

# Etymology and the European Lexicon

Proceedings of the 14<sup>th</sup> Fachtagung  
der Indogermanischen Gesellschaft,  
17–22 September 2012, Copenhagen

Edited by

Bjarne Simmelkjær Sandgaard Hansen,  
Benedicte Nielsen Whitehead,  
Thomas Olander and Birgit Anette Olsen

Wiesbaden 2016  
Reichert Verlag

# Greek and Latin verbal governing compounds in $*\bar{a}$ and their prehistory

Hannes A. Fellner & Laura Grestenberger  
University of Vienna      Concordia University

We argue that the Greek and Latin masculine verbal governing compounds in  $*\bar{a}$  of the type Gk. *βαθυ-δίνης* and Lat. *agricola* are remnants of an older individualizing/substantivizing function of the suffix  $*\text{-eh}_2$ , following Nussbaum (2014) and Melchert (2014). This analysis provides additional evidence for the claim that the use of PIE  $*\text{-eh}_2$  as a feminine marker was a relatively late development.<sup>1</sup>

Several Indo-European languages have a class of endocentric<sup>2</sup> compounds whose second member (SM) appears to continue a suffix  $*\bar{a}$ - (<  $*\text{-eh}_2$ -) and which tend to function synchronically as verbal governing compounds (VGCs). Unlike other PIE formations in  $*\text{-eh}_2$ , these compounds are animate masculine nouns, rather than *Motionsfeminina* or collective nouns. Compare the following examples from Greek and Latin:

- 1 Greek
  - a *βαθυ-δίνης* ‘deep-eddying’
  - b *Ὀλυμπιο-νίκᾱς* ‘winner at the Olympic games’
- 2 Latin
  - a *agri-cola* ‘farmer’ < ‘dwelling in the country’<sup>3</sup>
  - b *indi-gena* ‘native’

Other branches that have been argued to have similar formations are Armenian, Slavic, Germanic, and Tocharian.<sup>4</sup> This paper aims to address two main questions raised by this type:

- Do the different IE languages reflect a common type, i.e., is this kind of compound formation inherited?

---

1 We wish to thank Melanie Malzahn, Craig Melchert, Alan J. Nussbaum, Jeremy Rau, and Stefan Schaffner for helpful discussions and comments on previous versions of this paper. We are also very grateful to the editors and reviewers of this volume for their help and suggestions. All remaining errors are, of course, our own.

2 Endocentric compounds of the type X-Y can be paraphrased as “an X characterized by Y”. Exocentric compounds of the type X-Y, on the other hand, are not headed by X or Y and can be paraphrased as “having an X characterized by Y” or “whose X is Y”. Simplex nominals can be endo- or exocentric, too (“an X one, one who is X” vs. “of X” or “having X”).

3 This compound is sometimes analyzed as having a transitive SM (“plowing the field”), but the comparison with other compounds in *-cola* (see section 1.2 below) shows that the SM was originally intransitive.

4 The Tocharian compounds of the type <sup>B</sup>*kärtse-rita* ‘searching the good’, <sup>A</sup>*šotre-lyāk* ‘seeing signs’ are excluded from this study because their SM cannot go back to an  $*\text{-eh}_2$ -stem for phonological reasons (see Fellner 2014). The Germanic type OHG *heri-zohol-zogo*, OS *heri-togo*, OE *here-toga* ‘dux’, etc., usually cited in this context has *n*-stem inflection. There are no traces of an  $*\bar{a}$ -stem in the SM, which is therefore much more likely to reflect a root noun or *o*-stem; these were routinely extended with the suffix  $*\text{-an-}/\text{*}\text{-jan-}$  (RGA, s.v. Herzog; Schaffner 2001: 569ff.). The Slavic type of OCS *voje-voda* ‘leader of the army’ does go back to compounds with  $\bar{a}$ -stem SM, but should be kept separate from the Greek and Latin types for other reasons (see section 2.3 below). Armenian, however, continues a type of masculine VGC with SM in  $*\bar{a}$  and R(*o*)-grade, e.g., *t<sup>c</sup>ag-a-wor*, *-aworac* ‘crown-bearer; king’ <  $*\text{-b<sup>h</sup>or-}\bar{a}$ , etc. (see Olsen 1999) which could in principle be more closely related to the Greek type (thus already Meillet 1914). For reasons of space, we concentrate on Greek and Latin in the following discussion.

- How can the unexpected use of the suffix  $*-eh_2$  in the second compound member be explained?

Concerning the first question, we are going to argue that this compound type is an inherited feature of at least Greek and Latin (and probably Armenian, see fn. 4). As for the second question, we are going to present arguments that the use of apparently masculine  $*-\bar{a}$  in these verbal governing compounds is an archaism preserving animate (and not strictly feminine) use of PIE  $*(e)h_2-$ , following recent contributions by Nussbaum (2014) and Melchert (2014) on this topic.

## 1. Compounds in $*-\bar{a}$ in Greek and Latin

### 1.1. Greek

The Greek VGCs in  $*-\bar{a}$  ( $-\eta\varsigma/-\bar{\alpha}\varsigma$ ) can be divided into two subclasses: (synchronically) denominal compounds and (synchronically) deverbal compounds. The first of these can furthermore be divided into compounds whose SM does not correspond to a synchronic  $\bar{a}$ -stem and compounds whose SM does. We argue that the denominal subclass is the most archaic one and was the starting point of the type (essentially following Rüedi 1969).

#### 1.1.1. Denominal compounds

The class consists of compounds in  $-\eta\varsigma/-\bar{\alpha}\varsigma$  besides possessive (exocentric) compounds with a root noun or  $o$ -stem SM. The following table provides a representative overview of this class.

TABLE 1 Possessive compounds in  $-\eta\varsigma/-\bar{\alpha}\varsigma$

root noun	$o$ -adjective	$-\eta\varsigma/-\bar{\alpha}\varsigma$ stem
( <i>κύκλ-</i> , <i>δειν-</i> , <i>Αιθί-</i> ) (-)ωψ (Hom., Hes.) ‘eyed’ $*-o\psi$ ‘-voiced’	<i>δειν-ωπός</i> (Hes.) ‘fierce-eyed’	<i>κυν-ῶπα</i> (Hom., Vsg.) ‘dog-eyed’ <i>βαρν-όπᾶς</i> (Pi.) ‘having a deep voice’
( <i>δί-</i> )ζυξ <sup>5</sup> ‘double-yoked’ (Hom.)	<i>ἐκατό-ζυγος</i> ‘hundred-yoked’ (Hom.)	<i>βου-ζύγης</i> ‘cattle-yoking’ (Att., name of a group of priests)
(-)φῶρ ‘thief’	<i>ἄθλο-φόρος</i> ‘bearing the prize’ (Hom.)	<i>σαμ-φώρας</i> ‘San-bearing’ (of horses) (Ar.)
( <i>ἄμφι-</i> , <i>οἰκό-</i> )τριψ (Ar., Arch.)	( <i>ἄ-</i> )τριβος ‘-worn, -trodden’ (Thuc.)	<i>παιδο-τριβης</i> ‘trainer of children’ (Pi.)
( <i>τρι-</i> )πους ‘measuring (three) feet; tripod’ (Hom.)	( <i>ἐκατόμ-</i> )πεδος ‘measuring (a hundred) feet’ (Hom.)	<i>ἑπτα-πόδης</i> ‘seven feet long’ (Hom.)
[Ved. <i>pari-kṣí-t-</i> ‘dwelling around’ < $*tk-i-t-$ ]		<i>περι-κτίται</i> <sup>6</sup> ‘neighbors’ (Hom.)

