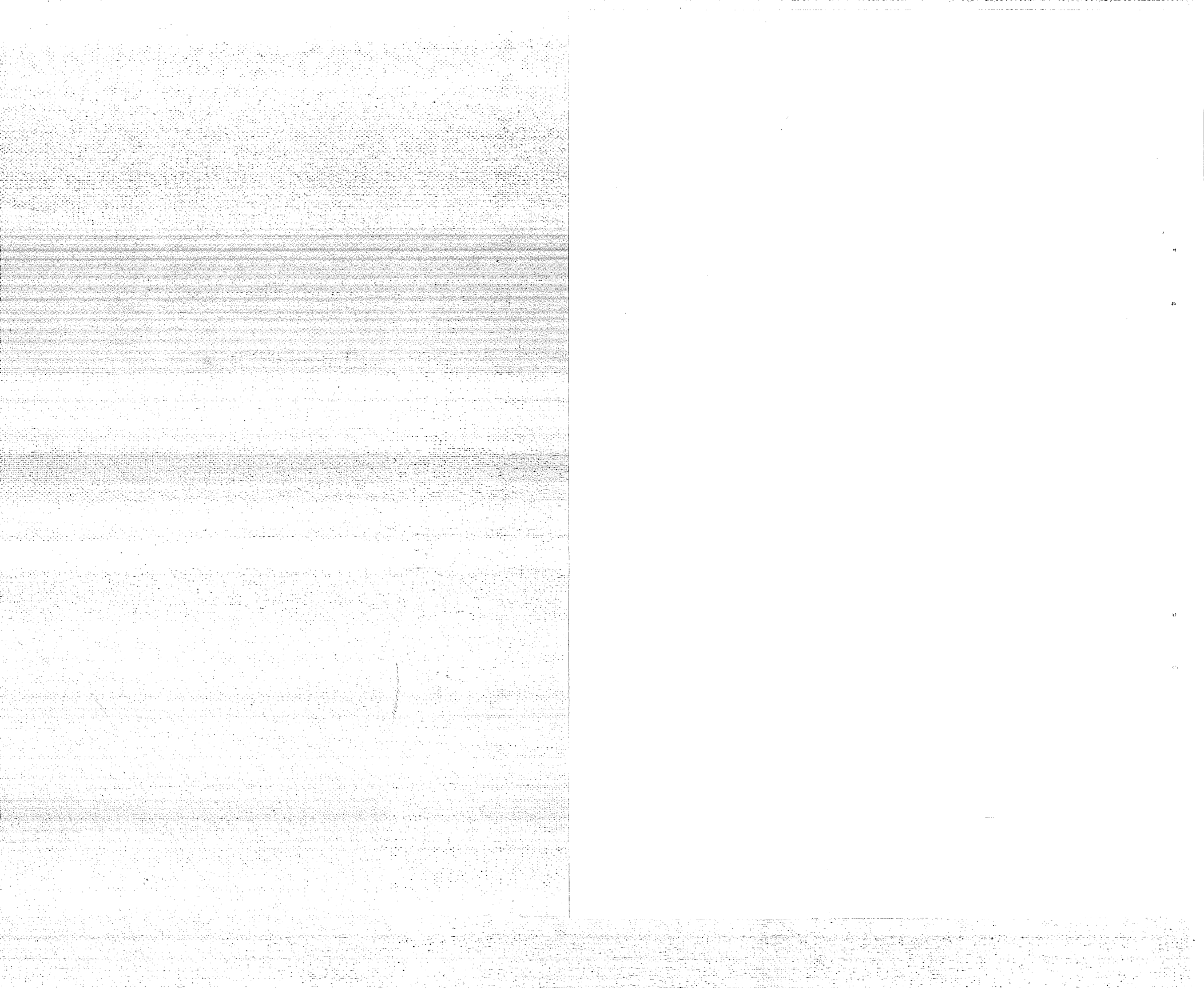


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Two problems of Anatolian nominal derivation

COMPOSITIONES INDOGERMANICAE
IN MEMORIAM JOCHEM SCHINDLER

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Two problems of Anatolian nominal derivation*

H. Craig MELCHERT

Much of what I know about Indo-European nominal derivation I owe to the teaching of Joki SCHINDLER. It therefore seems fitting that this be the topic of the following contribution dedicated to his memory. In the first instance an insight of Professor SCHINDLER himself serves as my point of departure.

