# ROOTS AND WORD CLASSES BETWEEN INDO-EUROPEAN RECONSTRUCTION AND GREEK HISTORICAL EVIDENCE: SOME INSIGHTS FROM NOMINAL COMPOSITION\*

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**Abstract**: The process of nominal composition is very widespread in ancient Indo-European languages, which often show an extremely high degree of morphological complexity. By taking into account some peculiarities about the relationship between agent nouns, action nouns and compounding in Ancient Greek, this paper argues that the morphological process of nominal composition closely reflects the ongoing evolution of the system of word classes in this language from an archaic phase, where the boundaries between classes were more blurred, to one that is characterised by a more clear-cut differentiation within the lexicon.

**Keywords**: morphology; compounding; Indo-European; Greek; root; word classes

# 1. Introduction\*

The study of nominal composition in ancient Indo-European languages is based on a very solid and long-standing tradition of historical grammar. This tradition finds its deepest roots, on the one hand, in the theorisations by Greek philosophers and grammarians – leading to the distinction between  $\sigma\acute{v}\nu\theta\epsilon\tau\alpha$  (compound words),  $\pi\alpha\rho\acute{a}\theta\epsilon\tau\alpha$  (words made by juxtaposition of other words) and  $\pi\alpha\rho\alpha\sigma\acute{v}\nu\theta\epsilon\tau\alpha$  (words derived from a compound) – and, on the other hand, in the classification of compounds carried out by Pāniṇi in his Astadhyāyī. As a result of this tradition, the study of nominal compounds in ancient Indo-European languages has

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often developed in parallel with the research on the same topic carried on in the framework of theoretical linguistics, which, in turn, is more oriented to modern (and living) languages. This trend has of course changed over time and nowadays it is more common for research on composition in ancient Indo-European languages to be grounded on more or less structured morphological theoretical frameworks. In this regard we can point to the discussion of the history of studies by Thomas Lindner, in the volume of the *Indogermanische Grammatik*, which was dedicated to nominal composition (Lindner 2011).

Compared to their modern counterparts from a morphological point of view, the ancient Indo-European languages are far more synthetic and thus often show a higher degree of morphological complexity. This complexity sometimes entails interesting issues concerning the typology of ancient Indo-European languages in comparison with other languages, as regards, for instance, the lexical category of the compound's members and, accordingly, the endocentric or exocentric status of certain kinds of compounds. In what follows, I will discuss some topics relating to the process of nominal composition in Ancient Greek, which offer interesting insights on the boundaries between word classes and the nature of the Indo-European root as reflected in this language.

### 2. AGENT NOUNS AND COMPOUNDING IN ANCIENT GREEK

As an example of the complexity of the relationship between nominal compounding, semantic features and the organisation of word classes

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¹ The term *endocentric* applies to compounds, one of whose constituents is the head of the whole construction, whereas the term *exocentric* refers to headless compounds. These terms, which are commonly used by linguists and can be found in reference works in the field of both general (see e.g. SCALISE, BISETTO 2009, OLSEN 2015) and Indo-European linguistics (see e.g. LINDNER 2011), are often incorrectly ascribed to Leonard Bloomfield's influential book *Language* (BLOOMFIELD 1933). In fact, they were coined and developed as metalinguistic terms within 19<sup>th</sup>-century Indo-European linguistics (for the history of these terms, see WUJASTYK 1982, NOORDEGRAAF 1989 and LINDNER 2009). The difference between endocentric and exocentric compounds is usually interpreted in terms of the presence or absence of a hyponymic relationship between the meaning of the whole compound and the meaning of its head (e.g. the endocentric compound *swordfish* is a hyponym of *fish*), but in recent years a debate has developed about the very nature of the concept of *endo/exo-centricity* and its relationship to the concept of *headedness*. See e.g. SCALISE, FÁBREGAS, FORZA 2009, BENCZES 2015 and BAUER 2017, p. 37 (with further bibliography on this debate).

within the lexicon, we can first look at the status of the second members of various verbal compounds with an agentive meaning.