Note that while the root nouns and  $o$ -stems found as SMs are also synchronically used as simplex nouns, the same is not true for the  $-\eta\varsigma/-\bar{\alpha}\varsigma$  stems in the last column. That is, there are no synchronic  $\bar{a}$ -stems  $*\bar{\omega}\bar{\alpha}\varsigma$  or  $*\zeta\bar{\upsilon}\gamma\eta\varsigma$  at this stage in Greek, be it with or without possessive semantics. This suggests that the derivational basis for denominal compounds in  $-\eta\varsigma/\bar{\alpha}\varsigma$  were possessive compounds with root noun or  $o$ -stem SMs rather than the simplex  $\bar{a}$ -stems.

## 1.1.2. Mycenaean

Denominal masculine *ā*-stems are also found in Mycenaean Greek. Leukart (1994), after a thorough discussion of the Mycenaean stems in /-ās/ and /-tās/, points out that many of the masculine/animate stems in /-ās/ are found beside *collective* /-ā/ stems designating geographical locations (place names, etc.) or social groups. Examples (from Leukart 1994: 147ff.) include:

TABLE 2 Mycenaean stems in /-ā/ and /-ās/

/-ā/ stem		/-ās/ stem
*/Krētā/ Κρήτᾱ ‘Crete’	→	<i>Ke-re-ta-o</i> , gen.sg. of /Krētā-s/, ‘(male) person from Crete’
*/orehā/ ‘mountainous region’ (cp. Gk. ὄρος ‘mountain’)	→	<i>O-re-a<sub>2</sub></i> /Orehā-s/ ‘(male) person from a mountainous region’
*/hwētā/ ‘clan’	→	*/hwētā-s/ ‘individual belonging to the clan’ (cp. Hom. nom.pl. ἔται ‘clansmen’)

Leukart proceeds to analyze these stems in /-ās/ as individualizations/substantivizations of the corresponding collective /-ā/ stems. By adding the (animate) nominative singular ending -s, a derivative meaning “one of x, belonging to x” was created (where x is a geographical location or a social group).<sup>5</sup>

While this analysis works well for the cases cited above, it is less intuitive in the case of the denominal compound type discussed in section 1.1.1. Although rare, this type is also found in Mycenaean, cp. 3), as are simplex /-ās/ stems functioning as personal names, cp. 4):

- 3 a *Ti-ri-jo-qa* (PN, Τριοπᾶς) “three-eyed one”, cp. Hom. voc. κυνώπα
- b *Po-da* (PN) could be a short form of a compound in -πόδης (Leukart 1994: 211 and fn. 207), cp. Hom. Ποδῆς, e.g., *keu-po-da* /geu-pod-ās/ ‘with crooked feet’ (Leukart 1994: 224f.)
- c *me-ta-ki-ti-ta* /meta-ktit-ai/ ‘co-settlers, -dwellers’ (Leukart 1994: 66f.)
- 4 a *E-ru-ta-ra* /Erut<sup>h</sup>r-ās/ (PN, “red one” vel sim.) ← ἐρυθρός ‘red’
- b *E-ke-a* /Enk<sup>h</sup>eh-ās/ (PN, “of the spears” vel sim.) ← ἔγχος ‘spear’

In these cases there is no reason to assume an intermediate derivational step via collectives, that is, it is implausible that /-ōpās/ was derived from a collective \*(-)ōp-ā ‘(collective, pairs of) eyes’, or /Enk<sup>h</sup>eh-ās/ from a collective \*/enk<sup>h</sup>eh-ā/ ‘(collective of) spears’. This suggests that the collectives → singulatives derivation of table 2 requires a different parsing than the possessive compounds of table 1. The former should be parsed as /Krētā-s/ (/Krētā/), \*/hwētā-s/ (\*/hwēt-ā/): the nom.sg. ending -s is added directly to the *ā*-stem. The latter, on the other hand, must be parsed as /-ōp-ās/, -ποδ-ης, -ζυγ-ης, etc., and crucially *not* as /-ōpā-s/, ποδης-ς, and -ζυγη-ς. The derivational chain we propose for this class is therefore the one in 5):<sup>6</sup>

- 5 a [[ (δί-) ] [ -ζυγ- ]<sub>N</sub> ∅ ]<sub>A</sub> or
- b [[ (ἐκατό-) ] [ -ζυγ- ]<sub>N</sub> -ο- ]<sub>A</sub> →
- c [[[ (βου-) ] [ -ζυγ- ]<sub>N</sub> ∅ ]<sub>A</sub> -η- ]<sub>N</sub>

5 This may also be the right analysis for Gk. νεανίης ‘young man, youth’ (Hom. +) that could conceivably have been derived from an abstract or collective stem \*νεανιά ‘youth’ (cp. the two meanings of Engl. *youth*).

6 This analysis is based on Fellner (In preparation).

Descriptively, this means that an adjectival possessive compound with a root noun (5a) or *o*-stem (5b) SM was turned into an “individualized” substantive by adding the suffix *-ā-* or replacing the suffix *-o-* with *-ā-* (assuming the intermediate step 5b). This differs from Leukart’s analysis for the group of nouns in table 2, where the individualizing/substantivizing force of the derivative comes from adding the animate inflectional ending(s) alone. Before going deeper into this analysis, we discuss two other types of synchronic Greek compounds in *-ης/-ᾶς*.

### 1.1.3. Denominal compounds II: Possessive compounds with synchronic *ā*-stem SMs

The second type of denominal compounds is likewise possessive and has (semantically concrete) synchronic feminine *ā*-stems as SM. This type is not found in Mycenaean Greek (or Latin, for that matter). Examples are given in the following table.

TABLE 3 Compounds with *ā*-stem SMs

Simplex <i>ā</i> -stem	Compound
μελίη ‘spear’	ἐϋ-μμελίη-ς ‘having a good spear’ (Hom.)
τέχνη ‘art’	κλυτο-τέχνη-ς ‘famous for one’s art’ (Hom.)
λύρα ‘lyre’	εϋ-λύρα-ς ‘having a good lyre’ (Sapph.)
χάρμη ‘battle’	ἰππ(ι)ο-χάρμη-ς ‘battling from a chariot’ (Pi., Hom., Hes.)
κόμη ‘hair’	χρυσο-κόμη-ς ‘golden-haired’ (Pi.)

