PROGRAM IN
INDO-EUROPEAN STUDIES

On the Indo-European τομή- and φυγή-types and their Anatolian reflexes

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UCLA

The τομή- and φυγή-types in Indo-European

(1) PIE τομή-type nouns and their IE reflexes:

a.	**tomh₁-éh₂–*	>	Gk. τομή ‘stump’
b.	**bʰor-éh₂–*	>	Gk. φορά́ ‘tribute’
c.	**(s)tog-éh₂–*	>	Lat. *toga* ‘toga; roof’
d.	**molh₂-éh₂–*	>	Lat. *mola* ‘ground grain’
e.	**kos-éh₂–*	>	Lith. *kasà*, Russ. *kosá* ‘braid’ (AP 4/c)
f.	**moldʰ-éh₂–*	>	Lith. *maldà* ‘prayer’ (AP 4)

- Standardly reconstructed for Proto-Indo-European (PIE) are two formal types of animate (> feminine) event/result nouns formed with non-ablauting stressed **–éh₂–*:
  - “τομή-type” with root **o*-grade — e.g., (1).[1]

[1] See Penney (1978:310–20) with references to older lit. (cf. Lundquist and Yates 2018:2109, Weiss 2020:320, i.a.).

The τομή- and φυγή-types in Indo-European

(2) PIE φυγή-type nouns and their IE reflexes:

a.	*$b^h u\hat{g}^h$-$éh_2$–	>	Gk. φυγή; Lat. *fuga* ‘flight’
b.	*$h_3 lig$-$éh_2$–	>	Lith. *ligà*, Latv. *liga*; Alb. *ligë* ‘illness’
c.	*$g^w \underset{\circ}{r} h_3$-$éh_2$–	>	Lith. *girà*, Latv. *dzira* ‘kvass’
d.	*$d^h i\hat{g}^h$-$éh_2$–	>	OP *didā*– ‘wall’, Bact. λιζα/λιζο ‘city’
e.	*wid-$éh_2$–	>	W *gwedd* ‘aspect’
f.	*wih_x-$éh_2$–	>	Lat. *via*, U **via** ‘road’

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  - “τομή-type” with root *o-grade — e.g., (1).
  - “φυγή-type” with root zero-grade — e.g., (2).[1]

[1] See Penney (1978:315–20) with references to older lit. (cf. Lundquist and Yates 2018:2109, Weiss 2020:291, i.a.); *DPEWA* #13956 on (2b); Vine (1998:258 n. 9) on (2f);

The τομή- and φυγή-types vs. the τόμος-type

(3) PIE τόμος-type nouns and their IE reflexes:

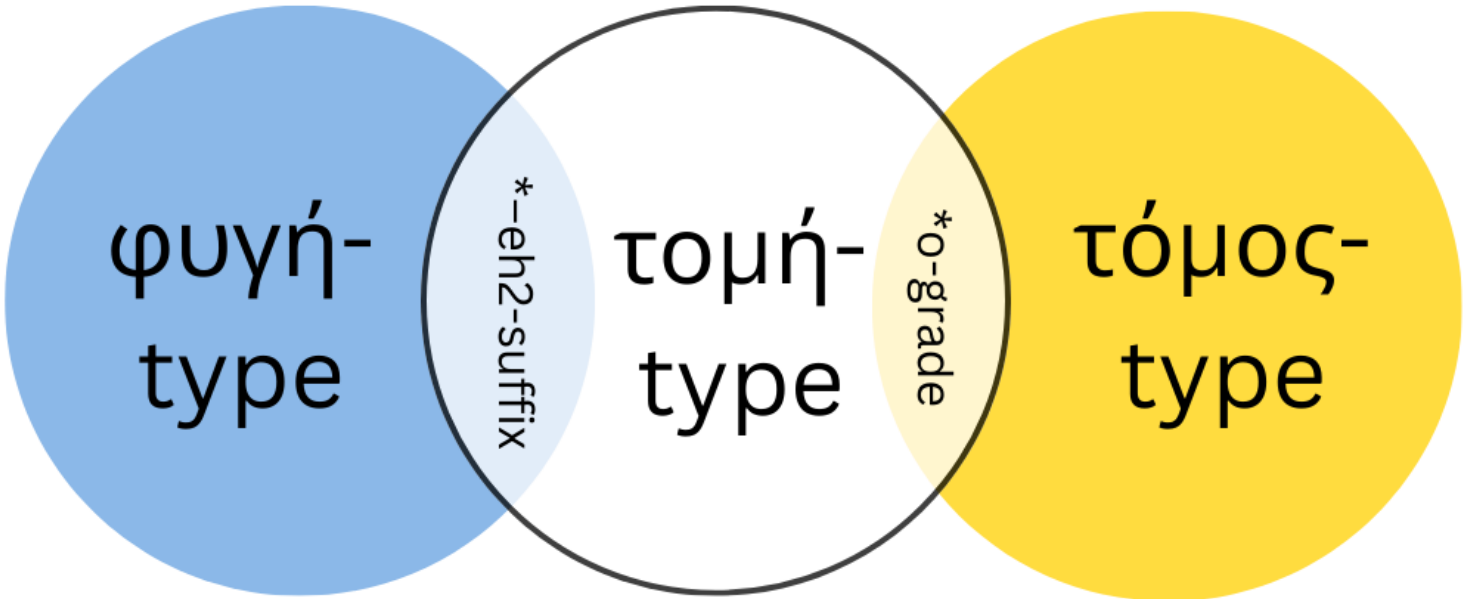
a.	**tómh$_1$-o–*	>	Gk. τόμος ‘slice’
b.	**b^{h}ór-o–*	>	Gk. φόρος ‘tribute’
c.	**d^{h}óig^h-o-*	>	Gk. τοῖχος, YAv. *(pairi-)daēza* ‘wall, enclosure’, Goth. *daigs* ‘dough’, Arm. *dēz* ‘heap’
d.	**wólh$_1$-o–*	>	Ved. *vára–* ‘choice
e.	**sólk-o–*	>	Lat. *sulcus* ‘furrow’

- Both types have (nearly) identical semantics to a third reconstructible formation, animate (> masculine) “τόμος-type” nouns — e.g., (3).[1]
  - Formal property shared by τόμος- and τομή-types: root **o*-grade.

