

## THEMATIC NOMINA INSTRUMENTI IN DENTAL + LIQUID

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Indo-European formed nomina instrumenti (neuter) in *\*-tlo-*, *\*-tro-*, *\*-dhlo-*, and *\*-dhro-*; Latin shows these clearly. The last two resulted from the first two under conditions of Bartholomae's Law; the precise requirement for viability of these two is specified. Greek attests the last three, but *\*-dhlo-* is very rare. While *\*-tlo-* fails to appear where we might expect it, it is shown that this suffix was available at an early date: In the presence of a preceding aspirate *\*-tlo-* was preferred over *\*-dhlo-*. This result, with an impoverishment of the lateral variants in Greek, emerged from preferential suffix selection and not from phonetic dissimilation, which would have run counter to Grassmann's Law and phonotactic output preference.

The *Reverse Index* of Buck and Petersen (1945) recognizes (356) that Indo-European had a suffix *\*-tlo-* beside *\*-tro-* and *\*-dhlo-*, and to that suffix attributes ἄντλος 'bilge water, ship's hold' and τύντλος 'mud'. The latter has been compared to Lith. *tvinti* 'rise (of water)'; the Lithuanian has the appearance of being a *sej* base because of its acute accent, and this makes the account of this unusual IE sequence of *\*tun-* all the more problematic. I am therefore not sure that in τύντλος we see a clear IE ancestry. Though the suffix would offer problems, it is also possible that in τύντλος we have a reflex of IE *\*d<sub>h</sub>* through Prehellenic.

However, ἄντλος provides a separate set of considerations which have not been adequately considered in the handbooks. Frisk *GEW* 1.114 gives an informative review of the relevant views. First, the Indo-European comparison is not entirely clarified. Frisk compares Lith. 1sg. *semiù*, which has a 3sg. *sēmia*, but the infinitive *sēmti* would point to a *sej* base. We must therefore assume a secondary Baltic lengthening (which is not a solution without attendant problems). However, Latin *sentīna* (equated, however, by the *OLD* only with the qualification "perhaps"), if *\*s(e)m-t-īn-ā*, assures us of an anit base. But the complexities do not stop here. If we assume, with Chantraine, psilosis (whether an Ionic maritime term or not) there is then the thesis favoured by Frisk of aspirate dissimilation < *\*ǎm-θλο-ς*. Regardless of the merits of that formulation, and of the argument taken up below regarding a dissimilation *\*h — th > h — t* in such forms, an assumption of this original form eliminates our word from the evidential role sought by Buck and Petersen. We must also motivate the change in gender from a neuter to a masculine. I suggest that the earlier locutions looked superficially like ἄντλον εἶργειν (< Epic ἔεργω, ἔεργνῦμι, Cypr. aor. κατ-έφοργον), on which ἄντλον δέχεσθαι was patterned, but referred exclusively to the part or mechanism of the ship which fulfilled the function of draining or drawing off the water. Then the draining mechanism or structure of the ship was taken to refer to the entire content of the hold, and finally to

the water that filled it. Since ἄντρον occurred in the accusative in these expressions, and perhaps in the oblique cases but not in the plural, the old neuter was lexicalized as a masculine. There still remains, however, the difficulty that α is unexpected before the preveved nasal.

In view of the fact that τεῦτρον/σεῦτρον is of uncertain source and analysis, we see that we have now lost the evidence for \*-tlo- that Buck and Petersen intended to offer as secure. In fact, we find on inspecting the full reverse list that there is not a single form in -τρο- nor in -τρη that is exempt from the class which we are about to discuss and that unequivocally reflects IE \*-tlo-. Yet there can be no doubt that IE had a formation in \*-tlo-m: Latin *pōculum* 'cup', OLat. *pōcolom* = Skt. *pātra-m* < IE \**pō-tlo-m* = *peḡ-tl-o-m* \*'instrument of drinking'; Lat. *vehiculum* 'cart, carriage' = Skt. *vahitra-m* 'boat' < IE \**ueǵhātlo-m* = *ueǵh-H-tl-o-m* \*'instrument for conveying'; Lat. *lucrum* 'gain' < \**luklom* < \**lu-tlo-m* \*'instrument for paying' (*luō*; cf. λύ-τρον 'ransom'); Lat. *sepulcrum* 'grave' < \**sepolkrom* < \**sepelkrom* < \**sepel-tlo-m* \*'instrument for burying'; and with \*-tlā (perhaps an old collective): Old Saxon *nāthla*, Anglian *nēðl*, Gothic *nēþla* < Gmc. \**nēþlo* < IE \**nē-tlā*; OHG *nād(a)la* (> Germ. *Nadel* f.), OEng. *nādl* (> Eng. *needle*) < Gmc. \**nēdlō* < IE \**nē-tlā*, the oldest recoverable form being \**neʔ-tl-eH<sub>2</sub>*, perhaps \**neʔ-tl-eh*, \*'instrument for working thread'.