Crucially, there are no corresponding simplex stems in *-ης/-ᾶς* (\*μελίης, \*τέχνης, etc.). These compounds should therefore be analyzed as synchronic possessive compounds with feminine *-η/-ᾶ*-stem SMs that were supplied with the “individualizing” nominative singular ending *-s*. Our proposed parsing of these compound is given in (6):

$$6 \quad [[[ \text{κλυτο-} ] [ \text{τέχνη-} ]_N \emptyset ]_A -\text{ς}]_{A/N}$$

That is, the individualizer attaches to the same *∅*-suffix that we assume in adjectival possessive compounds like *τρι-πους* and that converts a noun-noun structure into an adjective. This structure is crucially *not* that of 7), which would make it entirely parallel to 5).

$$7 \quad *[[[ \text{κλυτο-} ] [ \text{τέχνη-} ]_N \emptyset ]_A -\text{ης}]_{A/N}$$

### 1.1.4. Deverbal compounds

Related to the last type, Greek also has a class of productive verbal governing compounds in *-ης/-ᾶς* that must ultimately stem from the denominal type discussed in the previous section. As argued by Rüedi (1969), compounds such as *Ὀλυμπιο-νίκης* ‘winner at the Olympic games’ and *βαθυ-δίνης* ‘deep-eddying’ were formally ambiguous. The stem of the SM could be interpreted as belonging to a synchronic feminine *-η/-ᾶ*-stem (*νίκη* ‘victory’, *δίνη* ‘eddy’), hence as a nominal stem, but it could also be interpreted as a verbal stem, e.g., the stem of a verb like *νικάω* (aor. *ἐνίκησα*) ‘conquer, be victorious’ or *δινάω* ‘whirl, eddy’.<sup>7</sup> Through this ambiguity, a reinterpretation of this type of possessive compounds as verbal governing compounds became possible (this is also the view of Malzahn in press).

7 These verbs are of course themselves ultimately denominal to feminine *ā*-stems, i.e., the first column in table 4.

The following table gives some examples of VGCs in *-ης/-ᾶς* with their corresponding feminine *ā*-stem and verb.

TABLE 4 Greek VGCs in *-ης/-ᾶς*

Simplex <i>ā</i> -stem	verb	Compound in <i>-ης/-ᾶς</i>
δίνη ‘eddy’	δινάω, -έω ‘whirl’	βαθυ-δίνης ‘deep-eddying’ (Hom.)
ἀγορή ‘assembly’	ἀγορεύω, ἀγοράσμαι ‘assemble’	λαβρ-αγόρης ‘talking boldly’ (Hom.)
βοά ‘cry’	βοάω ‘cry’	βαρυ-βόας ‘crying out loud’ (Pi.)
δίκη ‘judgement’	δικάζω ‘judge’	ἰθυ-δίκης ‘giving the right judgement’ (Hes.)
νίκη ‘victory’	νικάω ‘be victorious’	Ὀλυμπιο-νικάς ‘winner at the Olympic games’ (Pi.)

Following Rüedi, we analyze these compounds as having developed from the denominal type II discussed in section 1.1.3. This means that a structural reinterpretation must have taken place that took these compounds from possessive compounds of the structure 8) (cp. 6)) to VGCs of the structure 9).

- 8 [[[ βαθυ- ] [δίνη- ]<sub>N</sub>∅ ]<sub>A</sub> -ς]<sub>A/N</sub> →
- 9 [[[ βαθυ- ] δίνη]<sub>V</sub>-ς]<sub>A/N</sub>

For reasons to be discussed below (section 2.3), we consider both the denominal type II and the VGC type to be purely inner-Greek developments.

### 1.2. Latin

The Latin masculine VGCs with *a*-stem SMs are less productive than their Greek *comparanda*. While the Greek types discussed in section 1.1 are consistently sigmatic,<sup>8</sup> the Latin masculine *a*-stems are asigmatic and follow the class I declension. This has led many scholars to believe that the Greek and Latin types are independent developments of the two branches and historically unrelated (e.g., Lindner 2002, Weiss 2009, Malzahn in press). However, the Latin *a*-stem compounds and the Greek compounds in *-ης/-ᾶς* share a number of distributional similarities, the most important being the association with compounds with almost synonymous root noun and *o*-stem SMs and the same basic distinction between denominal and deverbal compounds (although this is much less clear-cut than in Greek). They also both

8 The occasional asigmatic forms found in Greek are unlikely to be remnants of an older, *s*-less stage of these compounds, see Leukart (1994: 42ff.), Malzahn (in press). On the other hand, Latin provides a few attestations of *agricola*-compounds with a sigmatic nominative singular, i.e., *tremi-pedas* ‘having trembling feet’ (Varr.), *hosti-capas* ‘capturer of enemies’ (Paul. ex Fest.), *pāri-cīdas* ‘slayer of one’s parents’ (Paul. ex Fest.). It is doubtful that these sigmatic forms are archaic; Leumann (1977: 281) suggests that the *-s* was introduced in analogy with masculine *o*-stems, or possibly under the influence of the Greek VGCs in *-ης/-ᾶς*. For reasons of space, we cannot discuss the question of whether or not the nominative singular of masculine *\*-eh<sub>2</sub>*-stems was originally sigmatic in more detail. However, note that such stems are synchronically in an awkward position in languages like Greek and Latin, where stems in *\*-eh<sub>2</sub> > -ā* normally surface as feminines. Because of their grammatical gender (masculine), there is analogical pressure for them to develop a sigmatic nominative singular, but because of their stem class (*-ā-*), they are just as likely to remain/become asigmatic. These conflicting paradigmatic requirements existed both in Latin and in Greek. We therefore do not consider the question of the nominative singular ending of the VGCs in *\*-ā* as relevant to our argument.

tend to develop into substantival, masculine designations of professions that are almost agent-noun-like.

Unambiguously denominal is the SM *-peda(s)*<sup>9</sup> in *tremi-pedas* ‘with trembling feet’ (Varr.),<sup>10</sup> *plūmi-peda* ‘feather-footed’ (Catul.), and *Centum-peda* ‘centipede’ (epithet of Jove, Aug.) contrasting with compounds in *pēs* ‘footed’ and *-pedus* (e.g., *com-pedus* ‘fettering’ (Varr.)). Another very likely candidate is *aurīga* ‘charioteer’, which is not attested until Classical Latin, but whose phonology points to an older formation in *-ig-ā* < *\*-ag-ā* (Lindner 2002: 217; from *agō* ‘drive’). The corresponding type of root noun compound is attested from Plautus on (*rēm-ex* ‘rower’), and we also find a late compound *aure-ax* ‘charioteer’ (Paul. ex Fest.). Finally, the root vocalism and semantics of *collēga* ‘colleague’ (Varr.) make it unlikely that this SM was derived from *legō* ‘collect, gather’. It is presumably denominal to *lēs* ‘law’ (*illēs*, *lēgis* ‘lawless’ (Plaut.), denominal *lēgō* ‘send, despatch’), but *collēgium* ‘guild’ is also a possible derivational basis.<sup>11</sup>

However, the majority of Latin *agricola*-compounds can be synchronically analyzed as deverbal, or at least ambiguous between denominal and deverbal. The following table summarizes these compounds. Note that most of them also have corresponding root-noun or o-stem SMs (or both) beside them.