It has been observed that the agent nouns in *-ter/tor-* do not form compounds (with very rare exceptions).<sup>2</sup> As has been shown by, among others, Romano Lazzeroni, this is because, on a scale of 'nouniness', these agentive formations place themselves closer to the verbal pole than other kinds of verbal nouns.<sup>3</sup> In composition, these nouns are substituted by other forms, depending on each language's choices. For instance, in Greek they are substituted by similar formations in  $-\tau\eta\zeta$  or  $-\tau\bar{\alpha}\zeta$ , as can be seen in pairs such as  $\dot{\eta}\gamma\eta\tau\dot{\eta}\rho/\dot{\eta}\gamma\dot{\eta}\tau\omega\rho$  'leader, guide' and κυνηγέτης 'huntsman',<sup>4</sup> literally 'dog-leader', whereas in Sanskrit compounds we find root forms in place of agent nouns in *-tar-*, as is shown by the pair  $p\bar{u}rbhid$ - 'city destroyer' vs. bhettā purām 'destroyer of cities'.<sup>5</sup>

The correspondence between Sanskrit root compounds and Greek compounds in  $-\tau\eta\varsigma$  is made even clearer by the pair Skr. parikṣit-'dwelling around', Gk. περικτίται 'neighbours'. In Mycenaean it is attested by /metaktitai/ 'dwellers' as well as the simplex /ktitās/, which is probably a backformation. The presence of the pair parikṣit-  $\sim \pi$ ερικτίται also hints at the possibility that one of the sources for Greek  $-\tau\eta\varsigma$  nouns is the thematisation with the  $-\bar{a}$ - suffix of t-stems, although it is still a matter of dispute whether the type spread in Greek from compounds only or whether it was also present in simplicia from the beginning.

It is nevertheless remarkable that, among the very few remnants of t-stem compounds in Greek, we find the enlargement in  $-\bar{a}$ -s, in addition to the above-cited περικτίται, only in two cases. One is  $\dot{\epsilon}$ πιβλήτης 'beam,

<sup>&</sup>lt;sup>2</sup> See NIELSEN WHITEHEAD 2012, pp. 30-31 (with further bibliographical references).

<sup>&</sup>lt;sup>3</sup> On this topic see in particular LAZZERONI 2010 and, with deeper insights on the multidimensional nature of the *continuum* between Noun and Verb, LAZZERONI 2012. On the Indo-European agent nouns in \*-*tér-/-tor-* and their reflexes in ancient IE languages, see TICHY 1992, 1995, WATMOUGH 1995/1996, BALLES 2005, DI GENNARO 2006[2009], 2009, 2011, PULTROVÁ 2007.

<sup>&</sup>lt;sup>4</sup> The antiquity of this form is assured by Myc. /kunāgetās/, for which see LEUKART 1994, p. 70, *DMIC*, ad v. ku-na-ke-ta-i.

<sup>&</sup>lt;sup>5</sup> EWAIA II, pp. 145, 274.

<sup>&</sup>lt;sup>6</sup> For the Sanskrit form, see *EWAIA* II, p. 92, SCARLATA 1999, p. 96. On the different role of the -t- enlargement of root nouns in Sanskrit, Latin and Greek see LAZZERONI 2018.

<sup>&</sup>lt;sup>7</sup> LEUKART 1994, p. 47.

<sup>&</sup>lt;sup>8</sup> On this topic see Fraenkel 1910-1912, RISCH 1974, p. 17, LEUKART 1994, pp. 97-103, DIEU 2009, p. 277, LÜHR-BALLES 2010, FELLNER, GRESTENBERGER 2016.

bar' to ἐπιβλής 'bolt or bar fitting into (a socket)', which is however found only in lexicographers, 9 and the other is προβλήτης '(jutting) rock' to προβλής 'jutting out'. Moreover, the very existence of the word προβλήτης itself is highly dubious, since it is attested only once and very lately in the texts, namely in Johannes Tztetzes' *Historiae* (XII cent. A.D.), 10 while an alleged attestation in the *Etymologicum Gudianum* is in fact erroneous. 11 To these cases of enlargement we may also add γυμνήτης, which means 'naked' or 'light-armed foot-soldier' made from the *t*-stem γυμνής 'id.'; however, the latter is deemed to be a secondary formation related to the more common γυμνός. 12 Finally, we must also mention the word ὑμηστής 'eating raw flesh, savage', which, given the

 $<sup>^9</sup>$  Hesychius has two consecutive entries, namely ἐπιβλής · μοχλός and ἐπιβλήτης · δοκός. Μοχλός. The first gloss clearly depends on the only Homeric passage (II.24.453) where the word ἐπιβλής is attested, referring to the fir-bar locking the door of Achilles' hut. The second gloss seems merely a copy of the former with the addition of the quasi-synonym – yet less accurate – δοκός, which usually denotes a bearing-beam in a house. The other two lexica which attest the word ἐπιβλήτης, namely the Suda and the Pseudo-Zonaras, also have two entries ἐπιβλής and ἐπιβλήτης close together, but, interestingly, they paraphrase the latter word incorrectly as δόκιμος 'acceptable, trustworthy' instead of δοκός. In light of this data, it is uncertain whether ἐπιβλήτης was ever really used as a word, or whether it was just an extemporaneous creation which somehow made its way into the lexicographic tradition.