Now we know that the original IE incidence of the complete set of such formations for nomina instrumenti, reckoned from our full available evidence, is as the following schematic table, adapted to the valuable (yet incompletely transparent and not fully undisturbed) Greek evidence, summarizes.

* <i>pek<sup>w</sup>-tlo-</i>	→ <i>pek<sup>w</sup>tlo-</i>	: πεπτός
* <i>dek<sup>w</sup>-tlo-</i>	<i>dektlo-</i>	δέκομαι, δεκτήρ
* <i>teg<sup>w</sup>-tlo-</i>	<i>tektlo-</i>	τέγος, στέγω, στεκτικός
* <i>bheg<sup>w</sup>-tlo-</i>	<i>bhek<sup>w</sup>tlo-</i>	φέβομαι
* <i>bheH<sub>2</sub>g<sup>w</sup>-tlo-</i>	<i>bheH<sub>2</sub>ktlo-</i>	φάγω, φάγανον, φακτός
or * <i>bheḡ<sup>w</sup>g-</i>		
* <i>dheg<sup>w</sup>h-tlo-</i>	<i>dheg<sup>w</sup>dhlo-</i>	τέφρα(, θέπτανος)
* <i>dhrebh-tlo-</i>	<i>dhrebdhlo-</i>	τρέφω(, θρεπέος, θρεπτήρ)
* <i>g<sup>w</sup>endh-tlo-</i>	<i>g<sup>w</sup>end<sup>z</sup>dhlo-</i>	βαθύς, βένθος, βαστάζω

We see that the suffix was originally \*-tlo- and that \*-dhlo- resulted automatically from the phonetic cluster consonant accomodation which is known as Bartholomae's Law. In the above combinations either \*-tlo- remained, presumably in roughly a majority of instances, or \*-dhlo- resulted from Bartholomae's Law.

When \*-dhlo- resulted in this fashion it was not likely to be extracted in a form such as \**g<sup>w</sup>end<sup>z</sup>dhlo-* since that would leave behind a shape such as \**g<sup>w</sup>end<sup>z</sup>*, which then violated the IE morpheme structure rule that blocked roots both beginning and ending in a media. The same would apply to a root such as that of γράφω < \**grbh-*, quite

1. Walde-Hofmann *LEW*<sub>3</sub> s.v. have no need to cite specially the Latin forms in *pōt-* as if they somehow supported the suffix of *pōculum*; this displays a regrettable inattention to the productive rules of IE word formation.

apart from the rarity of the simple segment *\*b*, which would have produced perhaps *\*gerbdhlo-*.

The one completely acceptable sequence above when deprived of the suffix shape *\*-dhlo-* was the type of *\*dheg<sup>w</sup>h-tlo-* → *dheg<sup>w</sup>dhlo*<sup>2</sup>. It must have been from such formations that the alternant *\*-dhlo-* was first extracted. We see that *\*-dhlo-* (and *\*-dhro-*) then had a very successful career in IE.

Only somewhat less acceptable was the extracted *\*dhreb-* of *\*dhrebdhlo-* with its *\*b*, yet such shapes seem to have been viable particularly after independent instances of *\*b* had made their way into the language. It is not surprising that we seem to find the clearest evidence of this in Germanic, the dialect with perhaps the largest accumulation of IE *\*b*: Note the etyma of Eng. *apple, deep, sleep, thorp, lip, slip, help, wipe, weep*, etc. We appear even to have an instance of such innovative root extraction which has not up to now been recognized for its true origin; again, we are not surprised to come upon this proposed instance in Germanic: The etymon of Eng. *grab* finds good support in Skt. *grabh-*; an IE *\*ghrēbh-* attests a participial verbal adjective in Avestan *gərəpta-* < *\*ghrbdhó-*. It is furthermore notable that the Germanic cognates of *grab* < *\*ghrobh-* show a dearth of other ablaut states of the root, making it appear as if a range of potential IE formations had dropped out and was missing from our attestation. Yet with nearly the same meaning as *grab* we find the etymon - family of Eng. *gripe* = German *greifen*, Eng. *grip* = Germ. *Griff* < *\*gr(e)ip-* < *\*ghreib-*. I propose that apparent *\*ghreib-* was a revocalised or conflated continuation of *\*ghreb-* extracted from *\*ghrebdhlo-*, *\*ghrbdhó-*, etc. ← *\*ghrebh-tlo-*, *\*ghrbh-tó-*, etc., thus furnishing the missing distribution.