[1] See Penney (1978:301–10) with references to older lit. (cf. Fortson 2010:129–30, Lundquist and Yates 2018:2108–9, Weiss 2020:291, i.a.).

Connecting the τομή-, φυγή-, and τόμος-types?

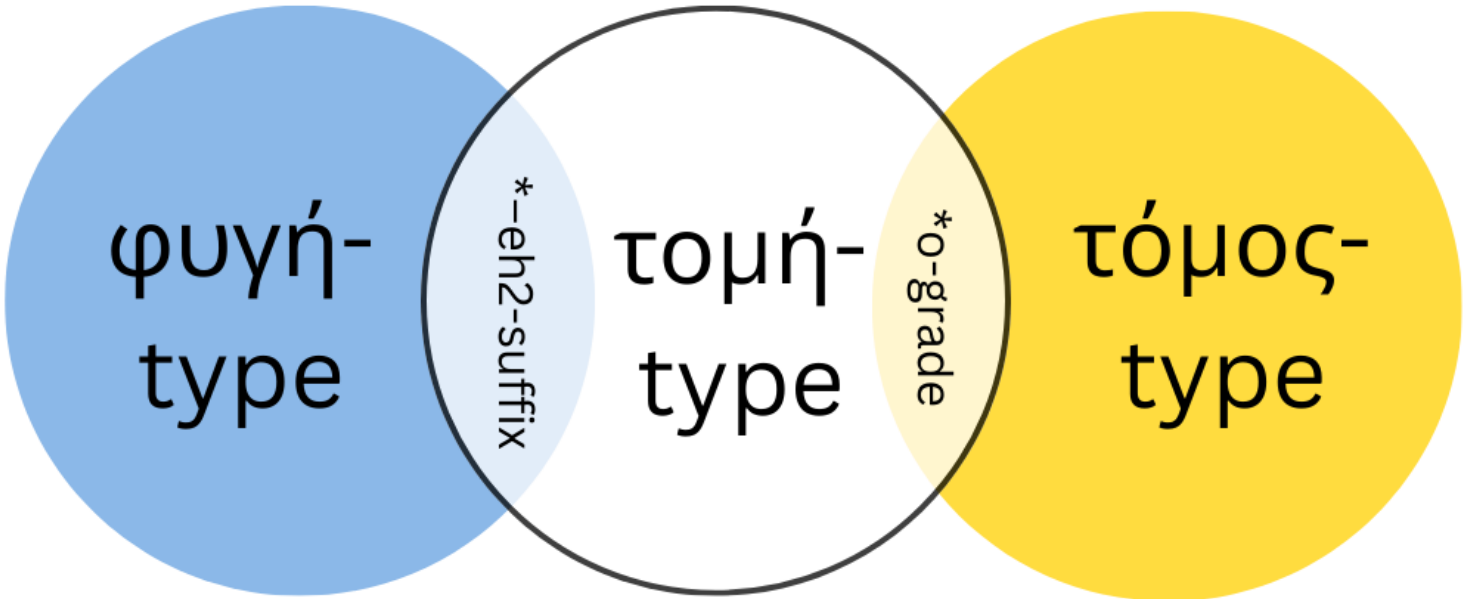
(4) Related PIE event/result noun types:



- Formal affinities and functional (near-)identity between these types suggest that they are related in some way, but **how** remains unclear.

Connecting the τομή-, φυγή-, and τόμος-types?

(4) Related PIE event/result noun types:



- Prerequisite to a satisfactory answer:

Connecting the τομή-, φυγή-, and τόμος-types?

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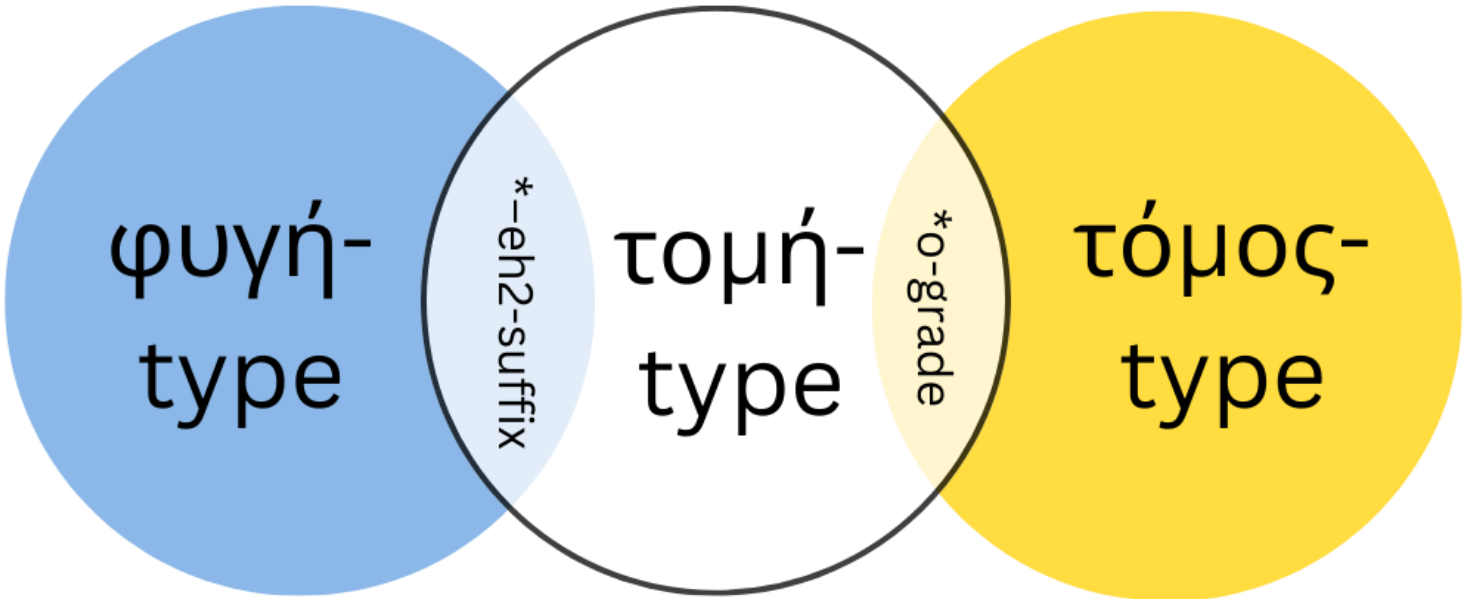

- Prerequisite to a satisfactory answer:
  - **What is the Anatolian evidence for these types?**

The τομή-, φυγή-, and τόμος-types in Anatolian

- **Part I** — empirical claims:

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  - The τομή/φυγή-types are more productive in Anatolian — including in Hittite — than previously held.
  - The τόμος-type is less productive.