<sup>10</sup> Tzetz. Hist. VII 138. It must be noted, however, that in this context the word προβλήτης is just quoted – together with προβλής – as a synonym of πρόβολος, literally 'anything that projects' (LSI), here used with the meaning 'jutting rock'. It must be noted that the word πρόβολος has this meaning in its only Homeric attestation (Od. 12.251). On the whole, the passage of Tzetzes is heavily dependent on Homer and it seems that the author uses πρόβολος as the normal form and inserts προβλήτης as mere (archaic? poetic?) variants. It cannot be stated whether προβλήτης was an actual word or an invention by Tzetzes; even though the latter hypothesis seems unlikely, προβλήτης must have been a very rare word, as it was the case with the above-cited ἐπιβλήτης (see above fin. 9).

<sup>&</sup>lt;sup>11</sup>In his edition of the *Etymologicum Gudianum*, under the entry 'Κρόσας' (p. 349 line 10) Sturz prints «στήλας δὲ προβλήτας» with an acute accent, as if from προβλήτης. The context here gives no clue about the syntactic role of the form προβλήτας, which could be either a noun or an adjective. However, the whole entry is clearly referred to a passage from the twelfth book of the *Iliad* which describes the destruction brought by Hector and his men to the wall of the Greek camp. In this passage (*Il.* 12.259) it is told that the Trojans «pried out the supporting beams [that the Achaeans had set]», and the Greek passage reads «στήλας τε προβλήτας ἐμόχλεον», with προβλήτας in adjectival function interpreted as the acc. pl. of προβλής. It is true that the accusative plural of προβλής differs only in accent from the corresponding form of προβλήτης, but in the other – morphologically unambiguous – case forms, Homer shows only the simple *t*-stem: gen. sg. προβλήτ-ος, dat. sg. προβλήτ-ι, nom. pl. προβλήτ-ες. In view of this data, Sturz's reading προβλήτας is highly improbable and should be corrected to προβλήτας.

<sup>12</sup> DELG, s.v. γυμνός.

parallel of Vedic  $\bar{a}m\dot{a}d$ - 'id.', is most likely to be interpreted as an enlargement of an older PIE root compound.<sup>13</sup>

The class of compound athematic t-stems is itself quite poorly attested in Greek, even if some archaic-looking words are to be found in post-Homeric texts (mostly in poetry, for instance ἀνδροθνής 'killing men' and ἀμοβρώς 'eating raw flesh'). 14 Nevertheless, the abovementioned cases of a -της form vis-à-vis a t-stem compound bear some significance with respect to the categorial status of the compound's second member. Usually, when an athematic t-compound with a more adjectival nature is replaced by a younger and more common word, the latter is a thematic -τος adjective, for instance ἄδμητος 'unbroken, unwedded' alongside ἀδμής 'id.'. In the case of ἐπιβλήτης < ἐπιβλής and γυμνήτης < γυμνής, we find, instead, that the compound *t*-stems which have been given the -της enlargement are exactly those which are more commonly used as substantives and whose meaning as substantives is more lexicalised (that is, which are more specific and less predictable): γυμνής 'naked (person)' → 'light-armed soldier', ἐπιβλής 'fitting into' → 'bolt or bar (fitting into a socket)'.15

The closer proximity to the category of Noun is also characteristic of the formations in  $-\bar{\alpha}\varsigma$  without  $-\tau$ -. As Leukart observes, the adjectival uses of both  $-\tau\eta\varsigma$  and  $-\eta\varsigma$  formations are secondary and due to their employment as epithets. 17

<sup>&</sup>lt;sup>13</sup> On the possible shape of the antecedent of Gk. ἀμηστής see LEUKART 1994, p. 161 fn. 86, 286 fn. 383, NIL, p. 202. On Ved. āmād- see SCARLATA 1999, p. 34.