TABLE 5 Latin deverbal *agricola*-compounds

Verb	compound	root noun	o-stem
<i>capīō, -ere</i> , ‘hold, seize’	<i>hosti-capas</i> ‘hostium captor’ (Paul. ex Fest.)	<i>-ceps</i> ‘seizing’	<i>-capus</i> ‘-seizing’
<i>caedō, -ere</i> , ‘cut (off)’	<i>bū-caeda</i> ‘one who is struck with a cowhide’ (Plaut.), <i>cibi-cīda</i> ‘breadwaster’ (Lucil.), <i>lapi-cīda</i> ‘stone-cutter’ (Varr.)		[ <i>muri-cīdus</i> <sup>14</sup> (?)]
<i>colō, -ere</i> , ‘cultivate’	<i>in-cola</i> m./f. ‘inhabitant’, <i>ac-cola</i> ‘neighbor’ (Plaut.), <i>caeli-cola</i> ‘sky-dwelling’ (Enn.), <i>agri-cola</i> ‘farmer’ (Lucr.)		[Gk. <i>αἰπόλος</i> ‘goatherd’, <i>βου-κόλος</i> ‘cowherd’]
<i>fugiō, -ere</i> , ‘flee’	<i>lūcri-fuga</i> ‘gain-fleeing’ (Plaut.), <i>trans-fuga</i> ‘deserter’ (Cic.)		<i>lūci-fugus</i> ‘light-shunning’ (Verg.)
<i>gignō, -ere</i> ; <i>genō, -ere</i> ‘beget’	<i>indi-gena</i> <sup>15</sup> ‘native’ (Varr.)		<i>-genus</i> ‘born, originating’ (Varr., Lucr.)
<i>petō, -ere</i> ‘ask, seek’	<i>agri-peta</i> m. ‘seeker of land’ (Cic.)		
<i>rumpō, -ere</i> ‘break’	<i>lēge-rupa</i> ‘lawbreaker’ (Plaut.)		
<i>secō, -āre</i> ‘cut’	<i>faeni-seca</i> ‘mower, cutter’ (Varr., Pers.)	<i>faeni-sex</i> ‘mower’ (Varr.)	<i>flucti-secus</i> ‘wave-cutting’ (Sen.)

9 The lack of medial syllable weakening in *-peda* (cp. *aurīga* in the main text) does not mean that this must be a recent formation, since *pēs* and its derivatives in general do not show weakening.

10 Lindner (2010: 156f.)

11 Cp. Bader (1962: 133) on *collēga* and *convīva*.

<i>sequor, sequī</i> 'follow'	<i>bu-sequa</i> 'cowherd' (App.)	<i>-sequus</i> 'following'
<i>veniō, -īre</i> 'come'	<i>ad-vena</i> 'newcomer' (Plaut.)	
<i>convīvor,</i> <i>vīvārī</i> 'feast to- gether'	<i>con-vīva</i> 'table companion' (Plaut.)	[(-) <i>vīvus</i> 'alive, living']

To conclude this section, we have outlined the strong functional and morphological parallels which the Latin masculine VGCs in *-ā* share with their counterparts in Greek. The evidence of these two languages points to an inherited category.

## 2. Previous approaches

Previous accounts of the VGCs in *-ā* fall into four basic categories. The first approach argues that the SMs of these compounds go back to old collective *\*eh<sub>2</sub>*-stems that underwent a semantic shift and were then used to designate individuals belonging to the collective. This is basically the approach of Leukart (1994) in accounting for certain masculine simplex *ās*-stems in Mycenaean Greek (type /*Krētās*/, etc., see section 1.1.2 above). Similarly, Klingenschmitt 1992 argues that Latin simplex masculine *a*-stems seen in particular personal names like *Numa*, *Proca*, etc., go back to old collectives designating different families and were then used to refer to individual members of those families.

The second approach argues that these compounds go back to old possessive compounds with feminine verbal abstracts in *\*-ā-* < *\*-eh<sub>2</sub>-* as SMs that were subsequently reanalyzed as endocentric and deverbal. This approach was already discussed in section 1.1.4 in connection with the analysis of Rüedi (1969) for the Greek *βαθω-δινης*-type and has also been proposed by, e.g., Schindler (in class), Lindner (2002) for Latin, and Malzahn (in press) for Greek.

The third approach is similar to the second one, but instead of possessive compounds takes determinative compounds with verbal abstracts in *\*-ā-* as SMs as a starting point. These were then reinterpreted as concrete nouns (e.g., Klingenschmitt 1992, Weiss 2009). These first three approaches are in principle compatible with projecting this compound type as a whole back to Proto-Indo-European.

Finally, it has been argued that the Latin type goes back to compounds with *set-*root nouns as SMs, the *a*-inflection being due to laryngeal vocalization. In this case, the Latin type must be kept separate from the Greek one (thus, e.g., Saussure 1909, Bammesberger 1996, Malzahn in press for Latin). In the following, we will address each of these approaches, starting with the last one.

### 2.1. *-cola* < *\*k<sup>w</sup>olh<sub>1</sub>* ?

Following Saussure (1909), it is often argued that the Latin *agricola*-type goes back to compounds with root noun SMs. This is *a priori* plausible because a few of the attested Latin instances of the type do indeed have SMs that continue roots ending in a laryngeal, suggesting the following development:

10 *\*agro-k<sup>w</sup>e/olh<sub>1</sub>(-)* (*\*k<sup>w</sup>elh<sub>1</sub>* 'turn, move about') > *agri-cola*

11 *\*endo-ġenh<sub>1</sub>(-)* (*\*ġenh<sub>1</sub>* 'beget') > *indi-gena*



The new, reanalyzed ending *-a* could then have spread analogically to semantically similar formations.

There are, however, a number of problems with such an account. First, in a root noun SM of this type there are few paradigmatic contexts where (interconsonantal) laryngeal vocalization would be expected in the first place, although a nominative singular of the structure *\*CVR/Lh<sub>1</sub>-s* would undoubtedly have been able to exert considerable pressure on the rest of the paradigm. Whether this would be enough to counteract the laryngeal loss through the “*νεογνός*-rule” expected throughout much of the paradigm (assuming *\*e/ø*-ablaut) is difficult to say.<sup>12</sup> But there are more serious morphological problems. While there are plenty and unambiguous reflexes of root nouns (both simplex and SMs) from *aniṭ*-roots, root nouns made to *seṭ*-roots fare less well, and root nouns with full grade are especially unusual as SMs. Roots of the structures *\*CeH* and *\*CeR* famously surface with an added (morpheme?) *\*-t* (and mostly *R(ø)*) in the daughter languages, e.g., Ved. *pari-kṣi-t-/Gk. περι-κτί-τ-αι*, Ved. *deva-stu-t-*, Lat. *locuplēt-*, etc. Particularly interesting is the Latin compound *praegnās, gnātis* ‘pregnant’, evidently from *\*ḡnh<sub>1</sub>-t-*, showing the expected *t*-extended allomorph. While this does not completely exclude a full grade root allomorph *\*-ḡenh<sub>1</sub>-* as SM, it does provide evidence in favor of assuming that *\*CeRH*-root SMs had *R(ø)* and were treated like *\*CeH* roots (i.e., provided with a root-extending *\*-t*).