1. SECONDARY SUBSTANTIVIZING *-i- TO THEMATIC STEMS

SCHINDLER (1980: 390) cites the use of a secondary suffix *-i- to form substantives from thematic stems, themselves usually but not exclusively adjectives: e.g., Grk. ἄκρις/ὄκρις, Lat. *ocris* 'peak, crag' beside Grk. ἄκρος 'pointed; supreme'. The observation is not original (cf. already BRUGMANN, 1906: 2/1.285 et aliter), but the productive use of this suffix in this particular function seems to have been underappreciated.

Schindler sees this suffix in the type of Hittite *dalugašti-* 'length', which he takes to be based on adjectives in *-osto- (cf. Lat. *angustus* 'narrow'), along with the corresponding Slavic class in *-osti-. See Vaillant (1974: 376f) for a similar analysis of the Slavic type.

Both the existence of secondary substantivizing *-i- and its application to the Hittite -ašti- type have either been ignored or rejected in previous discussions of Hittite/Anatolian noun formation. KRONASSER (1966: 227) notes a possible connection between the type of Hittite *ēdri-* 'food' and Greek ἄκρις, but sees *-ri- as a mere „alternate“ of *-ro-. NEUMANN (1958: 88ff), in what is the fullest discussion of the Hittite nouns in -ri-, attempts to justify a coherent PIE noun type in *-ri-, but with little success.

STURTEVANT (1933: 156) equates Hittite -ašti- with Slavic *-osti-, analyzed as „*-ti- with some prior element“. PEDERSEN (1938: 35) implies a Hittite-Slavic equation with no further specification, while STURTEVANT (1951: 76) merely repeats the Hittite-Slavic equation. KRONASSER (1956: 111f) assumes a unitary suffix *-osti-, but later (1966: 208) sees only *-sti- as common to Hittite and Slavic and doubts an exact match. Oettinger (1986a: 10, with note 37) upholds an analysis *-os-ti-, rightly rejecting the argument of Benveniste (1962: 89ff) that Anatolian shows no evidence for the underlying class of neuter abstracts in *-e/os-. Oettinger does not, however, offer any motivation for why a second abstract suffix *-ti- would be added to abstracts in *-e/os.¹

Under these circumstances a review of the full evidence for secondary substantivizing **-i-* in Anatolian seems called for. I begin with the Luvo-Hittite nouns in *-ašti-*: Hitt. *palḥašti-* 'breadth', *pargašti-* 'height', *dalugašti-* 'length'; CLuv. *lumpašti-* 'regret'. These nouns, all of which are animate in gender (contrary to some earlier claims), may and should be analyzed as per above as secondary to adjectives in **-osto-*. The latter are in turn secondary adjectives in **-to-* to neuter abstracts in **-elos-*. We have another example of the common process by which a derivational chain substantive → adjective → substantive is formed, where the second substantive competes functionally with the first and replaces it. We also know that such derivational chains break down over time, and we cannot exclude that at some stage in Anatolian or pre-Hittite a unitary suffix **-osti-* (or already **-asti-*) became productive. We thus need not assume underlying adjectives in **-osto-* (much less nouns in **-os-*) for every attested example.

We have one piece of direct evidence for adjectives in **-osto-* in Anatolian: Lydian *tešaštali-* and *šrfaštali-* 'right' and 'left' (or vice-versa). As per GUSMANI (1964: 206, 212), the attested examples of these words are clearly adjectives in context (or 'the right/left one'), not abstracts ('right/left [side]'), contra OETTINGER, 1986a: 34¹⁰⁷. The *-i-* of the Lydian neuter nominative-accusative singular ending *-id* in this case is the „mutation-*i*“ explicated by STARKE, 1990: 82ff, exceptionally extended to the neuter as part of the generalization of the pronominal ending *-d*.

We also have further indirect evidence for adjectives in **-to-* from neuter *s*-stems, in the form of secondarily substantivized examples, several interestingly in the same semantic sphere: Hitt. *ḥurp-uš-ta-* 'leaf; petal' (vs. CLuv. *ḥuwarp-anna-* of similar meaning); Hitt. *alkiš-tā-* 'branch' ← **alkiš-* in *ḥat-alkiš-* 'hawthorn' (see WATKINS, 1993, for the sense; MELCHERT, 1994: 150f, for the stem); CLuv. **gulluš-ta-* in *gulluštānnali-* (something from which things are cut) ← *gulluš-* (STARKE, 1990: 117); CLuv. **kunniliuš-ta-* in *D**Kunnuštalla-* and *kunništayalla/i-* '?'. There is thus no reason to doubt that Anatolian had available the adjectives in **-osto-* presumed above as the basis of nouns in **-ost-i-*.