<sup>&</sup>lt;sup>14</sup> CHANTRAINE 1933, p. 265 ff.; on the antiquity of this class see VIJŪNAS 2009, pp. 88-91.

<sup>&</sup>lt;sup>15</sup> It could be objected that the archaic word ώμηστής, though enlarged with the suffix  $-\bar{a}$ -, is consistently used as an adjective and has a highly predictable meaning with respect to its constituents. This is true, but in this case one must take into account the following: 1) ώμηστής is an agent noun with a markedly active meaning, and is thus incompatible with the stative/passive suffix -τος; 2) the association of the suffix -της with the category 'Noun' in Greek was a gradual process, so that a certain degree of oscillation between substantival and adjectival use can only be expected in archaic stages of the language; 3) the adjectival nature of ὡμηστής is marked by its oxytone accentuation, as opposed to the barytone accentuation of ἐπιβλήτης, προβλήτης, γυμνήτης.

<sup>&</sup>lt;sup>16</sup> On the history of compound agent nouns in \*-ā- in Greek and Latin, see Fellner, Grestenberger 2016.

 $<sup>^{17}</sup>$  «Die spätere und relativ seltene wirklich adjektivische Verwendung von KP und Simplizia auf  $^{-τα}$ ς (und daneben auch von solchen auf  $^{-ε}$ υς) erfolgte demgegenüber sekundär durch syntaktische Umgliederung von substantivischen Appositionen zu adjektivischen Attributen» (LEUKART 1994, p. 275 fn. 357).

The agentive formations in -της are not the only kind of athematic formations that appear in verbal governing compounds (on thematic compound agent nouns see below). This function is also fulfilled by compounds ending in -μων (e.g. πολυθρέμμων 'feeding many' < τρέφω) and sigmatic compounds in -ής (the type θυμοδακής 'biting the heart' < δάκνω). Both formations share with the -της stems a similar morphological history, in the sense that they are basically denominal – the former being related to neuter -μα stems and the latter to neuter -ος stems – but they have, over time, been associated with verbal stems, while also becoming productive in the formation of verbal governing compounds. For example, πολυπράγμων 'with many affairs' is built on πρᾶγμα 'affair', but also stands in a relationship with πράσσω 'do, accomplish', later also 'manage affairs, do business', and thus it can be interpreted by speakers as meaning 'managing many affairs, meddlesome'. Otherwise, πολυτλήμων 'much enduring' directly relates to τλῆναι 'endure', since no neuter \*τλῆμα is attested in Greek. 18

However, these compound types are placed in different positions on a scale of 'nouniness'. Compounds in -th are syntactically used as substantives and morphologically inherently masculine (thus having only one set of endings), while compounds in - $\mu\omega\nu$  and - $\eta\zeta$  are mainly used as adjectives (or, better stated, as modifiers of noun phrases), they have no inherent gender and they show a formal agreement in gender, albeit one that is limited to the opposition non neuter/neuter, with the head of their noun phrase.

This different behaviour has to do with the morphological nature of the words that enter these compounds as second members. While the suffix  $-\tau\eta\varsigma$  synchronically is attached to both verbal and nominal bases, neuters in  $-\mu\alpha$  and  $-o\varsigma$  are deverbal from their very Indo-European origins and maintain in Greek a high level of morphosemantic transparency with

<sup>&</sup>lt;sup>18</sup> For the sigmatic compounds, this process has been thoroughly studied by Alain Blanc (BLANC 2018), who labels it *métamorphisme dérivationnel*. As for the verbal governing compounds in  $\mu\omega\nu$ , see my remarks in DEDÈ 2018, pp. 20-21. However, it should be pointed out that they are a far less productive class in Greek and are mainly used in poetry: it often happens that such compounds are later variants of compounds belonging to other classes, e.g.  $\delta \lambda \lambda \omega \omega \omega$  willy minded' (Nonn.)  $\sim \delta \lambda \omega \omega \omega$  (Pi.). The similarity of compound types in  $-\mu\omega\nu$  and  $-\eta\varsigma$  is recognised also by Puhvel, who observes that «the other suffix,  $-\mu\omega\nu$ , corresponds closely to  $-\eta\varsigma \omega$  (PUHVEL 1953, p. 18).

respect to the verbal root they are derived from. At the same time, nouns in - $\mu\alpha$  basically represent the bare nominalisation of the verbal process, whereas -og nouns show a more marked trend towards lexicalisation. In this regard, Blanc significantly observes that in the development of signatic - $\eta$ g compounds «les locuteurs ont cherché, semble-t-il, à s'écarter des formes marquées spécifiquement comme verbales ; ils ont cherché à retrouver l'élément minimal le plus neutre, l'élément qui leur a paru être synchroniquement la forme la plus authentique de la racine, l'élément le plus apte, donc, à fournir des formes nominales».