Let us now leave *\*-tlo-* for the moment, and review the Greek attestation of the other, related nomina instrumenti. Formations in *\*-tro-* are abundant, and there are many good examples which are clear in their formation: *θεᾶτρον, λοετρόν, φέρ(ε)τρον* (Latin *feretrum*), *βλήτρον, δαιτρόν, βάκτρον, μάκτρον, λέκτρον* 'couch' (*λεχ-*), *πλέκτρα, θέλακτρον, κέντρον, ἀροτρον, θρέπτρα*, 'filial duty' (*τρέφω*), *νίπτρον, δέρτρον, κέστρα, κλειστόν, κλοῖστον* ~ *-ῶ-*, *ξυστρον, ζῶστον, λύτρον, χύτρος* ~ *-ᾶ*, *σῶτρον*. We may add to these as mostly old collectives<sup>3</sup> about 65 nouns in *-τρα*, of which we simply cite *φαρέτρα, καλύπτρα, χύτρα, ψήκτρα* (:ψήχω), *μάκτρα* (:μάσσω), *πίστρα* 'drinking trough' (:πίνω), *βύστρα* 'plug' (:βύω).

We may also cite *ρήτρα* 'compact', but it should be noted that abstracts are rare. It is easy to parallel these IE types again from Latin: *rāstrum* 'rake' (: *rādō* 'scrape'), *rōstrum* 'beak' (: *rōdō* 'gnaw'), *mulctra* 'milk pail'; we find a masculine in *culter* 'knife'. In sum, the evidence for *\*-tro-* is particularly clear.

The evidence for *\*-dhro-* is less abundant, but unmistakable: *ἄρθρον* 'joint' (:ἀραρίσκω), *βάθρον* 'base' (:βαίνω), *λύθρον* 'filth'; then with full-grade vocalism:

2. Of course, a sequence from a root beginning with a non-plosive was also acceptable when its *\*-dhlo-* was removed: *\*leg<sup>w</sup>h-tlo-* → *legdhlo-* (:λέκτρον), *\*segh-tlo-* → *segdhlo-* (:ἐχέτλη < *\*ἐχέτλη* < *\*ἐχέθλη*). We must remember too that Bartholomae's Law practically ceased to operate in Greek, thereby removing forms from the application of Grassmann's Law (*θέπτανος, θρεπτέος*).
3. A source which Buck and Petersen do not mention, and which applies equally to other formations such as *δρεπάνη* ~ *δρέπανον*.

ῥέεθρον ῥεῖθρον 'stream', τέρεθρον 'end of a sail-yard', κρεμάθρα 'rope from a hook, basket for hanging', μέλαθρον 'ridge pole', πέλεθρον (Hom. +), βέρεθρον (Hom. +) βάραθρον, δέρεθρον (Hesych.) (:βιβρώσκω); and as a productive derivation process from nouns: φαρύγγεθρον, θύρεθρα: θύραι (Hesych.), θύρετρα pl. 'door (frame)', πτολίεθρον (Epic lengthened form for πόλις). The occurrence here of θύρετρα will fit in with our later argument below. A clear Latin instance of our suffix is *cribrum* < \**krei-dhro-m*; cf. *Bulletin of the Board of Celtic Studies* 34, 1987, 112 f.

When we turn to \*-*dhlo-* there is good Latin testimony: *fābula* 'narrative' (:fāri, φημι), *fibula* 'brooch, pin' (:fīgō), *pābulum* 'fodder' (:pāscō)<sup>4</sup>. But here Greek evidence is extremely scarce and fails to supply any direct traces of ordinary verb bases: θύσθλα 'implements of Bacchic orgies', θέμεθλα 'foundations'.

To summarize our findings: The evidence for \*-*tro-* > -τρο-, -τρᾶ is good; the evidence for \*-*dhro-* > -θρο- is adequate; the evidence for \*-*dhlo-* > -θλο- is nearly non-existent; and, as we established earlier, the evidence for \*-*tlo-* > -τλο-, -τλη is totally lacking.