An even more productive class of secondary nouns in **-i-* is comprised by those in *-ri-*. These are in origin secondary substantives in **-i-* to adjectives in **-ro-*. In at least one case we have indirect evidence for both the underlying adjective and derived noun: as per CARRUBA (1990), HLUvian **mi-za/i+ra/i-* and Lycian **mizre-* (in the personal names */Mizra-muwa-/* and *Mizretije-*) reflect directly the adjective **mis-ró-* 'shining, luminous' reconstructed by NEUMANN (1958: 88) as the base of the noun **mis-r-i-* 'splen-

dor' whose existence is required by the Hittite adjective *mišri-want-* 'shining, splendid' (with „possessive“ *-went-).

A second likely example of such a pair is Hitt. *āndara-* 'blue' (< **ḥdro-*, as per MACHEK, 1949: 131f) and ^(SfG)*āntari-* (animate) 'blue(ness); blue wool'. However, the fact that adjectives can become substantivized without suffixation and the very complex history of the „mutation-*i*“ in Luvian and Hittite leave some room for doubt.

Further assured examples of this type are the Hittite animate nouns ^(SfG)*kišri-* 'fleece', *lūri-* 'loss' and *mūri-* 'bunch' (< **m(V)uH-ro-* 'mighty, powerful' to *mūwa-* 'power, might', as per Michael WEISS, forthcoming). The synchronically neuter nouns *ēdri-* 'food' and *ēš(ša)ri-* 'image' (< *'essence' < **h₁es-* 'be', pace KRONASSER, NEUMANN, et al.) also belong here. Given their meaning, I would attribute the attested gender to backformation from or reinterpretation of collective plurals to originally animate stems: cf. for the process the famous example of Grk. ἄστρον 'star', backformed from coll. pl. ἄστρα to ἄστηρ. For collective plural to animate stems in Hittite see EICHNER (1985).

Further likely examples of animate stems include Hitt. ^(SfG)*ēš(ša)ri-* 'fleece' (prob. = *ēš(ša)ri-* 'image' < *'essence'), *paššari-* 'circle' (MELCHERT, 1983: 140), and *auri-* 'watchtower' (but the by-form *awari-* is problematic).² Hitt. *pūri-* 'lip' and CLuv. *tūrali-* 'spear, lance' also probably belong here, but are unprovable. Several of these cases may show a secondarily productive *-ri-*, and it cannot be excluded that such productivity was encouraged by the presence of Hurrian loanwords in *-ri*, as suggested by NEUMANN, 1958: 89.

Both Luvian and Hittite show a variety of further secondary substantives in *-*i-*. SCHINDLER (1978) already noted Hitt. *šalpi-* 'dog-dung' < **sal-bho-* 'dirty gray' (beside the directly substantivized adjective *šalpa-* with the same sense). We may add Hitt. *šakti-* 'sick-maintenance' < **sókto-* 'illness' (after WATKINS, 1974); Hitt. *dannatti-* 'desolation, emptiness' ← *dannatta-* 'empty, desolate' (see further below for the base adjective); and CLuv. *ānnari-* 'force' (noun!) ← *ānnarali-* 'forceful'. I also propose that Luvo-Hittite *tawani-* 'stem, stalk' is such a substantive from *tawana-* 'upright, straight; honest / moral'. Given the concrete sense of the derived noun, the adjective should probably be analyzed as a virtual *(s)*tólāwelono-* *'standing upright' < **steh₂-* (contra PUHVEL, 1989: 360f, who does not recognize the connection of adjective and noun).³

Finally, in view of the just demonstrated existence of secondary substantivizing **-i-* in Anatolian, I would also include here two other minor productive classes of Hittite. ČOP (1966-68: 44f) already correctly analyzed „instrumental“ and result nouns in *-ulli-* as **-u+d^hlo+i-*: e.g. ^{SiG}*huttulli-* ‘tuft of wool’ ← *hu(e)tt-* ‘pull’, *ištappulli-* ‘lid, cover’ ← *ištapp-* ‘close, stop up’, *kaliliulli-* ‘binding’ ← *kaliliye-* ‘bind’. For the connective *-u-* so favored in Hittite compare *-uzzi-* as the productive form of primary **-ti-*. For the synchronic neuter gender see the remarks above on *ēdri-* ‘food’ and *ēšri-* ‘image’.⁴ The certain existence of *-ulli-* argues that we should read and analyze likewise a smaller set of „instrumental“ and result nouns in *-utri-* < **-u+t/d^hro+i-*: *waššutri-* ‘clothing/garment’ (KUB XI 13 v 12), ^{KUS}*happutri-* (part of harness ← *happ-* ‘fit together’), surely also ^{GIŠ}*tittutri-* ‘?’.⁵