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- **Part I** — empirical claims:

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  - The τόμος-type is less productive.

- **Part II** — implications:
  - For *–eh_2-based non-primary derivation in the prehistory of Hittite.
  - For the historical relationship between the PIE τομή-, φυγή-, and τόμος-types.

Roadmap (Part I)

§1 Introduction

§2 τόμος- vs. τομή/φυγή-type nouns in Anatolian

- Luwian and Lycian
- Hittite

§3 Productivity of τομή/φυγή-type nouns in Anatolian

§4 Status of τόμος-type nouns in Anatolian revisited

The τόμος-type in Anatolian?

(5) PIE τόμος-type nouns and their alleged Hittite reflexes:

a.	*$h_2$óns-o–	>	Hitt. *ḫăššа*– ‘progeny’	cf.	*ḫaš(š)*– ‘beget’
b.	*$h_3$órĝ-o–	>	Hitt. *ḫarga*– ‘destruction’		*ḫark*– ‘perish’
c.	*$h_3$órb^h-o–	>	Hitt. *ḫarpă*– ‘mound, pile’		*ḫarp*– ‘reassociate’
d.	*b^{h}órs-o–	>	Hitt. *paršă*– ‘crumb; bit’		*parš(i)*– ‘break’
e.	*sórh$_3$-o–	>	Hitt. *šarră*– ‘part, portion’		*šarr(a)*– ‘divide’
f.	*kórs-o–	>	Hitt. *karša*– ‘shearing’		*karš*– ‘cut off’

- Common view — τόμος-type is (somewhat) productive in Anatolian.
  - Hittite reflexes like (5).[1]

[1] See Oettinger (1986:19), Melchert (2014a,b), Nussbaum (2017:235), i.a. (cf. Lundquist and Yates 2018:2108, Weiss 2020:291).

The τόμος-type in Anatolian?

(6) PIE τόμος-type nouns and their alleged Luwic reflexes:

a.	*$h_2$órh$_3$-o–	>	CLuw. *ḫarra/i–* ‘grindstone’	cf.	CLuw. *ḫarra–* ‘crush’
b.	*dóm-o–	>	Lyc. *m̃me/i–* ‘building’		HLuw. *tama–* ‘build’
c.	*$h_1$ós-o–	>	HLuw. *asa–* ‘seat’		HLuw. *asa–* ‘sit’
d.	*$h_{2/3}$ós-o	>	HLuw. *hasa–* ‘abundance’		Pal. *ḫaš–* ‘get sated’
e.	*$h_2$ót-o–	>	CLuw. *ḫatta–* ‘violence’		Hitt. *ḫatt–* ‘pierce’
		>	Lyc. *xtta–* ‘harm’		
f.	*$h_3$órw-o–	>	CLuw. *ḫarwa–* ‘road’		Gk. ὀρύσσω ‘drag’
g.	*ĝyóuh$_{1/3}$-o–	>	CLuw. *zūwa–* ‘food’		OE *cēowan* ‘chew’

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  - Luwian and Lycian reflexes like (6).[1]

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  - Luwian and Lycian reflexes in (6c–g).

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The τόμος-type in Luwic?

(7) PIE τόμος-type nouns and their alleged Luwic reflexes:

a.	*$h_1$ós-o–	>	HLuw. ⟨(MENSA.SOLIUM)*á-sa-sa*⟩ ‘seat’	(NOM.SG)
b.	*$h_{2/3}$ós-o	>	HLuw. ⟨(LINGERE)*ha-sa-sa*⟩ ‘abundance’	(NOM.SG)
c.	*$h_2$ót-o–	>	CLuw. ⟨*ḫa-at-ta-aš*⟩ ‘violence’	(NOM.SG)
		>	(Lyc. *xtta* ‘harm’)	(ACC.SPL)
d.	*$h_3$órw-o–	>	CLuw. ⟨*ḫa-ru-wa-aš*⟩ ‘road’	(NOM.SG)
e.	*ĝyóuh$_{1/3}$-o–	>	CLuw. ⟨*zu-u-wa-an*⟩ ‘food’	(ACC.SG)

- Luwic nouns in (7) (= (6c–g) above) do not exhibit “*i*-mutation.”
- Now general agreement that:[1]
  - PIE *–*o*-stems regularly subject to *i*-mutation in Luwic.
  - Major source of non-mutating *a*-stems in Luwic are PIE *–*eh$_2$*-stems.

[1] Sasseville (2014/15, 2018, 2020b), Norbruis (2018), *DCL*, i.a.

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⇒ Non-mutating *a*-stems in (7) do not continue PIE **o*-stems.

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The τομή and φυγή-types in Luwic

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e.	*ĝyouh$_{1/3}$-éh_2–	>	CLuw. ⟨*zu-u-wa-an*⟩ ‘food’	(ACC.SG)

- Luwic nouns in (7) (= (6c–g) above) may continue τομή/φυγή-types.
  - (7a) and (7e) reflect non-zero-grade root, hence τομή-type.[1]
  - (7b–c) consistent with τομή-type,[2] but φυγή-type perhaps possible.
  - (7d) reflects φυγή-type on grounds of root structure.[3]

[1] See *eDiAna* #1468, *DCL* s.v. *zuwa–*.

[2] See *eDiAna* #335, *DCL* s.v. *ḫatta–*, Sasseville (2020a:104).

[3] See *DCL* s.v. *ḫarwa–* (differently *eDiAna* #3033, but still root zero-grade).

The τομή and φυγή-types in Hittite?