Moreover, from the semantic point of view, there seems to be a certain tendency for the second members of verbal governing -μων and ής compounds to select inagentive or less agentive semantic roles; see, for instance, πολυτλήμων 'much-enduring', or τιμαλφής 'costly, precious', lit. 'yielding a (high) price'. Concerning verbal governing compounds in  $-\dot{\eta}\zeta$ , when their second member is connected to a transitive, agentive verb, the compound usually has a passive meaning, e.g. θεοβλαβής 'blinded by the gods'. Basing on the data collected by Blanc<sup>20</sup>, it can be seen that, when compounds of this kind have an active meaning, such as θυμοδακής 'biting the heart', the semantic role associated with the verb's first argument is unagentive or less agentive than usual. So, in θυμοδακής the 'biting' is not a physical action but a state of mind; in compounds with second member °φυης (< φύω 'produce, grow'), such as τριγοφυής, κερατοφυής, the event of growing hair, horns, etc. is not controlled by the subject; in δολοφραδής 'plotting deceptions' -> 'wilyminded' the action is intentional but not physical, and so on.

As for verbal governing compounds in -μων, a preliminary survey carried out using an online version of the LSJ with reverse dictionary order<sup>21</sup> showed that, among the attested second members, only four initially seem to have an agentive meaning:  $^{\circ}$ αρμων (< ἀραρίσκω 'join, fit together'),  $^{\circ}$ θρέμμων (< τρέφω 'bring up, rear'),  $^{\circ}$ φερμων (< φέρω 'bear, carry'),  $^{\circ}$ δέγμων (< δέχομαι 'take, receive'). However, in this regard, the following remarks can be made. Firstly, the only compound with second member  $^{\circ}$ αρμων, βητάρμων 'dancer', is unclear as regards

<sup>&</sup>lt;sup>19</sup> BLANC 2016, p. 165, see also BLANC 2018, p. 502.

<sup>&</sup>lt;sup>20</sup> Blanc 2018, pp. 349-360.

<sup>21</sup> https://logeion.uchicago.edu/

the semantic relationship between its constituents (maybe something like 'adapting his step'), so no definitive conclusion can be drawn on the degree of agentivity of °αρμων. Secondly, the compounds with second member °θρεμμων are usually referred to inanimate entities, such as rivers, islands, the Air, so, in this case, the event of 'feeding, rearing' refers to a natural process, and thus it is not as agentive as it is when carried out by human beings. Moreover, the oldest compound of this group,  $\grave{o}\lambda\beta o\theta p\acute{e}\mu\mu\omega v$ , has the passive meaning 'nursed amid wealth'. Finally, the event of 'carrying the shield' semantically described by  $\grave{a}\sigma\pi\imath\delta o\phi\acute{e}\rho\mu\omega v$  – the only compound with the second member °φερμων  $^{24}$  – is a state-like process with a very low degree of dynamism where the Patient undergoes little or no change of state. Thus, the only high-agentive second member in -μων seems to be ° $\delta$ εγμων, as in νεκροδέγμων 'receiving the dead'. Se

Alongside these formations, the most widespread class of agentive verbal compounds is of course that of the verbal governing compounds of the type οἰκοφόρος 'house-carrier'. This ancient class of compounds is typical of the eastern part of the Indo-European linguistic space, being particularly widespread in Greek and Sanskrit.<sup>27</sup> In this kind of compound, the relationship between simple action nouns, such as φόνος 'murder', simple agent nouns, such as φονός 'murderer' and compound agent nouns, such as ἀνδροφόνος 'man-slaying', is far more complex.<sup>28</sup> The phenomenon in Greek, which involves the creation of an accentual opposition pattern between simple action and agent nouns, reflects a tendency to develop a stem-based rather than a root-based morphology,

<sup>&</sup>lt;sup>22</sup> Some scholars interpret βητάρμων as a first member verbal governing compound of the type βωτιάνειρα 'man-feeding' (see e.g. SCHWYZER 1939, p. 442-443 fn. 6, DUNKEL 1992, p. 212), but then it is very difficult to account for the lack of -ι- at the end of the first constituent; the three major etymological dictionaries of Greek unanimously reject this interpretation (see *GEW*, *DELG*, *EDG*, *ad.v.* βητάρμων).