There is one class of examples which we have not yet discussed. Whereas we have found no certain instances of \*-*tlo-* > -τλο-, -τλη, Meillet observed (*MSL* 11, 313) that all instances of -τλο/ᾶ affixed to a base of reasonably clear IE origin also show an aspirate in that base. The examples which I find are: χύτλον 'liquid, water and oil, stream', pl. χύτλα 'bath water, libations' (:χέω); φύτλον 'plant', φύτλη (Pind. O 9.55, P 9.33) 'stock, race' (cf. γενέθλη for the formation); ὄχετλα = ὄχηματα 'vehicles'; ἐχέτλη 'plough handle'; σχέτλιος 'unwearying'; χιμέτλη = χιμετλον (wrongly χειμεθλον ~ -τ- in *Glossaria*) ~ χιμεθλον 'chilblain'. The hesitation in the suffix of the last must have arisen from productive re-formation; these double aspirate instances may therefore be equated with the isolated θύσθλα and θέμεθλα above. To explain these cases Meillet proposed an ancient dissimilation \*aspirate -θλο- > aspirate -τλο-<sup>5</sup>.

While Meillet's observation is perceptive and valuable in bringing greater order into these many near-synonyms, there is a serious flaw in his proposed explanation. In Greek we must reckon with Grassmann's Law at an early date (e.g. τέφρα, τρέφω), and a lasting phonotactic preference which resulted from the effects of Grassmann's Law (e.g. θρίξ, τριχός; τρέφω, θρέψω), as well as the later productive paradigmatic violation of this constraint (e.g. ἐθρέφθην, ἐχύθην). This means that Meillet's dissimilation, if it were to be a true phonetic or phonological dissimilation, operates in the wrong direction for the phonetics of Grassmann's Law and for the phonotactic constraints (or MSRs) of Classical Greek.

An original \**ghu-dhlo-m* 'instrument of pouring' should have yielded \*κύθλον. In paradigmatic relation to χέFω this might have been restored to \*χύθλον. If the phonotactic constraints (output rules) of earlier Greek had applied this might have been adjusted to \*κύθλον. Or else \*χύθλον would have remained beside ἐχύθην. No simple phonological process would have yielded χύτλον from this Indo-European origin. All

4. Slavic also presents excellent examples: \**g'dlo* 'throat' (\**žbrq žerti*; = OPruss. *gurcle*), \**žerdl'o* (= Lith. *gerklē*), \**mydlo* 'soap', \**šdlo* 'instrument of sewing' (= Lat. *sūbula* 'shoemakers awl'); see F. Sławski et al., *Słownik prasłowiański* I 1974, 113-4.

5. Buck and Petersen then go on to question whether the suffixation was \*-θ-λο-, with an old root determinative (a solution I would regularly avoid), or suffix clipping, or an old root-final θ.

of the foregoing reasoning holds true even if we ignore the fact that Meillet's claimed dissimilation cannot in any case be considered a Lautgesetz or regular MSR or output constraint, since such a dissimilation failed to overtake or apply to ἐχύθην etc. or θέμεθλα or θύρεθρα.

It is clear then that whether or not \*κύθλον or \*χύθλον ever existed our resulting form χύτλον must have come about not from a phonological process but rather from the selection of an appropriate suffix which, it seems, had the desirable effect of avoiding a succession of two aspirates<sup>6</sup>. Such forms as φέρετρον, by the way, might also have served the same end, while not being so systematically motivated.

I conclude therefore that a formation such as χύτλον descended strictly not from an antecedent \*χύθλον < \*-dhlo-m but properly from \*χυ- + -tlo-m. We have here a case of special suffix selection in early Greek conditioned by the phonological constituency of the base. This suffix selection in turn indicates that at that time a suffix \*-tlo- was available in early Greek.

In an unexpected way, we have recovered for Greek a set of reflexes of the IE suffixes \*-tro-, \*-dhro-, \*-dhlo-, and \*-tlo-. The subset with the lateral shows evidence of a disturbed and impoverished distribution.

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6. The Latin predilection for *r* in *dōlabrum* 'mattock' and *lābrum* 'basin' (:lauō), while these forms do not qualify for the prehistoric Latin liquid output constraint with intervening \*grave, seems to illustrate a similar suffix selection. For my formulation of the Latin constraint see *Glotta* 50, 1972, 294-5.