Counterexamples to this generalization are found in Sanskrit, where a small number of *\*CeRH* roots surface as synchronic *i*-stems with full grade (“*seṭ*-treatment”) SMs, usually besides equivalent root nouns (“*aniṭ*-treatment”), e.g., Ved. *tuvi-ṣvāni* ‘roaring loudly’ < SM *\*s<sub>1</sub>enh<sub>2</sub>-* (but *\*s<sub>1</sub>o/enh<sub>2</sub>-i-* can of course not be excluded) beside *tuvi-ṣvān-*.<sup>13</sup> But these cases just lead back to the problem that all “laryngeal-vocalization” accounts face: Even if particular lexical items did display vocalization, the resulting type must have been established before that, otherwise one would expect remodeling. That is, even if the root nouns *\*k<sup>w</sup>e/olh<sub>1</sub>-* and *\*ḡenh<sub>1</sub>-* were allowed as SMs with full grade and came out as *-cola* and *-gena* in Latin, it is unlikely that such “aberrant” outcomes would have been preserved if masculine *a*-stems were not already established as possible SMs of certain VGCs.

## 2.2. Collectives in *\*-ā* as SMs?

The assumption that individualizations/substantivizations of old collectives gave rise to compounds with SMs in *\*-ā-* is similar to the analysis of Leukart (1994) of the synchronic function of *\*-ās* in Greek (cp. section 1.1.2). According to Leukart, starting from “singulatives” like */Krētā-s/*, *\*<sup>o</sup>ā+s* was reanalyzed as *\*-ās* and then extended to other nominal bases to create singulatives/individuates. As in the case of the “laryngeal vocalization” account discussed above, the “collective-to-singulative” analysis presupposes that Greek already had a class of masculine (sigmatic) *\*ā*-stems that provided the model for a reanalysis of, e.g., */Krētā-s/* as */Krētās/* (since the relationship between *\*Krētā* and *\*Krētā-s* is otherwise synchronically completely transparent). Hence the problem of the original function of these stems remains even if it were to be extended from Proto-Greek to Proto-Indo-European.

Furthermore, while a synchronic “collective-to-singulative” approach is *a priori* very likely in the case of simplex nouns like Gk. */Krēt-ās/* and Lat. *Numa*, etc., which in a few cases actually have the corresponding *s*-less collectives attested beside them, it is far less likely in the

12 The “*νεογνός*-rule”, in different formulations, states that laryngeals are lost in certain environments in polysyllabic words, cp. the definition by Weiss (2009: 113), who states the rule as *\*-CRHV- > \*-CRV-* “in non-initial syllables of “long” words (including compounds and reduplicated forms)”. See also Mayrhofer (1986: 64) and Kuiper (1961).

13 Cp. Grestenberger (2014: 92).

case of the older denominative type (*-πόδης*, etc.) because of a morphological rule discussed in the next section which prohibited the use of synchronic *\*-ā*-stems as SMs. We therefore propose that while the “collective-to-singulative” approach may indeed explain certain individual simplex nouns in Greek and Latin, it cannot account for the (far more productive) VGCs in *\*-ā*.

### 2.3. Verbal abstracts in *\*-ā*- in possessive or determinative compounds?

The next approaches to be discussed argue that the VGCs in *\*-ā*- seen in Greek and Latin go back to possessive or determinative compounds with abstract feminine *\*-ā*-stems as SMs.

For possessive compounds, this is the same analysis as that of the Greek subtype *κλυτο-τέχνης* given in section 1.1.3, but extended to Proto-Indo-European (or at least Pre-Greek or Pre-Latin). The structure of such a possessive compound would be:

12  $[[X][Y-ā]_N - \emptyset]_A$

This would then have been reinterpreted as a VGC along the lines discussed in section 1.1.4 for *βαθυ-δίνης*, etc. For determinative compounds, the analysis posits a metonymic reanalysis of abstract nouns as concrete nouns. The structure of such a determinative compound would be:

13  $[[X]Y-ā]_N$

While it is true that a reanalysis of abstract as concrete/individual nouns is a well-attested development (cp. NHG *Bedienung* ‘waiter, waitress’ < ‘service’, Modern English *youth*), it is a lexical, not a morphological change. This means that concretizations/individualizations of this type are sporadic and confined to individual lexical items. Such sporadic lexical changes are not enough to transform a suffix making verbal abstracts into a suffix making individuals/agents. Furthermore, the abstract usually does not lose its original denotation and/or change its original gender (cp. NHG *Bedienung* f. (!) 1. ‘service’, 2. ‘waiter’; OCS *vojevoda* ‘leader of the army’ (< *\*‘lead of the army’?*), usually m. but occasionally still f., e.g., *dvě vojevodě* f. ‘two generals’;<sup>14</sup> etc.).

There is another important counterargument to all approaches assuming abstract or collective *\*-ā*-stems as SMs, namely the fact that Proto-Indo-European seems to have had a restriction against using verbal abstracts in *\*-ā* as SMs of possessive or determinative compounds with a nominal first member (AiG II,2: 249: “Gemäß einer wohl grundsprachlichen Regel sind Abstrakta auf *-ā*- nicht üblich hinter Nominalstämmen.” Cp. also Debrunner 1917: §139, §145; Leumann 1977: 281). Descriptively, this morphological rule works similarly to the replacement of adjectival morphemes by the suffix *\*-i-* in the first compound member of possessive compounds (“Caland system”), i.e., it is a synchronically opaque replacement rule in certain morphological environments. There are several strategies for this kind of replacement. One possibility is to replace the suffix *\*-ā-* with *\*-o-*; examples include Gk. *τιμή* ‘honor’ → *ἄ-τιμος* ‘without honor’, *ζώνη* ‘belt’ → *ἐύ-ζωνος* ‘well-girded’, etc., Ved. *jihvā-* ‘tongue’ → *mādhu-jihva-* ‘having a sweet tongue’, *jyā-* ‘bowstring’ → *ṛtā-jya-* ‘having a good bowstring’, *śraddhā-* ‘belief’ → *a-śraddhā-* ‘unbelieving’, etc.<sup>15</sup>

14 See Miklosich (1883: 22), Fraenkel (1912: 120), Vasmer (1953–58, 1: 213), Leumann (1977: 281).

15 Interestingly, not all of these are actually diachronically *\*eh<sub>2</sub>*-stems, showing that this rule was still productive in Indo-Iranian where it targeted all synchronic *ā*-stems, independently of their provenance.

Alternatively,  $*\bar{a}$ - can be replaced with  $*i$ .<sup>16</sup> Examples of this process include Gk. ἀλκή ‘strength’ → ἄν-αλκίς, -ιδός ‘defenseless, weak’, Lat. *barba* ‘beard’ → *imberbis* ‘beardless’, *lingua* ‘tongue’ → *trilinguis* ‘having three tongues’ (i.e., speaking three languages), *arma* ‘weaponry’ → *inermis* ‘unarmed’, etc.

This makes it very unlikely that the VGCs in  $*\bar{a}$  go back to compounds of the structures given in 12) and 13), since Proto-Indo-European apparently did not allow such structures. In fact, there are only a few examples of compounds with  $*\bar{a}$ -stem SMs in the individual branches, and these are always *determinative* (i.e., endocentric) compounds that are clearly recognizable as non-inherited (language-specific) formations, whose SM is furthermore usually a concrete noun. Examples include Ved. *māṃsa-bhīkṣā*- f. ‘request for meat’, *dur-hāṃā*- f. ‘harm, disaster’, and Gk. *oīno-χόη* ‘wine pitcher’ (Hes.) (but note ἄ-βουλίᾱ ‘indecision’ ← ἄβουλος, vs. βουλή ‘decision’, etc.).