<sup>&</sup>lt;sup>23</sup> Hapax in Pi. Fr. 277.

<sup>&</sup>lt;sup>24</sup> *Hapax* in Eur. *Ph*. 796.

 $<sup>^{25}</sup>$  A broader and deeper survey of agentive compounds in -μων would of course be in order and may be the topic for further research.

<sup>&</sup>lt;sup>26</sup> Aesch. Pr. 153 (referred to Hades).

<sup>&</sup>lt;sup>27</sup> As Olga Tribulato remarks, «the means of creating such V2 compounds is an inherited feature of the language, but the development of this class in Greek reaches a level of sophistication which can only be compared to that of Sanskrit» (TRIBULATO 2015, p. 85).

<sup>&</sup>lt;sup>28</sup> On this compound type see RISCH 1974, pp. 196-210, LÜHR, BALLES 2010, p. 257.

and, as a result, fosters the shift from exocentric to endocentric compounds, as noticed for instance by Henry Hoenigswald in a brief but very insightful paper (Hoenigswald 1977).

This suggests that, when analysing a Greek compound of the type  $\dot{\alpha}$ v $\delta$ po $\phi$ ovo $\varsigma$ , usually two possible structures are outlined by scholars. The first and more traditional explanation sees the second member as a verbal root with o-grade ablaut; in this case, the nominalisation is marked partly on the second element by the o-grade itself and partly at the level of the whole compound, by the means of the thematic vowel and the nominal endings. Since the output is a nominal (that is, either a noun or an adjective) and the element in the determined position is deemed to be of a verbal nature, the compound is considered exocentric. On the second analysis, conversely, the second element of the compound is simply an agent noun and the compound is therefore categorially endocentric.

This second analysis is closely linked to the presence of simple agent noun formations of the type  $\phi o v \acute{o} \varsigma$  and is strengthened, according to some interpreters, by the fact that in some cases we find as a second member not a thematic form but a more clearly marked agent noun, such as  $\lambda o \gamma o \gamma \rho \alpha \phi e \acute{o} \varsigma$  'prose-writer' instead of the more usual  $\lambda o \gamma o \gamma \rho \dot{\alpha} \phi o \varsigma$ . The common interpretation for this is that the second member  $^o \gamma \rho \alpha \phi o \varsigma$  – which does not exist as a free form – has been re-interpreted as an agent noun, triggering the substitution with  $\gamma \rho \alpha \phi e \acute{o} \varsigma$ , a free form whose categorial status as a noun is also clearer from the morphological point of view.  $^{30}$  This substitution, however, could also be read in the opposite direction. On this view, the more transparent noun has been introduced in the compound to clarify its endocentric nature, since a hypothetical \* $\gamma \rho \alpha \phi \acute{o} \varsigma$  'writer' would have been perceived by the speaker as insufficiently 'nouny' to stand as a free form.  $^{31}$ 

<sup>&</sup>lt;sup>29</sup> On this topic see the remarks in GRANDI, POMPEI 2010, pp. 212-213.

<sup>&</sup>lt;sup>30</sup> GRANDI, POMPEI 2010, p. 220.

<sup>&</sup>lt;sup>31</sup> Such cases of substitution of a categorially ambiguous compound member with a less ambiguous one are certainly interesting, but the risk here is to compare forms which belong to different and maybe very distant linguistic stages. From the diachronic point of view, in order to try to track the 'trend towards endocentricity' with more precision, a more accurate and comprehensive description of the presence, for every verbal root and at every relevant stage of the language, of compound agent noun, simple action noun and simple agent noun would be highly desirable and may be a topic of future research.