(8) IE reflexes of PIE **h₂eh₁s-éh₂–* 'hearth':[1]

a. Hitt. *ḫaššā–* ([χasːáː-]) 'hearth' (NOM.SG *ḫaššaš*)

b. Lyc. *xaha–*?, Lyd. [*k*]*asa–*? 'hearth, altar' (cf. CLuw. *ḫaššanitt(i)–* 'id.')

c. Osc. **aasa–**, Lat. *āra–* 'altar'

- More difficult to distinguish τόμος- and τομή/φυγή-types in Hittite!
  - In Hittite animate **–eh₂*-stems like (8a) fall together with **o*-stems into same inflectional class (> *a*-stems), developing, e.g., NOM.SG in *–š*.
  - Inherited **–eh₂*-stem confirmed by likely Anatolian cognates in (8b) and well-known Italic cognates in (8c).

[1] See Harðarson (1994:35–9), Melchert (1994b:235–6, 2011:397, 2014c:259), Rieken (1999:247–8), Kloekhorst (2008:322–3, 2014:262), i.a.; Yates (2022b) on the Hittite root long vowel.

The τομή and φυγή-types in Hittite?

(9) PIE **worh$_1$-éh$_2$–*$>^{?}$ Hitt. *(u)wărra–* 'help' (cf. CLuw. *warrahitašša/i–* 'of help$_{ADJ}$')

- It has been suspected that the τομή-type is continued in Anatolian at least since Watkins (1975:372), who proposed (9) (CLuw. *–ḫ–* < **–h$_2$–*).

[1] cf. Kloekhorst 2008:962; see Gusmani (1968) for comparison with Gk. ἦρα 'service' and root noun reconstruction.

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- Yet this reconstruction is less than secure:
  - Uncertain that Hitt. *(u)warra–* is an *a*-stem, since it occurs only in the expression in (10).[1]
  - Plene of root syllable is unexpected from pre-form with final stress.

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The τομή and φυγή-types in Hittite?

(11) *h_2*wors-éh$_2$* > Hitt. *warša–* ‘mist’

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(11) *h_2*wors-*éh$_2$* > Hitt. *warša–* 'mist', Ved. *varṣá–* 'rain; rainy season' (AV+)

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  - Retained *–rš–* points to stem-final stress (cf. (12); Kimball 1999:350–2).
  - Cognate **–eh_2*-stem continued in Vedic.

[1] See Yakubovich and Mouton (2023:347) on the Luwian reflex.

The τομή and φυγή-types in Hittite?

(13) *mih_1-éh_2– > – (⇒ Hitt. *miya$\underline{h}$uwant*– ‘old’ < *‘having growth’)

- Probable indirect reflex of φυγή-type in (13) identified already by Eichner (1973:56–9).
  - Trace of stem-final laryngeal preserved in non-primary derivative.[1]

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⇒ Plausible to find other reflexes of τομή- and φυγή-types in Hittite!

[1] See Melchert (1994a:85) on singleton -$\underline{h}$-.

τομή/φυγή-, not τόμος-types in Hittite

(14) PIE τομή/φυγή-types nouns and their Hittite reflexes:

a. *$h_3(o)rb^h$-$éh_2$– > Hitt. *ḫarpă̆*– ‘mound, pile’
b. *$b^h(o)rs$-$éh_2$– > Hitt. *paršă̆*– ‘crumb; bit’
c. *$sorh_3$-$éh_2$– > Hitt. *šarră̆*– ‘part, portion’
d. *$kors$-$éh_2$– > Hitt. *karša*– ‘shearing’

- Deriving (14) — previously analyzed as τόμος-types (= (5c–f) above) — from τομή/φυγή-types better accounts for their formal properties.

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c. *$sorh_3$-$éh_2$– > Hitt. ⟨*šar-ra-a-aš*⟩ ‘part, portion’ (NOM.SG)
d. *$kors$-$éh_2$– > Hitt. ⟨*kar-aš-šu-uš*⟩ ‘shearing’ (ACC.PL)

- Deriving (14) — previously analyzed as τόμος-types (= (5c–f) above) — from τομή/φυγή-types better accounts for their formal properties.
  - ✓ Plene spelling of stem-final vowel in (14a–c).

[1] In (13c) *–rr–* would require τομή-type, unless analogical from verb *šarr(a)–*.

τομή/φυγή-, not τόμος-types in Hittite

(14) PIE τομή/φυγή-types nouns and their Hittite reflexes:

a. *$h_3(o)rb^h$-$éh_2$– > Hitt. ⟨*ḫar-pa-a-aš*⟩ ‘mound, pile’ (NOM.SG)
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d. *kors-$éh_2$– > Hitt. ⟨*kar-aš-šu-uš*⟩ ‘shearing’ (ACC.PL)
> Gk. κουρά́ ‘cropping (of hair)’

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  - ✓ Plene spelling of stem-final vowel in (14a–c).
  - ✓ Retained –*rš*– in (14d), where Greek word equation supports τομή-type.[1]

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- Deriving (14) — previously analyzed as τόμος-types (= (5c–f) above) — from τομή/φυγή-types better accounts for their formal properties.
  - ✓ Plene spelling of stem-final vowel in (14a–c).
  - ✓ Retained –*rš*– in (14d), where Greek word equation supports τομή-type.[1]
- Alternative derivation from R(∅)-*ó*- is formally possible (cf. Kimball 2015), but there is no well-established IE type with relevant properties.

[1] In (13c) –*rr*– would require τομή-type, unless analogical from verb *šarr(a)*–.

Interim summary: τόμος- vs. τομή/φυγή-types

- Preliminary take-away — majority of Anatolian forms traced back to τόμος-types instead likely continue τομή- or φυγή-types.

  - **How productive are the τομή- or φυγή-types in Anatolian?**

Roadmap 2 (Part I)

§1 Introduction

§2 τόμος- vs. τομή/φυγή-type nouns in Anatolian

§3 Productivity of τομή/φυγή-type nouns in Anatolian

- Luwian and Lycian
- Hittite

§4 Status of τόμος-type nouns in Anatolian revisited

Productivity of τομή/φυγή-types in Luwic

(15) More Luwic reflexes of PIE τομή-type nouns:

a. **smor-éh$_2$–* > Lyc. AB *mara–* 'law' (ACC.PL B *marãz*)[1]
   > Gk. μόρᾱ 'division (of Spartan army)'

b. **wol-éh$_2$–* > HLuw. *wala* 'for death' (ADV < DAT/LOC.SG)[2]

- Two further likely Luwic reflexes of τομή-type in (15).[3]
  - Exhibit expected non-mutating *a*-stem inflection (< **–eh$_2$–*).
  - Type of (15a) supported by Greek word equation.