The only possible exception to this replacement rule has already been pointed out, namely the Greek type *κλυτο-τέχνης* (section 1.1.3.), which seems to synchronically permit abstract and concrete feminine  $\bar{a}$ -stems as SMs of possessive compounds. However, it is important to note that many of these compounds actually have *o*-stem compounds beside them that seem to have almost the same function (epithets, attributive adjectives). Examples are given in the following table:

TABLE 6 Greek  $\bar{a}$ -stems besides *o*-stems in possessive compounds

<i>κλυτο-τέχνης</i> -ς ‘famous for one’s art’ (Hom.)	<i>κακό-τεχνος</i> ‘using bad art’ (Hom.)
<i>χρυσο-κόμη</i> -ς ‘golden-haired’ (Pi.)	<i>ἵππο-κομος</i> ‘adorned with horsehair’ (Hom.)
<i>Ὀλυμπιο-νικάς</i> ‘winner at the Olympic games’ (Pi.)	<i>πάν-νικος</i> ‘all-victorious’ (Bacchyl.)
<i>πεζο-μάχας</i> ‘foot soldier’ (Pi.)	<i>ἵππο-μαχος</i> ‘fighting on horseback’ (Hom.)

Note that all the *o*-stem SMs are attested at least as early or earlier than the corresponding SMs in *-ης/-ᾶς*. This suggests that the derivational history was originally *τεχνή* → possessive compound *X-τεχνος* (adj.) ‘having *τεχνή*’ with the expected replacement of  $\bar{a}$ - by *o*- (cp. *ζώνη* → *εὐζων-ος*, etc.), and that this possessive compound was then in turn the derivational basis of a compound in *-ης/-ᾶς* (→ *X-τέχνης* ‘one having *τεχνή*’). The precise mechanism of this last step is discussed in section 3. For now, it suffices to conclude that there is no evidence that Proto-Indo-European had possessive compounds of the structure  $[[X] [Y*\bar{a}]_N -\emptyset]_A$  that could have been the basis for a reinterpretation as VGCs.

In the next section, we introduce a new analysis of the Greek and Latin VGCs in  $*\bar{a}$  based on recent insights into the history of the suffix  $*eh_2$ .

### 3. Analysis

#### 3.1. $*eh_2$ as “individualizing” suffix

The suffix  $*eh_2$  is usually recognized to have had three different functions in (late) Proto-Indo-European: It made (1) collective nouns (neuter plurals), (2) feminine abstracts, and (3) *Motionsfeminina* to thematic masculine adjectives. As argued by Nussbaum (2014), the last

16 Diachronically,  $*i$ -substitution presumably started out as substantivization of  $*o$ -adjectives that were themselves the replacement of  $*eh_2$ -abstract SMs. This pattern was then reinterpreted: The derivational chain  $*eh_2 \rightarrow *o \rightarrow *i$  was reanalysed as  $*eh_2 \rightarrow *i$  in some languages.

function (feminine adjectives to thematic adjectives) could have developed out of an original ‘substantivizing’ function of PIE *\*-eh<sub>2</sub>*. That is, the suffix originally made endocentric substantivizations of (thematic) adjectives (functionally similar to the Germanic “weak” adjectives, see section 3.2 below), which then tended to become re-adjectivized and gave rise to the adjectival *\*ā*-feminine that is preserved in most IE languages. The derivation of functions (2) and (3) are summarized in table 7, based on Nussbaum (2014).

TABLE 7 *\*-o-* → *\*-eh<sub>2</sub>*

Possessive adj. in <i>*-o-</i>	→	Adjectival abstract (f.) in <i>*-eh<sub>2</sub>-</i> :
<i>*uēro-</i> ‘true’ (adj., Lat. <i>vērus</i> )	→	<i>*uēreh<sub>2</sub>-</i> ‘truth’ (e.g., OHG <i>wāra</i> f.)
	→	Endocentric substantivization in <i>*-eh<sub>2</sub>-</i> :
	→	<i>*uēreh<sub>2</sub>-</i> ‘true one’ (def.) → ‘true’ (f. adj., e.g., Lat. <i>vēra</i> )

Nothing in this approach predicts that function 3) (endocentric substantivizations) should develop exclusively into a feminine marker. If this function was originally simply to mark nominals as +DEFINITE, we would expect to see the occasional development of this function of *\*-eh<sub>2</sub>-* into a *masculine* individualizing suffix. In other words, we predict the occasional preservation of a non-feminizing function of this suffix as an archaism in the individual branches. We argue that the Greek and Latin VGCs in *\*-ā* are just such an archaism, and that Greek and Latin therefore preserve both original functions of *\*-eh<sub>2</sub>* sketched out in table 7 (although the original non-feminizing endocentric use is found only in a peripheral part of the grammar).

Another branch that may have preserved the endocentric, substantivizing function of *\*-eh<sub>2</sub>* is Anatolian. As argued by Melchert (2014),<sup>17</sup> the Lycian suffix *-(a)za-* < *\*-t<sub>ǵ</sub>eh<sub>2</sub>-* that designates masculine names of professions preserves the individualizing function of *\*-eh<sub>2</sub>-*.<sup>18</sup> The derivational pattern is in fact similar to the one presented in table 7: *\*t<sub>ǵ</sub>o-* adjective → *\*t<sub>ǵ</sub>eh<sub>2</sub>-* substantive (animate). We give an example of this pattern in table 8 (based on Melchert 2014).

TABLE 8 Lycian *-(a)za-*

c. subst.	ze-adj.	za-subst./profession
Luv. <i>kumma-</i> ‘sacred’ (subst.)	Lyc. <i>*kummeze-</i> ‘sacred’ (adj.)	Lyc. <i>kumaza-</i> ‘priest’

Other examples of *(a)za-* stems include *maraza-* ‘judge’, *wasaza-* (a kind of priest), *zxxaza-* ‘fighter’, *xddaza-* ‘slave’, etc. Note that even though the Lycian two-gender system means that *-(a)za-* could in principle also continue an originally *feminine* suffix that was later subsumed under the new gender “animate”, the formal and functional similarity with the Greek and Latin compounds is striking (especially the relationship between *\*o-* adjectives and individualizing *\*ā-* stems and the development into names of professions).