From the theoretical point of view, it is clear that the very criterion of headedness, if considered exclusively or mainly at the categorial level, shows its inadequacy at describing languages with a highly developed derivational morphology. This is true in particular for some ancient Indo-European languages like Sanskrit and Greek, where many word formation processes are based directly on the roots, which are better understood as being pre-categorial rather than inherently verbal.<sup>32</sup> In order to be effective, the head parameter must be conceived as multifactorial and the headedness of a given word must be investigated simultaneously at the morphological, categorial, syntactic and semantic levels.<sup>33</sup>

## 3. A NOTE ON COMPOUNDS OF THE TYPE ὀρεσίτροφος

The consideration of the pre-categorial nature of the PIE root leads to one final remark about another compound class of Ancient Greek, namely verbal compounds with a thematic action noun as their second member. Compounds of this type, as exemplified by the word ὀρεσίτροφος 'reared on the mountains', are often interpreted as the outcome of a process of re-analysis of ancient possessive compounds. According to this interpretation, ὀρεσίτροφος would have been formed by ὄρος 'mountain' and τροφή 'nourishment' or 'rearing' and would have originally meant 'having nourishment on the mountains' or 'whose rearing has been on the mountains'. Such an interpretation, which could hold at least for some of the representatives of this class of compounds, but need not be true for all of them,<sup>34</sup> is somehow linked to the hypothesis that the first members of the compound type τερψίμβροτος 'cheering up men' would have been action nouns in -τις/σις.35 In particular, the connection consists in the fact that in both cases a compositional type, which descriptively and synchronically shows a verbal governing element (be it the first or the second member of the compound), is traced back to

<sup>&</sup>lt;sup>32</sup> The question of the nature of the root in the Indo-European languages and in the reconstructed protolanguage has a very long-standing tradition and a huge amount of bibliography within Indo-European linguistics. For a recent assessment of this topic, see ALFIERI 2016.

<sup>&</sup>lt;sup>33</sup> See the observations in SCALISE, FÁBREGAS, FORZA 2009 (partic. pp. 57-60) for a detailed account on this topic.

 $<sup>^{34}</sup>$  Cp. Tribulato 2015, pp. 80, 89-91.

<sup>&</sup>lt;sup>35</sup> For a critical overview of this hypothesis see TRIBULATO 2015, pp. 134-157 (with the relevant bibliographical references), 174-179.

a stage where this element was an action noun denoting a process (e.g.,  $\tau\epsilon\rho\psi\acute{\mu}\beta\rho\sigma\tauo\varsigma$  would be semantically interpreted as 'having enjoyment of men', 'whose enjoyment is of the men' or the like).<sup>36</sup>

The latter hypothesis is not completely satisfying, among other reasons, because of the fact that, just as for the agent nouns in  $-\tau\eta\rho/\tau\omega\rho$ , action nouns in  $-\tau\iota\varsigma/\sigma\iota\varsigma$  almost never enter compounds as second members (that is, in the typical position of the determined).<sup>37</sup> In their place we find second members of the  $^{\circ}\tau\rho\sigma\varphi\varsigma$  type, which, taken by themselves, are more flexible and allow for an interpretation both as action and as agent nouns.<sup>38</sup>

Given this inherent freedom of interpretation of the second member, it might not be necessary to posit for compounds of the type ὀρεσίτροφος a passage from a more ancient stage, where they were analysed as possessive compounds. On the one hand, the categorial uncertainty of the second member, which allowed in the first place for an interpretation of the compound's meaning as 'who was reared on the mountains', could be seen as a very archaic feature, which parallels the 'fluid' behaviour of the bare root as a second member of compounds (as it is seen in cases like ἀγνώς, meaning 'not knowing', but also 'unknown'). On the other hand, at a more general level, the core of the Indo-European and Greek possessive compounds, that is the *bahuvrihi* compounds of the type  $\dot{\rho}$ οδοδάκτυλος 'rose-fingered' or 'with rosy fingers', is made up of words which describe a quality of the referent of the noun phrase which they

<sup>&</sup>lt;sup>36</sup> Some scholars argue that the original action nouns in *-ti-*, prior to be linked to *-s-* aorist stems, could have been reinterpreted by speakers as agent nouns (see LÜHR 2004, p. 138, partic. fn. 45). So, taking τερψίμβροτος as an example, the chain of semantic interpretations of such compounds could have been 'enjoyment of men'  $\rightarrow$  'cheerer up of men'  $\rightarrow$  'cheering up men'.