ČOP, writing thirty years ago, understandably did not feel the need to motivate the *i*-stem inflection, attributing it to the widely acknowledged „rampant productivity“ of *i*-stems in Hittite and Luvian. The demonstration of „*i*-mutation“ by STARKE (1990: 62ff and passim) has now drastically changed the picture, and we should no longer be prepared to accept unmotivated *i*-stem inflection as a matter of course.

BRUGMANN (1906: 2/1.339ff) already suggested that the apparently primary suffixes **-tlo-* and **-tro-* (and by implication the variants **-d^hlo-* and **-d^hro-*) originated as thematic adjectives to agentive **-tel* and **-ter*. It therefore does not seem unreasonable to suggest that the origin of Hittite nouns in *-ulli-* lies in secondary substantives in **-i-* to such adjectives in **-d^hlo-*.⁶ It is true that this account would imply that Anatolian inherited **-tl(-)o-* and **-tr(-)o-* in a very archaic guise, but I emphasize again that only the beginnings of the formation need be old. Many of the attested examples surely reflect a very late productive unitary deverbal *-ulli-*. It is also worth noting that Anatolian shows very few examples for substantival **-t/d^hlo-* and **-t/d^hro-* (see MELCHERT, 1993a).

Whether or not the above analysis of *-ulli-* and *-utri-* proves valid, the other examples cited demonstrate that a secondary suffix **-i-* is well attested in Hittite and Luvian in the function of forming substantives from thematic stems. This evidence should be taken into account in further exploration of this phenomenon in Indo-European.

2. SECONDARY DENOMINATIVE **-to-* TO THEMATIC STEMS

One of the most characteristic and surprising features of Anatolian in terms of nominal derivation is the near-total absence of the primary suffix **-to-* which productively forms verbal adjectives in other ancient In-

do-European languages: see OETTINGER, 1986a: 23, for the few possible indirect examples.⁷

In view of this situation, it is all the more significant that Anatolian shows substantial evidence for secondary denominative **-to-*. Examples based on neuter *s*-stems have been cited above (see already OETTINGER, 1986a: 23). I will focus in what follows on derivatives from thematic stems, whose existence in Anatolian has been recognized, but whose extent has not been fully appreciated. Two preliminary remarks are in order.

First, differing accentual patterns and a Proto-Anatolian sound change lead to two attested types. In cases where the accent fell on the **-tó-* or on the final syllable of the base, the result was PA **-o-tó-* or **-ó-to-*, where the voiceless stop was maintained.⁸ When the accent fell on an earlier syllable, PA **-o-to-* underwent „lenition“ to **-ʻo-do-* (MELCHERT, 1994: 60f, following EICHNER and MORPURGO DAVIES). For the varying position of the accent see BRUGMANN, 1906: 404f.

A second problem which I must emphasize is the difficulty of distinguishing animate nouns in **-to-* from those in **-t-* and those in **-ti-* in Luvian. As per STARKE, 1990: 59ff, the obligatory addition of the „mutation-*i*“ to the nominative and accusative of animate stems (with deletion of a final thematic vowel of the stem) means that animate stems in **-t(i)-* and in **-tø(i)-* become synchronically indistinguishable. As demonstrated by RIEKEN, 1994: 47, it is also clear that original nouns in **-ti-* with *-i-* throughout the paradigm lost the *-i-* outside the nominative-accusative by back-analogy to the „*i*-mutation“ type and hence also became indistinguishable from the latter. The three types remain distinct only in the nominative-accusative singular neuter: *-ttan=za*, *-za* (< **-t-sa*), and *-tti=ša*. Obviously, this fact is of no help in the case of animate nouns. In the face of this massive ambiguity, I have restricted the following discussion only to examples whose status as secondary derivatives seems assured, since secondary use of **-t-* or **-ti-* in the attested function seems far less likely. Even so, the Luvian evidence cited should be viewed with the above caveat in mind, and I do not view the assignment of all individual examples as assured.