[1] cf. *eDiAna* #225 (Kimball 2017 for root etymology).

[2] See Malzahn (2010:892–4) for root shape.

[3] Lyc. *tãma–* 'building' (*eDiAna* #246) is less likely in view of non-syncope.

Productivity of τομή/φυγή-types in Luwic

(16) More Luwic reflexes of PIE φυγή-type nouns:

a. **trp̥-éh₂–* > CLuw. *tarpa–* 'ritual substitution' (DAT/LOC.SG ⟨*tar-pa*⟩)

b. **h₂up-éh₂–* > Lyc. A *xupa–* 'grave' (NOM.SG A *xupa*)

> Hitt. *ḫuppa–* 'heap'

- Two further likely Luwic reflexes of φυγή-type in (16).[1]
  - Exhibit expected non-mutating *a*-stem inflection (< **–eh₂–*).
  - For (16a) τομή-type cannot account for [tar-] from robustly "State II" PIE root **trep–* 'turn' (cf. *LIV*²: 650).
  - For (16b) τομή-type ruled out by consonantal reflex of root-intial **h₂* (cf. Hitt. *wappu–* 'river-bank'; Melchert 2012:176)

[1] See *DCL* s.v. *tarpa–* for attestation and root etymology of (15a); *eDiAna* #641 on (15b)

Productivity of τομή/φυγή-types in Luwic

(17) Deverbative *a*-stems in Luwian (based on τομή/φυγή-types):

a. CLuw. *arraḫḫani–* 'curse' ⇒ *arraḫaniy-a–* 'curse'
b. CLuw. *tarawi–* 'deliver' ⇒ *tarawiy-a–* 'delivery'
c. CLuw. *tummanti–* 'hear, listen to' ⇒ *tummantiy-a–* 'obedience'

- In Luwian event/result noun forming *–a–* (< **–eh₂–*) is productive also in deverbal derivation (Sasseville 2020b) — e.g., (17).[1]

[1] cf. Probert (2006) on deverbative **–eh₂–* in Greek.

Productivity of τομή/φυγή-types in Hittite

(18) More Hittite reflexes of PIE τομή/φυγή-type nouns:

a. **m(o)rh$_2$-éh$_2$–* > Hitt. ^{TU_7} *marḫă–* '(type of stew)' (ACC.SG ⟨*mar-ḫa-a-an*⟩)
cf. Hitt. *marriye/a–* 'melt; stew'

b. **worĝ-éh$_2$–* > Hitt. *warka–* 'fat'
> Gk. ὀργή 'passion'

- Two further likely Hittite reflexes of τομή/φυγή-types in (18).
  - As result noun (18a) probably continues τόμος or τομή/φυγή-type; latter supported by plene spelling of stem-final vowel.[1]
  - Greek word equation in (18b) supports τομή-type.[2]

[1] From **mr̥h$_{2/3}$-ó–* per Kloekhorst (2008:643–4), Kimball (2015:62); see Oettinger (1979:548–9) for non-assimilation of **h$_2$* / V{r, l} __ V́.

[2] See Goedegebuure (2020) for attestation and τόμος-type reconstruction; Clayton (2022) for root shape.

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b. **worĝ-éh₂–* > Hitt. *warka–* 'fat'
> Gk. ὀργή 'passion'

c. **h₃(o)rĝ-éh₂–* > Hitt. *ḫarga–* 'destruction'
cf. Hitt. *ḫark–* 'perish'

- Ambiguous (18c) more likely to reflect τομή/φυγή- than τόμος-type (= (5b) above) in view of apparent greater productivity of former in Anatolian.

Roadmap 3 (Part I)

§1 Introduction

§2 τόμος- vs. τομή/φυγή-type nouns in Anatolian

§3 Productivity of τομή/φυγή-type nouns in Anatolian

§4 Status of τόμος-type nouns in Anatolian revisited

- Remaining evidence for τόμος-type nouns
- Anatolian reflexes of τομός-type adjectives

The τόμος-type in Anatolian revisited

(19) PIE τόμος-type nouns and their alleged Anatolian reflexes:

a.	*$h_2$óns-o–	>	Hitt. *ḫăššа*– ‘progeny’	cf.	Hitt. *ḫaš(š)*– ‘beget’
b.	*$h_2$órh$_3$-o–	>	CLuw. *ḫarra/i*– ‘grindstone’		CLuw. *ḫarra*– ‘crush’
c.	*dóm-o–	>	Lyc. *m̃me/i*– ‘building’		HLuw. *tama*– ‘build’

- Proposed reanalysis leaves few remaining cases of τόμος-type (= (5a), (6a–b) above)

[1] A “passive” τομός-type (see Nussbaum 2017:240–2) could likewise account for (19c).

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c.	*dóm-o–	>[?]	Lyc. *m̃me/i*– ‘building’		HLuw. *tama*– ‘build’

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  - Syncope in (19c) requires a pre-form with stem-final, not root stress.

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  - Syncope in (19c) requires a pre-form with stem-final, not root stress.
  - Semantics of (19b) more closely fit (substantivized) τομός-type adjective, i.e., *$h_2$orh$_3$-ó*– ‘crush-ing; crush-er’

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[1] A “passive” τομός-type (see Nussbaum 2017:240–2) could likewise account for (19c).

The τόμος-type in Anatolian revisited

(20) PIE τομός-type adjectives and their Anatolian reflexes:

a. **mors-ó–* > Hitt. *marša–* 'false; sacrilegious' cf. Hitt. *maršant–* 'id.'
b. **sorh$_3$-ó–* > Hitt. ^{GIŠ}*šarra–* '(tool for separating)' Hitt. *šarr(a)–* 'divide'
c. **swolh$_2$-ó–* > – (⇒ CLuw. *šalḫ(i)ant–*, *šalḫitti–* 'growth')

- Some potential Anatolian reflexes of τομός-type adjectives in (20).
  - Pre-form of (20c) must have root **o*-grade and stem-final stress to account for **w*-loss and retained *–lḫ–* attested in its derivatives.[1]
  - Analyses of (20a–b) per Kimball (2015:62–4)

[1] See *DCL* s.vv. with references; root is PIE **swelh$_2$–* 'swell' ("**swelH–*" in *LIV*^{2}: 609-10).