<sup>&</sup>lt;sup>37</sup> As Olga Tribulato remarks for Vedic Sanskrit, the presence of a productive class of compounds with action nouns in *-ti-* as second constituents might have facilitated the creation of the 'odd' *bahtwrithis* with *-ti-* nouns as first constituents, which would then be better interpreted as a Sanskrit innovation (cp. TRIBULATO 2015, p. 179). This is not the case for Greek. On the rarity of *-ti-* nouns as second members of compounds in Greek, see CIVILLERI 2010, p. 116, WACKERNAGEL 1905, p. 191. A remarkable exception is οἰνήρυσις 'a vessel for drawing wine (< οἰνος 'wine' + ἀρύω 'draw [a liquid]') in a passage of Aristophanes' *Acharnians* (Ar. *Ach.* 1067). It does not seem accidental that the outcome of this compounding process is not an action but an instrument noun. Other examples of this kind of compounds (all with concrete meaning) are listed in SCHWYZER 1939, p. 504. On the secondary nature of the concrete meaning of Greek nouns in *-τις*/σις, see VILLA (fthc.).

<sup>&</sup>lt;sup>38</sup> On the absence in the protolanguage of compounds with abstract nouns as second members, see the remarks by FELLNER, GRESTENBERGER 2016, pp. 143-144.

modify and whose second member usually denote a concrete object. Therefore, in the structure of a compound like ὀρεσίτροφος, a second member τροφή – which in this context is better interpreted as a process noun, meaning 'the action of rearing up or being reared up by' than as a result noun, meaning 'food', 'meal' – would be a non-prototypical choice for a possessive compound. This subject is of course open to discussion, but this fact, along with the aforementioned tendency of action nouns in -τις/σις not to enter nominal composition, in my opinion makes the interpretation of the ὀρεσίτροφος compound type as ancient *bahuvrihi* less likely than it is usually believed. Of course, this does not necessarily mean that the second members of compounds of the ὀρεσίτροφος-type should be viewed as agent nouns or verbal adjectives, but rather that this kind of word formation is prior to a clear-cut distinction between agent nouns, action nouns and verbal adjectives.

### 4. CONCLUSIONS

The facts discussed above in various ways highlight the importance that the study of the process of nominal composition has in our understanding of the development of word classes from the Indo-European protolanguage to the daughter languages. The trend which is nowadays considered the most likely goes from a categorially underspecified system based on roots to systems with word classes differentiated (to varying degrees in each daughter language) at the morphological and syntactic levels.<sup>40</sup> As for Ancient Greek, the preference for compounds with categorially ambiguous constituents is

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<sup>&</sup>lt;sup>39</sup> See RISCH 1974, pp. 182-186 for a list of second members in Homeric possessive compounds. In Risch's account, the original type of possessive compounds («Ursprünglicher Typus») denoted a «charakteristischen, auffälligen Eigenschaft von Göttern, Menschen und Tieren» and its second members referred to «Körperteile, Kleidungsstücke, Waffen» (RISCH 1974, p. 183). Even when the second member is an abstract noun, such as μῆτις in  $\pi$ ολύμητις 'of many wiles', it does not denote the process (here, the act of thinking something in a given context), but rather the result of the process (in this case, the thoughts/tricks) or the attitude towards that process (here, the ability to think sharp thoughts or devise many tricks).

<sup>&</sup>lt;sup>40</sup> It is important to stress that the reference to categorially underspecified roots is made basing on the morphological and syntactic behaviour they show in the IE languages and does not necessarily imply the hypothesis of a former, 'preinflectional' stage of Proto-Indo-European. Such a hypothesis can be made based on the data from IE languages – in fact it has been made from the beginnings of Indo-European linguistics – but cannot be definitely proven or disproven.

completely in agreement with such a reconstruction. On the other side, the development of compound types with more categorially specified constituents (such as the compound agent nouns in -της or -ευς) is a sign of the increasing tendency of the speakers to interpret compounds which nominalise the subject argument of a verb as endocentric rather than exocentric. The same data show us that this process began very early in Greek. This is testified, for instance, by the almost total exclusion of agent nouns in -τηρ/τωρ and action nouns in -τις/σις from nominal composition, since they were overtly marked as such by their morphological shape. Finally, it is worth noting that this process was gradual and not linear. A hint in this direction might be seen, for example, in the development of verbal governing compounds in -μων and -ής, which were created later than other types of verbal governing compounds and are not of Proto-Indo-European date. These compounds 'make a step' towards becoming endocentric, since their second members come to be interpreted as deverbal rather than denominal, but the process does not reach its ultimate stage, that is, the creation of a productive class of simple agent nouns.

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