Moreover, there is growing evidence that the three-gender-system of Proto-Indo-European was a (relatively) late development that was not shared by Anatolian, which may preserve an older two-gender system (see, e.g., Melchert 2014). Under this assumption, it would not be surprising to find remnants of this non-feminizing use of *\*-eh<sub>2</sub>* in a branch of Anatolian. It is much more surprising that Greek and Latin, which have otherwise turned *\*-eh<sub>2</sub>* into a

17 See also the evidence presented in Hajnal (1994).

18 Cp. Rüedi (1969: 63f.) for a similar development in Greek.

feminine suffix just like the other “Inner IE” branches, should preserve such an archaism. However, both languages have preserved this function in a highly specialized, even peripheral part of their grammar, namely certain VGCs. As is well known, compounds in the individual branches tend to preserve morphological archaisms (cp. the “Caland-system” replacement of adjectival derivational suffixes by *\*-i-* in first members of compound (FMs), internal derivation in the SMs, absolute zero grade of the FMs in possessive compounds, etc.), all of which are synchronically opaque and idiosyncratic. Compound morphology is therefore exactly the place where we would expect an archaic use of individualizing *\*-eh<sub>2</sub>* to be preserved.

The next question to be asked is whether Greek and Latin also provide syntactic evidence for the substantivizing/individualizing function of *\*-eh<sub>2</sub>*, that is, whether the VGCs in *\*-ā* synchronically express definiteness or specificity. Finding traces of this use would confirm the theory that these compounds preserve the individualizing use of *\*-eh<sub>2</sub>* and marked definiteness in noun phrases (i.e., “true one” rather than adjectival “true”).

### 3.2. Syntactic evidence for individualizing *\*-eh<sub>2</sub>*

Proto-Indo-European had several strategies for expressing definiteness in noun phrases. Hajnal (1997) discusses a number of these, among them the Germanic and Balto-Slavic distinction between “strong” and “weak” adjectives (B.-Sl. “long” vs. “short” forms of adjectives). While the Germanic strong adjectives are indefinite and are used both predicatively and attributively, the weak adjectives, which historically go back to deadjectival substantivizations made with the suffix *\*(o)n-* (e.g., *\*h<sub>1</sub>ródh<sup>o</sup>-* ‘red’ > Gmc. *\*rauda-* (Goth. *raufs* etc., cp. Lat. *rūfus* via Sab.; Lith. *raūdas*) → *\*h<sub>1</sub>ródh<sup>on</sup>-* > Gmc. *\*raudan-* (cp. Lat. *Rufō* ‘red-headed person’)), are definite and mostly used attributively. If the Greek and Latin VGCs in *\*-ā* were likewise originally definite and substantival compared to corresponding formations with root noun or *\*o-*stem SMs, we expect them to exhibit similar syntactic behavior in the individual branches. This is a very strong prediction, given the notorious oscillation of Proto-Indo-European nominal morphology between adjectival and substantival use and the time span between the reconstructed endocentric, substantivizing use of the morpheme *\*-eh<sub>2</sub>* and its actual manifestation in the daughter languages. With these caveats in mind, it is interesting that we do actually find attributive use of VGCs in *\*-ā* both in Greek and in Latin already in the earliest attestations. In Greek, this is particularly evident from the use of these compounds as epithets of persons and deities (as in ex. (14)), but they also occur as attributes of non-animate entities, as in (15).

14 Il.1.571:

τοῖσιν δ’ **Ἡφαιστος κλυτοτέχνης ἦρχ’ ἀγορεύειν**  
“and among them *Hephaestus*, famed for his craft, began to speak”

15 Il.15.728–9:

ἀλλ’ ἀνεχάζετο τυτθόν, οἰόμενος θανέεσθαι,  
**θρήνυν ἐφ’ ἑπταπόδην, λίπε δ’ ἴκρια νηὸς ἔϊσης.**  
“Forboding death, he recoiled a little along *the bridge of seven feet* and left the deck of the same ship.”

Attributive use is likewise attested for the Latin *agricola*-compounds. As in Greek, these modify both animate (16, 17) and non-animate nouns (18)).

16 Verg., *Aeneid*, 12,823:

*ne vetus indigenas nomen mutare Latinos*  
“Let not the *native Latins* lose their ancient name”

- 17 Naev., *Belli punici carmen*, 1,10:  
*silvicolae homines bellique inertes*  
 “mountain-dwelling men, unskilled in war”
- 18 Plin., *Naturalis historia*, 14,8,72:  
 ... *dixisse hospiti de indigena vino...*  
 “[he] spoke to the host about the native wine ...”

While it is easy to find evidence for attributive use of the VGCs in *\*-ā* in both languages, it is much more difficult to make a case for a specifically definite use of these compounds (compared to an indefinite or non-specific use of compounds with a root noun or *\*o*-stem SM). In metrical texts, especially in Greek, we furthermore expect that the distribution of compounds in *-ης/-ᾶς* will be to some extent determined by metrical requirements. There are, however, passages where a given case form of a compound in *-ης/-ᾶς* would be in principle metrically equivalent to the same case form of a compound with a root noun or *o*-stem SM. An example is the passage cited above, Il.15.728–9 (θρηῆνυν ἐφ’ ἐπταπόδην ...), in which a compound in *-πεδος* would be metrically equivalent. The choice of a compound in *-ης/-ᾶς* over one in *-ος* must therefore have been determined by other considerations, and definiteness may have been one of them. More examples are found with epithets in *-ης/-ᾶς*, which are often metrically equivalent to corresponding compounds in *-ος* (e.g., Pi. O.6.41 τᾶ μὲν ὁ Χρυσσοκόμας ... (substantival, definite!), Od. 8.286 Ἥφαιστον κλυτοτέχνην, Hes. Th. 947: χρυσσοκόμης δὲ Διώνυσος, and many more). This use in epithets and (later) personal names and names of professions follows the same path of development as that of *\*(o)n-* in Germanic and Latin (type *Catō*, etc.), namely definite adjective/epithet → personal name → family name/name of profession, etc. We intend to discuss the syntactic evidence in more detail elsewhere, but it is important to stress that the distribution of the Greek and Latin VGCs in *-ā* is fully expected under the view presented here.

#### 4. Conclusion

We have argued that the Greek VGCs of the type *βαθυδίνης* and the Latin VGCs of the type *agricola* continue compounds with SMs in non-feminizing *\*-ā*. As a class, these cannot be explained as having developed out of compounds with feminine abstract/collective SMs (neither possessive nor determinative compounds). We argue instead that they are remnants of the “individualizing/substantivizing” use of PIE *\*-eh<sub>2</sub>* along the lines of Nussbaum (2014) and Melchert (2014). That is, we claim that these compounds were endocentric derivatives of possessive compounds that developed into VGCs in the individual branches. Their use as attributive adjectives, epithets, personal names, and designations of professions developed out of the use of *\*-eh<sub>2</sub>* as a marker of definite individualizations.

On the formal side, Greek in particular also preserves traces of an original derivational chain whereby an adjectival formation (*\*o*-stem or root noun in the SMs of possessive compounds) was substantivized/individualized using the suffix *\*-eh<sub>2</sub>*, e.g.:

- 19 a *\*x-pod-* ‘*x*-footed’/*\*x-pod-o-s* ‘*x*-footed’ → *\*x-pod-eh<sub>2</sub>* ‘one who is *x*-footed’  
 b Gk. *-πους* (*/-πεδος*) → *-πόδης*
- 20 a *\*x-īug-* ‘*x*-yoked/yoking’/*\*x-īug-o-s* ‘*x*-yoked/yoking’ → *\*x-īug-eh<sub>2</sub>(-)* ‘one who is *x*-yoked/yoking’  
 b Gk. *-ζυξ* (Ved. *-yuj-*)/*-ζυγος* → *-ζύγης*

While this substantivizing function of *\*-eh<sub>2</sub>* went on to develop into the “thematic” adjectival feminine in most Indo-European daughter languages (including, of course, Greek and Latin),



the *agricola/βαθυδίνης*-compounds preserve traces of the earlier, not specifically feminine use of this suffix. Independent evidence for this use is furthermore found in Lycian.