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  - Analyses of (20a–b) per Kimball (2015:62–4); development of latter would neatly parallel (18d) (= (17b) above).

[1] See *DCL* s.vv. with references; root is PIE **swelh$_2$–* 'swell' ("**swelH–*" in *LIV*^{2}: 609-10).

Summary: τομή/φυγή- vs. τόμος-types in Anatolian

- Overall assessment:

  - Majority of Anatolian forms traced back to τόμος-type nouns are instead likely to continue τομή- or φυγή-type nouns, or even τομός-type adjectives.

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- Overall assessment:

  - Majority of Anatolian forms traced back to τόμος-type nouns are instead likely to continue τομή- or φυγή-type nouns, or even τομός-type adjectives.
  - PIE τομή/φυγή-type nouns are relatively productive in Anatolian, especially in Luwic but also in Hittite.
  - Evidence for PIE τόμος-type nouns in Anatolian is marginal.

Roadmap (Part II)

§5 Implications for *–eh_2-based non-primary derivation in Anatolian

§5 On relationship(s) between PIE τόμος, τομή, and φυγή-type nouns

The τομή/φυγή-types as derivational bases

- Greater productivity of τομή/φυγή-types in Anatolian helps explain the development of *–*eh*$_2$-based derivational suffixes in Anatolian:
  - Productive abstract nouns in Hitt. *–atar/n–* (< *–*éh*$_2$*-tr̥/n–*).
  - Productive denominative verbs in Hitt. *–a(i)–* and their Anatolian cognates (< *–*éh*$_2$*-ye/o–*).

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The τομή/φυγή-types as derivational bases

(21) Twofold origin of Hitt. *–atar/n–*:

a. Factitive **–eh₂–* + **–tr̥/n–*

b. Event/result noun-forming **–eh₂–* + **–tr̥/n–*

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  - Productive abstract nouns in Hitt. *–atar/n–* (< **–éh₂-tr̥/n–*).
  - Productive denominative verbs in Hitt. *–a(i)–* and their Anatolian cognates (< **–éh₂-ye/o–*; see Melchert 1997:133, Sasseville 2020a:113–25).
- **Proposal:** Hitt. *–atar/n–* develops as in (21), partially continuing inherited τομή/φυγή-types extended by **–tr̥/t(e)n–*.

Hittite –*atar/n*-abstracts from factitives

(22) Deadjectival –*atar/n*-abstracts in Hittite:

a.	*kallar–*	'inauspicious'	⇒	*kallaratar/n–*	'inauspiciousness'
b.	*šuppi–*	'pure'	⇒	*šuppiyatar/n–*	'purity'
c.	*nakkĭ–*	'dignified; burdensome'	⇒	*nakkiyatar/n–*	'dignity; burden'
d.	*idalu–*	'bad'	⇒	*idalawatar/n–*	'badness'

- Synchronically, Hitt. –*atar/n*– is productive in denominal derivation, forming neuter abstracts especially from adjectives — e.g., (22).

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a.	*kallar–*	‘inauspicious’	⇒	*kallaratar/n–*	‘inauspiciousness’
			⇒	*kallaraḫḫ–*	‘make inauspicious’
b.	*šuppi–*	‘pure’	⇒	*šuppiyatar/n–*	‘purity’
			⇒	*šuppiyaḫḫ–*	‘purify’
c.	*nakkiy–*	‘dignified;	⇒	*nakkiyatar/n–*	‘dignity; burden’
		burdensome’	⇒	*nakkiyaḫḫ–*	‘dignify; make burdensome’
d.	*idalu–*	‘bad’	⇒	*idalawatar/n–*	‘badness’
			⇒	*idalawaḫḫ–*	‘treat badly’

- Synchronically, Hitt. *–atar/n–* is productive in denominal derivation, forming neuter abstracts especially from adjectives — e.g., (22).
- From such adjectives are often also derived factitive verbs with suffix *–aḫḫ–* ([-áχː-] < **–éh₂–*).

Hittite *–atar/n*-abstracts from factitives

(23) Development of deadjectival *–atar/n*-abstracts in Hittite:

	ADJ	⇒	FACT	⇒	RESULT (N)
a.	**–ró–*		**–r-éh$_2$–*		**–r-eh$_2$-tr̥/n–*
>	*kallar–*		*kallarah̯h̯–*		*kallaratar/n–*
	‘inauspicious’		‘make inauspicious’		‘inauspiciousness’
b.	**–íh$_x$–*		**–ih$_x$-éh$_2$–*		**–ih$_x$-éh$_2$-tr̥/n–*
>	*nakki–*		*nakkiyah̯h̯–*		*nakkiyatar/n–*
	‘burdensome’		‘make burdensome’		‘burden’
c.	**–(é)w–*		**–ew-éh$_2$–*		**–ew-éh$_2$-tr̥/n–*
>	*idalu–*		*idalawah̯h̯–*		*idalawatar/n–*
	‘bad’		‘treat badly’		‘badness’

- Hittite deadjectival *–atar/n*-abstracts thus likely to reflect event/result nouns historically derived from factitive verbs with **–tr̥/n–*, as in (23).

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	ADJ	⇒	FACT	⇒	RESULT (N)
a.	**–ró–*		**–r-éh$_2$–*		**–r-eh$_2$-tr̥/n–*
>	*kallar–*		*kallarahh–*		*kallaratar/n–*
	‘inauspicious’		‘make inauspicious’		‘inauspiciousness’
b.	**–íh$_x$–*		**–ih$_x$-éh$_2$–*		**–ih$_x$-éh$_2$-tr̥/n–*
>	*nakki–*		*nakkiyahh–*		*nakkiyatar/n–*
	‘burdensome’		‘make burdensome’		‘burden’
c.	**–(é)w–*		**–ew-éh$_2$–*		**–ew-éh$_2$-tr̥/n–*
>	*idalu–*		*idalawahh–*		*idalawatar/n–*
	‘bad’		‘treat badly’		‘badness’

- Hittite deadjectival *–atar/n*-abstracts thus likely to reflect event/result nouns historically derived from factitive verbs with **–tr̥/n–*, as in (23).
  - Telescoped derivation in Hittite: ADJ ⇒ N abstract

Hittite *–atar/n*-abstracts from τομή/φυγή-types

(24) Deverbal *–atar/n*-abstracts in Hittite:

a.	*eš/aš–*	'sit'	⇒	*ašă̆tar/n–*	'sitting'
b.	*ak(k)–*	'die'		*akkă̆tar/n–*	'death'
c.	*ḫark–*	'perish'		*ḫargatar/n–*	'destruction'
d.	*ḫatt–*	'pierce'		*ḫattă̆tar/n–*	'wisdom'
e.	*kuen/kun–*	'kill'		*kună̆tar/n–*	'killing'
f.	*m(a)i–*	'growth'		*miyatar/n–*	'growth'

- Synchronically, Hitt. *–atar/n–* is also productive in formation of deverbal event/result nouns, including from radical verbs — e.g., (24).

