal of A. GARRETT and L. KURKE, *Harvard Studies in Classical Philology* 96, 1994, 75 ff., regarding Luvian *wīpanim* “testicles” is correct, then the ritual passage they discuss there provides a corresponding curse aimed at a male malefactor’s sexual organs.

(28) In the published autograph by H. OTTEN, *Keilschrifttexte aus Boğazköy XII*, the traces before the break seem to suggest a double, or “broken” vertical as the first stroke, thus pointing to a sign like “ZA”, not “A”. Only collation could clarify this point.

**d(e)ukti-* *‘‘drawing, leading’’ < **deuk-* ‘‘draw, lead, pull’’, a root with a wide variety of specialized uses. The shorter Hittite form *tukzi-* (29) may reflect the same preform with regular assibilation of **t* before *i* (30). The productivity of the abstract suffix **-ti-* makes it hard to know whether the word really is a PIE inheritance or a parallel creation in the various languages. The modern German reflex of the corresponding verb *ziehen* also has the specialized sense of ‘‘raise, rear’’ (plants and animals). Whether the Hittite and German usage reflects a semantic specialization already made in PIE must likewise remain an open question.

The formal relationship of *tukzi-* to the longer *tukkanzi-* is unusual, but not unparalleled: in Cuneiform Luvian we find with apparently equivalent meaning both *šalhitti-* and *šalh(i)anti-* ‘‘growth’’ (or similar). I tentatively analyze this pattern as reflecting derivation of an adjective in **-ent-* from the original base (31), from which is then formed a secondary noun in **-i-* whose meaning is virtually equivalent to that of the primary action noun (32). Further discussion of this pattern must be postponed for another occasion. I content myself here with the observation that the formal relationship of *tukzi-* and *tukkanzi-* is consonant with the semantic interpretation I have proposed.

H. CRAIG MELCHERT (Chapel Hill)

(29) The shorter form *tukzi-*, though hapax, is not likely to be a mere error for the longer form *tukkanzi-*. The spelling of the latter in the Mašat Letters is consistently *du-kán-zi*, with *du* and more importantly a ‘‘simplified’’ spelling that does not indicate the geminate *-kk-*. The spelling *tu-uk-zi* in *HKM* 111 Vo 8 is therefore not easily explainable as an error for †*tu-uk-kán-zi* which is nowhere attested in Mašat.

(30) Based on other examples of this type of action noun, we would reconstruct for PIE an ablauting paradigm now termed ‘‘proterokinetic’’, with a ‘‘strong’’ stem **deúk-ti-* and ‘‘weak’’ stem **duk-tei-*. Interestingly, all attested reflexes seem to have generalized a stem **dúk-ti-*. The productive form of this action noun suffix in Hittite and Luvian is **-u-ti-* (see E. H. STURTEVANT, *A Comparative Grammar of the Hittite Language*, revised edition, 1948, p. 76 f. with references), but there are other examples of simple **-ti-*: *haššuwe-zzi-** ‘‘kingship’’ < *haššuwe-* ‘‘be king’’ (see C. WATKINS, *Transactions of the Philological Society*, 1971, p. 78).

(31) The base may have been either verbal or nominal: the form *-ant-* is the productive suffix for forming participles in Hittite (with traces elsewhere in Anatolian), and it forms denominative adjectives as well: e.g. *nadānt-* ‘‘having a drinking straw’’ < *nāda-* ‘‘reed, drinking straw’’. On the latter see N. Oettinger, *Münchener Studien zur Sprachwissenschaft* 40, 1981, p. 146 f.

(32) For the general process see H. C. MELCHERT, ‘‘Two Problems of Anatolian Nominal Derivation’’, in *Compositiones Indogermanicae in memoriam Jochem Schindler*, edd. H. C. LUSCHÜTSKY and H. EICHNER (to appear), with references. Alan Nussbaum also reminds me of the derivational chain exemplified by the type of Latin *absēns* → *absentia*, which may reflect an original pattern of participle in **-ent-* with derived abstract noun in **-ent-i-*, from which an adjective in **-enty-ó-* and finally a feminine abstract in **-enty-eh₂-*.