We have at least one direct example of such a secondary adjective in (unlenited) **-o-to-*: Luvo-Hittite *dannatta-* ‘empty, desolate’ (in Luvian with „*i*-mutation“), best derived with WEEKS (1985: 195) from a virtual **d^hnno-to-* (cf. the references in TISCHLER, 1991: 98). The large number of examples of the stem *dannatta-* makes very implausible the attempt of TISCHLER (1991: 100) to explain this stem as resulting by „nasal reduction“

from the rarer *dannant-*, which is a separate and independent derivative of **dhnno-*.

More plentiful are secondarily substantivized examples. The most coherent class consists of Luvian abstracts, which are unsurprisingly neuter, a group recognized by STARKE (1987: 251f): *ḥappinata-* 'wealth' ← **ḥap-pen-*; *ḥuipa(ya)tta-* 'wickedness' < **ḥuipa(ya)-* 'wicked'; *pihatta-* 'splendor' ← **piḥa-* 'luminosity'; *šarlātta-* ← **sarlati-* 'exalted' (= attested HLuv. SUPER-*lati-*). We may also add here *irhatta-* 'circle' < *irḥa-* 'boundary, edge'. Note that here a nominative-accusative such as *šarlattan=za* assures that the suffix is **(o)-to-*. The stem *nātatta-* 'reed', attested only once in the nom.-acc. plural *nātatta*, could be neuter and belong here (so STARKE, 1987: 251³³, and 1990: 138⁴²⁰, 418) or represent the collective plural of an animate stem as in the next paragraph.⁹

Names of persons and some concrete objects are animate gender (hence with „*i*-mutation“): CLuv. *ḥuppartali-* 'pelvis' ← *ḥuppar-* 'bowl' (also in *ḥupparatiyatali-* 'id.' below), *ḥardu wattali-* 'descendant' ← *ḥarduwa-* 'id.', HLuv. *hu-ha-tali-* 'ancestor' ← *hu-hali-* 'grandfather' (also in CLuv. *ḥuḥ-ḥat(t)allali-* 'ancestral'), CLuv. *wanattali-* 'woman' ← *wāna-* 'id.'.

STARKE (1980: 76f, 1987: 251f, and 1990: 64), citing only the examples referring to persons, assumes a secondary suffix **-ti-* instead, which OETTINGER (1986a: 10) compares to Ved. *yuvatī-* 'young woman'. As per above, this derivation is equally possible in formal terms. A choice between the two alternatives depends in part on whether *yuvatī-* represents an actual „type“ in **-ti-* (see on this point WACKERNAGEL-DEBRUNNER, 1954: 639f). The example of 'pelvis' makes more likely an inner-Anatolian connection with other secondary stems in **-o-to-*. Those stems with grammatically animate gender inevitably took on the „mutation-*i*“ established by STARKE.

For the „lenited“ type in **-odo-* we have again one directly attested secondary adjective: CLuv. *pūnatali-* 'all' ← *pūna-* 'mass' (or similar; for the correct sense see STARKE, 1990: 303 with note 1034).

Once more there is rather more evidence for substantives: CLuv. *ḥandawatali-* 'supreme authority, king'¹⁰ ← **ḥandawa-* 'foremost, supreme'; *ḥūp(pa)rattiyatali-* 'pelvis' ← **ḥūpparattiya-* 'of / pertaining to a pelvis' ← *ḥuppartali-* 'pelvis' (note again the noun-adjective-noun chain); *ipālatali-* 'sinisterness' ← *ipālali-* 'left-hand'; ^{MI}*duttar(r)iyatali-* 'daughter' (perhaps attested as personal name) ← **du(wa)ttariya-* 'of a daughter' ← **du(wa)ttar-* 'daughter' (revising STARKE, 1987: 252ff).

Hittite shows two examples of this class: NINDA^a *wagata-* (animate!) 'snack-bread, roll' < *waga-* 'a bite'. The assured gender and stem of this example also argue compellingly that *kušata-* 'bride-price' (collective plurale tantum) < *kuša-* 'bride' is to be interpreted in the same fashion, not (!) as an abstract †*kušatar* with loss of final -r.