### References

- AiG II,2 = Albert Debrunner. 1954. *Altindische Grammatik*, vol. 2(2). *Die Nominalsuffixe*. Göttingen: Vandenhoeck & Ruprecht.
- Bader, Françoise. 1962. *La formation des composés nominaux du Latin*. Paris: Les Belles Lettres.
- Bammesberger, Alfred. 1996. Die maskulinen *a*-Stämme und der Verbaltyp *occupāre*. In A. Bammesberger & F. Heberlein (eds.), *Akten des VIII. Internationalen Kolloquiums zur lateinischen Linguistik*, 50–60. Heidelberg: Winter.
- Debrunner, Albert. 1917. *Griechische Wortbildungslehre*. Heidelberg: Winter.
- Fellner, Hannes A. 2014. PIE feminine *\*-eh<sub>2</sub>* in Tocharian. In S. Neri & Roland Schuhmann (eds.), *Studies on the collective and feminine in Indo-European from a diachronic and typological perspective*, 7–21. Leiden & Boston: Brill.
- Fellner, Hannes A. In preparation. Theoretical perspectives on IE nominal compounding.
- Fraenkel, Ernst. 1912. *Geschichte der griechischen Nomina agentis auf -τήρ, -τωρ, -της (-τ-)*, vol. 2. Strassburg: Trübner.
- Grestenberger, Laura. 2014. Zur Funktion des Nominalsuffixes *\*-i-* im Vedischen und Indogermanischen. In N. Oettinger & T. Steer (eds.), *Das Nomen im Indogermanischen. Morphologie, Substantiv versus Adjektiv, Kollektivum. Arbeitstagung der Indogermanischen Gesellschaft vom 14. bis 16. September 2011 in Erlangen*, 88–102. Wiesbaden: Reichert.
- Hajnal, Ivo. 1994. Die lykischen *a*-Stämme. In J. E. Rasmussen & B. Nielsen (eds.), *In honorem Holger Pedersen. Kolloquium der Indogermanischen Gesellschaft vom 26. bis 28. März 1993 in Kopenhagen*, 135–171. Wiesbaden: Reichert.
- Hajnal, Ivo. 1997. Definite nominale Determination im Indogermanischen. *Indogermanische Forschungen* 102. 38–73.
- Klingenschmitt, Gert. 1992. Die lateinische Nominalflexion. In O. Panagl & Th. Krisch (eds.), *Latein und Indogermanisch. Akten des Kolloquiums der Indogermanischen Gesellschaft, Salzburg, 23.–26. Sept. 1986* (Innsbrucker Beiträge zur Sprachwissenschaft 64), 89–135. Innsbruck: Institut für Sprachwissenschaft der Universität Innsbruck.
- Kuiper, Franciscus Bernardus Jacobus. 1961. Zur kompositionellen Kürzung im Sanskrit. *Die Sprache* 7. 14–31.
- Leukart, Alex. 1994. *Die frühgriechischen Nomina auf -tās und -ās. Untersuchungen zu ihrer Herkunft und Ausbreitung (unter Vergleich mit den Nomina auf -eús)*. Wien: Verlag der Österreichischen Akademie der Wissenschaften.
- Leumann, Manu. 1977. *Lateinische Laut- und Formenlehre*. 5th ed. München: H. C. Beck.
- Lindner, Thomas. 2002. *Lateinische Komposita. Morphologische, historische und lexikalische Studien* (Innsbrucker Beiträge zur Sprachwissenschaft 105). Innsbruck: Institut für Sprachwissenschaft der Universität Innsbruck.
- Lindner, Thomas. 2010. Textkritische Probleme bei lateinischen Nominalkomposita. In P. Anreiter & M. Kienpointner (eds.), *Latin linguistics today: Akten des 15. internationalen Kolloquiums zur Lateinischen Linguistik, Innsbruck, 4.–9. April 2009* (Innsbrucker Beiträge zur Sprachwissenschaft 137), 155–166. Innsbruck: Institut für Sprachwissenschaft der Universität Innsbruck.
- Malzahn, Melanie. In press. Nominal compounding. In M. Weiss & A. Garrett (eds.), *Handbook of Indo-European studies*. Oxford University Press.

- Mayrhofer, Manfred. 1986. *Indogermanische Grammatik*, vol. 1(2). *Lautlehre [Segmentale Phonologie des Indogermanischen]*. Heidelberg: Winter.
- Meillet, Antoine. 1914. De la composition en arménien. *MSL* 18. 245–270.
- Melchert, H. Craig. 2014. PIE \*-eh<sub>2</sub> as an “individualizing” suffix and the feminine gender. In S. Neri & Roland Schuhmann (eds.), *Studies on the collective and feminine in Indo-European from a diachronic and typological perspective*, 257–272. Leiden & Boston: Brill.
- Miklosich, Franz. 1883. *Vergleichende Grammatik der slawischen Sprachen*, vol. 4. *Syntax*. Wien: Braumüller.
- Nussbaum, Alan J. 2014. Feminine, abstract, collective, neuter plural: Some remarks on each (expanded handout). In S. Neri & Roland Schuhmann (eds.), *Studies on the collective and feminine in Indo-European from a diachronic and typological perspective*, 273–306. Leiden & Boston: Brill.
- RGA = H. Jankuhn, H. Beck et al. (eds.). 1968–2008. *Reallexikon der Germanischen Altertumskunde*. Berlin & New York: de Gruyter.
- Rüedi, Eve Helga. 1969. *Vom Ἑλληνοδικακας zum ἀλλαντοπώλης. Eine Studie zu den verbalen Rektionskomposita auf -ακ/-ης*. Zürich: Juris.
- de Saussure, Ferdinand. 1909. Sur les composés latins du type *agricola*. In *Philologie et linguistique. Mélanges offerts à Louis Havet*, 459–471. Paris: Hachette.
- Schaffner, Stefan. 2001. *Das Vernersche Gesetz und der innerparadigmatische grammatische Wechsel des Urgermanischen im Nominalbereich* (Innsbrucker Beiträge zur Sprachwissenschaft 103). Innsbruck: Institut für Sprachwissenschaft der Universität Innsbruck.
- Schindler, Jochem. 1997. Zur internen Syntax der indogermanischen Nominalkomposita. In E. Crespo & J. L. García Ramón (eds.), *Berthold Delbrück y la syntaxis indoeuropea hoy: actas del Coloquio de la Indogermanische Gesellschaft (Madrid, 21–24 de septiembre de 1994)*, 537–540. Madrid & Wiesbaden: Reichert.
- Vasmer, Max. 1953–58. *Russisches etymologisches Wörterbuch*. Heidelberg: Winter.
- Weiss, Michael. 2009. *Outline of the historical and comparative grammar of Latin*. Beech Stave Press.