Hittite *–atar/n*-abstracts from τομή/φυγή-types

(24) Deverbal *–atar/n*-abstracts in Hittite:

a.	*eš/aš–*	'sit'	⇒	*ašă̆tar/n–*	'sitting'
b.	*ak(k)–*	'die'		*akkă̆tar/n–*	'death'
c.	*ḫark–*	'perish'		*ḫargatar/n–*	'destruction'
d.	*ḫatt–*	'pierce'		*ḫattă̆tar/n–*	'wisdom'
e.	*kuen/kun–*	'kill'		*kună̆tar/n–*	'killing'
f.	*m(a)i–*	'growth'		*miyatar/n–*	'growth'

- Synchronically, Hitt. *–atar/n–* is also productive in formation of deverbal event/result nouns, including from radical verbs — e.g., (24).
  - Not accounted for by derivation of factitives (cf. Kloekhorst 2008:226).

Hittite *–atar/n*-abstracts from τομή/φυγή-types

(25) Development of deverbal *–atar/n*-abstracts in Hittite: :

a.	**h₁os-éh₂–*	‘sitting’	⇒	**h₁os-éh₂-tr̥/n–*	‘id.’
>	HLuw. *asa–*	‘seat’		Hitt. *ašātar/n–*	‘sitting’
b.	**h₃(o)rĝ-éh₂–*	‘death’		**h₃orĝ-éh₂-tr̥/n–*	‘id.’
>	Hitt. *ḫarga–*	‘destruction’		Hitt. *ḫargatar/n–*	‘destruction’
c.	**h₂(o)t-éh₂–*	‘piercing’		**h₂ot-éh₂-tr̥/n–*	‘id.’
>	CLuw. *ḫatta–*	‘harm’		Hitt. *ḫattatar/n–*	‘wisdom’
>	Lyc. *xtta*	‘violence’			
d.	**mih₁-éh₂–*	‘growth’		**mih₁-éh₂-tr̥/n–*	‘id.’
>	Hitt. – (⇒ *miyaḫwant–* ‘old’)			Hitt. *miyatar/n–*	‘growth’

- Such formations can continue inherited τομή/φυγή-type nouns extended by **–tr̥/t(e)n–*, as in (25).

Hittite *–atar/n*-abstracts from τομή/φυγή-types

(25) Development of deverbal *–atar/n*-abstracts in Hittite: :

a.	**h₁os-éh₂–*	‘sitting’	⇒	**h₁os-éh₂-tr̥/n–*	‘id.’
>	HLuw. *asa–*	‘seat’		Hitt. *ašātar/n–*	‘sitting’
b.	**h₃(o)rĝ-éh₂–*	‘death’		**h₃orĝ-éh₂-tr̥/n–*	‘id.’
>	Hitt. *ḫarga–*	‘destruction’		Hitt. *ḫargatar/n–*	‘destruction’
c.	**h₂(o)t-éh₂–*	‘piercing’		**h₂ot-éh₂-tr̥/n–*	‘id.’
>	CLuw. *ḫatta–*	‘harm’		Hitt. *ḫattatar/n–*	‘wisdom’
>	Lyc. *xtta*	‘violence’			
d.	**mih₁-éh₂–*	‘growth’		**mih₁-éh₂-tr̥/n–*	‘id.’
>	Hitt. – (⇒ *miyaḫwant–* ‘old’)			Hitt. *miyatar/n–*	‘growth’

- Such formations can continue inherited τομή/φυγή-type nouns extended by **–tr̥/t(e)n–*, as in (25).
  - See Clayton (2023:101–21) for parallel extension of τομή/φυγή-types by **–wr̥/w(e)n–* already in PIE.

Hittite *–atar/n*-abstracts from τομή/φυγή-types

(25) Development of deverbal *–atar/n*-abstracts in Hittite: :

a.	**h₁os-éh₂–*	‘sitting’	⇒	**h₁os-éh₂-tr̥/n–*	‘id.’
>	HLuw. *asa–*	‘seat’		Hitt. *ašātar/n–*	‘sitting’
b.	**h₃(o)rĝ-éh₂–*	‘death’		**h₃orĝ-éh₂-tr̥/n–*	‘id.’
>	Hitt. *ḫarga–*	‘destruction’		Hitt. *ḫargatar/n–*	‘destruction’
c.	**h₂(o)t-éh₂–*	‘piercing’		**h₂ot-éh₂-tr̥/n–*	‘id.’
>	CLuw. *ḫatta–*	‘harm’		Hitt. *ḫattatar/n–*	‘wisdom’
>	Lyc. *xtta*	‘violence’			
d.	**mih₁-éh₂–*	‘growth’		**mih₁-éh₂-tr̥/n–*	‘id.’
>	Hitt. – (⇒ *miyaḫwant–* ‘old’)			Hitt. *miyatar/n–*	‘growth’

- Resulting abstracts were reanalyzed in Hittite as deverbal formations from radical verbs (*eš/aš–* ‘sit’ ⇒ (25a), etc.).