Finally, I believe that secondary lenited *-*odo-* < *-*oto-* is also the ultimate source of the very problematic Lycian formant -*ada*, which appears to function in some cases as the collective plural to *n*-stems. We find the collective plural *mrbbanada* beside the stem *mrbbēlān-* seen in the ablative-instrumental *mrbbēnedi* (sense unclear). As per INNOCENTE, 1987/88: 11f, and MELCHERT, 1992: 35, the form *hrīm̄mada* seems to be the plural of the *n*-stem *hrīm̄mān-* 'temenos'. We may also add **punamada*, required by the further derivatives *punamaḍḍali-* and *punemedezeli-*, standing in the same relationship to the *n*-stem *punāman-* 'totality' identified by STARKE, 1990: 299.

A clue to the source of the „ending“ -*ada* is provided by Hitt. *šimmanata-* 'form, shape' (collective plurale tantum). The latter may be derived from an *n*-stem **sēm̄n*, (i.e. **séh₁-m̄n*), which may be at least formally equated with Lyc. *hēmen-* (see HAJNAL, 1995: 33). I suggest that a unitary suffix *-*odo-* resegmented from the *-*o-do-* described above was used to form secondary derivatives from *n*-stems, resulting in Hitt. *šimmanata-* and Lycian *mrbban-ada*.

The shorter forms *hrīm̄mada* and **punāmada* are due to a well attested confusion in Lycian between neuter *o*-stems and *n*-stems. By regular developments both types had a nom.-acc. plural in -*a*: *ara* 'what is proper' < **álóreh₂* (= Hitt. *āra*) to **álóro-* and *adāma* 'names' < *-*mneh₂* to *adāman-*.¹¹ The result was influence in both directions: hence attested singular *arā* (for expected **alerē* < **álórom*), but conversely *zuīm̄mē* 'harm' (or sim.) (implying a stem *zuīm̄me-*) beside expected *zuīm̄mā* (for the *n*-stem *zuīm̄mālēn-* see the verb *zuīm̄mēñneti*). Likewise, then, both *hrīm̄mān-* and **punāman-* could have had alternate stems **hrīm̄me-* and **punāme-*, whence *hrīm̄mada* and **punāmada*.

The reason for the apparent specialization of the extended stem in *-*odo-* to the collective plural in Lycian is quite unclear. It is worth stressing, however, that such a specialization may be illusory, due to the very restricted nature of our evidence. We cannot, strictly speaking, be certain that *hrīm̄mada* is the synchronic plural to the stem *hrīm̄mān-*; i.e., that the relationship is paradigmatic. Indeed, the fact that **punāmada* serves as the base for further derivatives (*punamaḍḍali-* and *punemedezeli-*) tends to argue against

the idea that the former is merely the paradigmatic plural of *punāman-*. Formation of secondary derivatives from an inflected form instead of the stem would be peculiar. Perhaps, then, Lycian collectives in *-ada* represent fully independent derived stems in **-ede-*, corresponding to Hitt. *wagata-*. Any difference in meaning versus the base *n*-stems escapes us. In any case, the independent evidence for **-o(-)do-* in Anatolian makes it a likely ultimate source for the Lycian type.

NOTES

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¹ As for **-osto-*, OETTINGER sees only a possible secondary role in terms of „backformations“, a view he wrongly ascribes to VAILLANT.

² CLuv. *ašriwant(i)-* ‘feminine’ (or sim.) also presupposes a noun **ašri-* ‘womanhood, femininity’ ← **asr-* ‘woman’. Contra STARKE, 1987: 254 and 1990: 170, and OETTINGER, 1986b: 124, the word for ‘woman’ itself is not an *i*-stem, as shown by *ašrul(i)-* ‘female’ and other derivatives, and cannot be the base of *ašriwant(i)-*. The alleged *i/ya*-stems of Luvian do not exist: see CARRUBA, 1982, and MELCHERT, 1990.

³ I would agree with PUHVEL that *tawana-* is also the first member of the title of the Hittite queen *tawananna-* and that the word is of Indo-European heritage. However, since the holder of this title is often the ‘queen-mother’ (mother of the reigning king), a widespread ancient Near Eastern institution, we should probably analyze the whole as a determinative compound with *anna-* ‘mother’ instead of a derivative with a suffix matching Latin *-ōna*.

⁴ The example ^{SfG}*hu-ut-tul-liš* (KBo XVIII 193 Ro 9) is not evidence for animate gender, since the last sign may also be read as *li₁₂* in Hittite: see correctly PUHVEL, 1991: 351.