On the PIE τομή-, φυγή-, and τόμος-types

(26) (Historical) relationship between PIE τομή- and φυγή-types:

a.	**R(∅)-*éh*$_2$–	>	*R(∅)-*éh*$_2$–	(φυγή-type)
		>	*R(*o*)-*éh*$_2$–	(τομή-type)
b.	*R(∅)-*éh*$_2$–			(φυγή-type)
	*R(*o*)-*ó*–	⇒	*R(*o*)-*éh*$_2$–	(τομή-type)

- Preliminary assessment — Anatolian evidence is compatible with scenarios in which the τομή- and φυγή-types are:
  - i. Diachronically, manifestations of a single primary category, as in (26a).[1]
  - ii. Synchronically, derived with same suffix — but φυγή-type is primary vs. non-primary τομή- from τομός-type adjectives — as in (26b).[2]

[1] Via pre-PIE sound change, sensitive to root structure; see esp. Penney (1978:310–26).

[2] Thus τομή-type per Brugmann (1904:341–2), Kuryłowicz (Kuryłowicz 1935:199, 1956:85, 1968:277); φυγή-type alternatively via remodeling of zero-grade root nouns per Brugmann (1906:154–5).

On the PIE τομή-, φυγή-, and τόμος-types

(27) Reflexes of τομός- ⇒ τομή-types in Anatolian:

a.	*$sorh_2$-ó–	'dividing'	⇒	*$sorh_2$-$éh_2$–	'division'
>	Hitt. ^{GIŠ}*šarra*–	'(tool for separating)		Hitt. *šarrā*–	'part, portion'
b.	**mors*-ó–	'failing'	⇒	**mors*-$éh_2$–	'failure'[1]
	Hitt. *marša*–	'false; sacrilegious'		CLuw. *marša(/$i^?$)*–	'false act'[2]

- Some possible support for (ii):
  - Paired Anatolian τομός- and τομή-types in (27).

[1] On the semantic development see Puhvel (2004:87) (cf. Kimball 2015:64).

[2] Case-forms diagnostic of *a*-stem inflection not attested (*DCL* s.v.); alternative derivation from τόμος-type possible.

On the PIE τομή-, φυγή-, and τόμος-types

(27) Reflexes of τομός- ⇒ τομή-types in Anatolian:

a.	**sorh$_2$-ó–*	'dividing'	⇒	**sorh$_2$-éh$_2$–*	'division'
>	Hitt. ^{GIŠ}*šarra–*	'(tool for separating)		Hitt. *šarrā–*	'part, portion'
b.	**mors-ó–*	'failing'	⇒	**mors-éh$_2$–*	'failure'[1]
	Hitt. *marša–*	'false; sacrilegious'		CLuw. *marša(/i$^?$)–*	'false act'[2]

- Some possible support for (ii):
  - Paired Anatolian τομός- and τομή-types in (27).
  - Non-primary result noun forming **–eh$_2$–* supported by Vedic and Anatolian use in deverbal derivation (Sasseville 2020b).
  - Unexpected **o*-grade in τομή-type due to transfer of root vocalism from base to non-primary derivative (Yates 2019, 2022a).

[1] On the semantic development see Puhvel (2004:87) (cf. Kimball 2015:64).

[2] Case-forms diagnostic of *a*-stem inflection not attested (*DCL* s.v.); alternative derivation from τόμος-type possible.

On the PIE τομή-, φυγή-, and τόμος-types

(28) Two-step denominal derivation of τομή-type:

a.	**tómh$_1$-o–*	‘cut(ting)’	⇒	**tomh$_1$-ó–*	‘cutting$_{\text{ADJ}}$’	⇒	**tomh$_1$-éh$_2$–*	‘cut(ting)’
>	Gk. τόμος	‘slice’		τομός	‘cutting$_{\text{ADJ}}$’		τομή	‘stump’
b.	**b^{h}ór-o–*	‘bearing’	⇒	**b^{h}or-ó–*	‘bearing$_{\text{ADJ}}$’	⇒	**b^{h}or-éh$_2$–*	‘bearing’
>	Gk. φόρος	‘tribute’		φορός	‘bearing$_{\text{ADJ}}$’		φορά́	‘tribute’

- Poverty of Anatolian evidence for τόμος-type may problematize scenarios in which existence of τομή-type ultimately depends upon τόμος-type — e.g., in (28).

On the PIE τομή-, φυγή-, and τόμος-types

(28) Two-step denominal derivation of τομή-type:

a.	**tómh$_1$-o–*	‘cut(ting)’	⇒	**tomh$_1$-ó–*	‘cutting$_{\text{ADJ}}$’	⇒	**tomh$_1$-éh$_2$–*	‘cut(ting)’
>	Gk. τόμος	‘slice’		τομός	‘cutting$_{\text{ADJ}}$’		τομή	‘stump’
b.	**b^{h}ór-o–*	‘bearing’	⇒	**b^{h}or-ó–*	‘bearing$_{\text{ADJ}}$’	⇒	**b^{h}or-éh$_2$–*	‘bearing’
>	Gk. φόρος	‘tribute’		φορός	‘bearing$_{\text{ADJ}}$’		φορά́	‘tribute’

- Poverty of Anatolian evidence for τόμος-type may problematize scenarios in which existence of τομή-type ultimately depends upon τόμος-type — e.g., in (28).
- Further research necessary.

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Hittite denominative verbs from τομή/φυγή-types

(A1) Hittite denominatives in **–éh₂-ye/o–*:

a.	**h₃orbʰ-éh₂–*	‘reassociation’	⇒	**h₃orbʰ-éh₂-ye/o–*	‘make reassociate’
>	Hitt. *ḫarpă–*	‘pile, heap’		Hitt. *ḫarpa(i)–*	‘pile up’
b.	**h₂up-éh₂–*	‘cast’	⇒	**ḫup-éh₂-ye/o–*	‘make a cast’
>	Hitt. *ḫuppa–*	‘heap’		Hitt. *ḫuppa(i)–*	‘heap up’
>	Lyc. *xupa–*	‘grave’			
c.	**bʰors-éh₂–*	‘bit’	⇒	**bʰors-éh₂-ye/o–*	‘break into bits’
>	Hitt. *paršă–*	‘crumb; bit’		Hitt. *parša(i)–*	‘break into bits’
d.	**worh₁-éh₂–*	‘help’	⇒	**worh₁-éh₂-ye/o–*	‘give help’
>	Hitt. *warra–*	‘help’		Hitt. *warra(i)–*	‘give help’

- Identification of τομή/φυγή-types in Hittite provides a core from which productive denominative suffix *–a(i)–* (< **–éh₂-ye/o–*) was extracted.