⁵ Since the cuneiform sign RI can also be read as TAL, and since none of these nouns is yet attested in a case other than the nominative-accusative singular, a reading *waššuttal-* etc. cannot strictly be excluded. However, the parallel with *-u-lli-* argues for reading *-u-tri-*, and to my knowledge this is the universally accepted reading.

⁶ Or **-tlo-*. In MELCHERT (1994: 160) I denied the possibility that **-VtlV-* also might assimilate to Luvo-Hittite *-VllV-*. However, my relevant rule (1993a: 110; 1994: 87f) affecting final sequences of **-Cl/rom/s* would have produced paradigmatic allomorphy **-ttal#* beside **-tlV-*. As I now realize, nothing precludes that the latter sequence underwent assimilation to **-llV-*, which was then leveled out in the

few nouns in *-ttal* based on the nom.-acc. singular. In nouns in *-ulli-*, which would have had no forms in *-ttal*, the assimilated form naturally would have prevailed. Likewise, Hitt. *pulla-*, if it means 'child, son', could represent **putlo-* (HOFFMANN, 1992: 292) with generalization of the assimilated allomorph, pace MELCHERT, 1994: 160.

7. The **-to-* which forms substantives („νόστος-type“) is equally rare. Besides Hitt. **sākta-* 'illness' < **sókto-* (sic!) and Pal. *tārta-* 'curse' cited by OETTINGER, compare possibly Luvo-Hittite *ašta-* 'spell, charm' (= Lat. *astus* 'wile, cunning', as per NEUMANN apud TISCHLER, 1977: 86).

8. In principle, the lengthening of accented **ó* in Hittite and Luvian (see MELCHERT, 1994: 146f, with references) should allow us to distinguish these two cases. However, the very optional status of „scriptio plena“ in closed syllables makes actual determination of the vowel length and hence accent quite difficult.

9. As support for a neuter, STARKE correctly cites HLuv. (SOLIUM) *i-s(a)-tarali-ta- li:star-ta-l* 'throne', which definitely is a secondary neuter noun in **-to-* from a virtual „instrumental“ noun **h₁ēs-tro-*.

10. Contra MELCHERT (1993b: 52) this word cannot be directly equated to Lycian *xñtawat(i)-* 'ruler'. The difference between unlenited *-t-* in the latter and the lenited single *-t-* (= */-d-/*) in the former must not be ignored. We also cannot tell whether the Luvian word is an abstract or refers to a person.

11. Lycian here shows the innovative plural in **-mneh₂* (cf. OH *šarāmma* to *šarāman-*), not the original **-mō* (preserved in OH *šarāma*). See GERTZ, 1982: 28f & 298f, for the latter type.

REFERENCES

- BENVENISTE Émile (1962): Hittite et indo-européen. Paris: Maisonneuve.
- BRUGMANN Karl (1906): Grundriss der vergleichenden Grammatik der indogermanischen Sprachen.² Strassburg: Trübner.
- CARRUBA Onofrio (1982): 'Beiträge zum Luwischen', in: Serta Indogermanica. Festschrift für Günter Neumann, ed. J. Tischler, 35-51. Innsbruck.
- CARRUBA Onofrio (1990): 'The Name of The Scribe', JCS 42.243-251.
- ČOP Bojan (1966-68): 'Zur hethitischen Lautung und Schreibung', Linguistica 8.43-61.
- EICHNER Heiner (1985): 'Das Problem des Ansatzes eines urindogermanischen Numerus „Kollektiv“ („Komprehensiv“)', in: Grammatische Kategorien: Akten der VII. Fachtagung der Indogermanischen Gesellschaft, Berlin, 20. - 25. Februar 1983, ed. B. Schlerath, 134-169. Wiesbaden: Reichert.
- GERTZ Janet (1982): The Nominative-Accusative Neuter Plural in Anatolian. Yale University Ph.D. Dissertation. New Haven.
- GUSMANI Roberto (1964): Lydisches Wörterbuch. Heidelberg: Winter.
- HAJNAL Ivo (1995): Der lykische Vokalismus. Habilitationsschrift. Zürich.

- HOFFMANN Inge (1992): 'Das hethitische Wort für „Sohn“', in: Hittite and Other Anatolian and Near Eastern Studies in Honour of Sedat Alp, ed. H. Otten et al., 289-293. Ankara: Türk Tarih Kurumu Basımevi.
- KRONASSER Heinz (1956): Vergleichende Laut- und Formenlehre des Hethitischen. Heidelberg: Winter.
- KRONASSER Heinz (1966): Etymologie der hethitischen Sprache. Heidelberg: Winter.
- INNOCENTE Lucia (1987-1988): 'Licio *hr̥ma(d)* e lidio *syрма*', *Incontri Linguistici* 12.111-122.
- MACHEK Václav (1949): 'Hittito-Slavica', in: *Symbolae ad Studia Orientis Pertinantes Frederico Hrozný Dedicatae*, ed. V. Čihař et al., 2.131-141. Praha.
- MELCHERT Craig (1983): 'Pudenda Hethitica', *JCS* 35.137-145.
- MELCHERT Craig (1990): 'Adjective Stems in *-iyo- in Anatolian', *HS* 103.198-207.
- MELCHERT Craig (1992): 'The third person present in Lydian', *IF* 97.31-54.
- MELCHERT Craig (1993a): 'A New Anatolian „Law of Finals“', *JAC* (Changchun) 8.105-113.
- MELCHERT Craig (1993b): *Cuneiform Luvian Lexicon*. Self-published: Chapel Hill.
- MELCHERT Craig (1994): *Anatolian Historical Phonology*. Amsterdam: Rodopi.
- NEUMANN Günter (1958): 'Hethitische Etymologien I', *KZ* 75.87-90.
- OETTINGER Norbert (1986a): 'Indo-Hittite' Hypothese und Wortbildung. Innsbruck.
- OETTINGER Norbert (1986b): 'Avestisch *hāirišt-* „Frau“ syn- und diachron', *IF* 91.116-128.
- PEDERSEN Holger (1938): *Hittitisch und die anderen indoeuropäischen Sprachen*. Copenhagen: Munksgaard.
- PUHVEL Jaan (1989): 'Hittite Regal Titles: Hattic or Indo-European?' *JIES* 17.351-361.
- PUHVEL Jaan (1991): *Hittite Etymological Dictionary, Volume 3*. Berlin – New York: Mouton de Gruyter.
- RIEKEN Elisabeth (1994): 'Der Wechsel -a-/i- in der Stammbildung des hethitischen Nomens', *HS* 107.42-53.
- SCHINDLER Jochem (1978): 'Hittite *šalpa-*', *Sprache* 24.45.
- SCHINDLER Jochem (1980): 'Zur Herkunft der altindischen *cvi*-Bildungen', in: *Lautgeschichte und Etymologie: Akten der VI. Fachtagung der Indogermanischen Gesellschaft, Wien, 24. - 29. September 1978*, ed. M. Mayrhofer, 386-393. Wiesbaden: Reichert.
- STARKE Frank (1980): 'Das luwische Wort für „Frau“', *KZ* 94.74-86.
- STARKE Frank (1987): 'Die Vertretungen von uridg. **d^hugh₂tér-* „Tochter“ in den luwischen Sprachen und ihre Stammbildung', *KZ* 100.243-269.
- STARKE Frank (1990): *Untersuchung zur Stammbildung des keilschrift-luwischen Nomens*. Wiesbaden: Harrassowitz.
- STURTEVANT E. H. (1933)¹: *A Comparative Grammar of the Hittite Language*. Philadelphia: LSA.
- STURTEVANT E. H. (1951)²: *A Comparative Grammar of the Hittite Language*. New Haven: Yale Univ. Press.
- TISCHLER Johann (1977): *Hethitisches Etymologisches Glossar, Lfg. 1*. Innsbruck.

- TISCHLER Johann (1991): *Hethitisches Etymologisches Glossar*, Lfg. 8. Innsbruck.
- VAILLANT André (1974): *Grammaire comparée des langues slaves*. Lyon: IAC.
- WACKERNAGEL Jakob – DEBRUNNER Albert (1954): *Altindische Grammatik*. II.2. Die Nominalsuffixe. Göttingen: Vandenhoeck & Ruprecht.
- WATKINS Calvert (1974): Review of J. Grothus, *Die Rechtsordnung der Hethiter*. *Kratylos* 19.63-71.
- WATKINS Calvert (1993): 'Another thorny problem', in: Bojan Čop *Septuagenario in Honorem Oblata*, 243-248 (= *Linguistica* 33). Ljubljana.
- WEEKS David (1985): *Hittite Vocabulary: An Anatolian Appendix to Buck's 'Dictionary of Selected Synonyms in the Principal Indo-European Languages'*. UCLA PhD Dissertation. Los Angeles.

