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# THE PRE-GREEK LINGUISTIC SUBSTRATUM
## A Critical Assessment of Recent Theories *

*Résumé*. — Un précédent article, paru dans *Les Études classiques*, avait présenté diverses théories récentes sur le préhellénique (théories dites « pélasgique », « anatolienne », « égéenne » et « kartvélienne ») ; elles sont ici comparées et évaluées sur la base d'une sélection de problèmes étymologiques (notamment, les étymologies de πέλεκυς, de τύμβος, de σῑγή/σῑωπή, d'ἀγαθός et du suffixe -νθος). Ces sont les théories « égéenne » et « kartvélienne » qui s'avèrent les plus productives, bien qu'elles posent encore divers problèmes méthodologiques. Les mots les plus problématiques sont ceux qui peuvent avoir été adoptés d'une langue sémitique et les gloses d'Hésychios. En outre, dans quelques cas, une explication à l'intérieur du grec ou une interprétation indo-européenne semble préférable au postulat d'une origine préhellénique.

### Introduction

In a previous volume of *LEC*, I published a first article in which I gave an overview of the linguistic research into the Pre-Greek substratum of the last thirty years [1]. While my approach there was mainly descriptive, the present article confronts and evaluates the theories presented there through a selection of etymological problems. For a great part, I shall comment on the research by R. S. P. Beekes, probably the most important linguist studying the Pre-Greek substratum at present.

In order to understand the evaluation of the selected etymologies, a brief summary of the main Pre-Greek theories should be given. A first theory, founded by V. I. Georgiev and A. J. Van Windekens, and in the 1980s and 1990s mainly represented by E. P. Hamp, regarded Pre-Greek as a hypothetical Indo-European language, dubbed 'Pelasgian'. A second group of scholars (viz. L. R. Palmer and Margalit Finkelberg) identified the substratum as Anatolian (more precisely Luwian). According to a third

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1. G. Verhasselt (2009).

theory, which we may call 'Aegean', the substratum was non-IE and non-Semitic and extended over (a large part of) the Mediterranean. At present, the main proponent of this theory is R. S. P. Beekes, who has developed his ideas on Pre-Greek within the framework of ongoing substratum research in Leiden. Finally, at the end of the 1970s, a fourth theory was developed by E. J. Furnée (a former adherent of the 'Aegean' theory), viz. the Kartvelian theory. His main thesis was that the Pre-Greek substratum consisted of two important components: an East-Mediterranean substratum (as in the Aegean theory) and a genuine Kartvelian substratum (termed 'Pelasgian'). Currently, the main advocate of this Kartvelian theory is the Georgian scholar R. Gordeziani. Having established this brief survey of the main theories, we can move on to the etymological case-studies, viz. πέλεκυς, τύμβος, σῖγή/σῖωπή, ἀγαθός and the suffix -νθος [2].

## **1.** πέλεκυς

Traditionally, πέλεκυς "(battle-)axe" (already attested in Homer) is less closely associated with the Pre-Greek substratum than the words that will be discussed in the next sections. Usually, it is traced back to PIE **peleḱu-*: cf. OI *paraśú-* "axe" (epic *párśu-*), Osset. *färät* "*id.*" (Toch. A *porat* "*id.*", B *peret* "*id.*" is an Iranian loanword).

In his doctoral thesis, E. J. Furnée [3] mentioned the following Greek variants: πέλεκκον "axe-handle" (*Il.* 13, 612), ἡμιπέλεκκον "half-axe, one-edged axe", βέλεκκος (Hsch.) [4], πέλεκρα (Hsch.) [5] and πέλυξ "a kind of axe". According to him, πελεκάν "pelican" too is related to this set of words. He supposed that πέλεκυς and *paraśú-* represent a pre-IE cultural term borrowed by both the Greeks and the Indo-Iranians. βέλεκκος was interpreted as a younger Pre-Greek loanword, showing the Pre-Greek variations π/β and κ/κκ [6]. Hellenistic πέλυξ would be a later borrowing from Asia Minor.

In her review of E. J. Furnée's work, Françoise Bader [7] criticised the Dutch scholar for treating loanwords of various origin and Pre-Greek substratum words indiscriminately. For πέλεκυς, she considered a

2. I confine myself to recent literature (i.e. starting from 1977) on each word discussed, combined with the etymological dictionaries of P. CHANTRAINE (1968) and H. FRISK (1972) and with the doctoral thesis of E. J. FURNÉE (1972).

3. E. J. FURNÉE (1972, p. 150-151).

4. βέλεκκος· ὄσπριόν τι ἐμφερὲς λαθύρῳ μέγεθος ἐρεβίνθου ἔχον (Hsch.). Cf. Aristoph. *Ran.* 755; POxy. 1801, 21.

5. πέλεκρα· ἀξίνη (Hsch.).

6. According to P. CHANTRAINE (1968, p. 875), κκ goes back to *κ*ϝ*.

7. Françoise BADER (1975, p. 104).

borrowing of PIE date, directly inherited by Greek and Indo-Iranian. A good candidate for a donor language would be Semitic. Thus, G. Takács [8] connected πέλεκυς with Akk. *pilakku* "spindle", a derivative of the Semitic root **plq-* "split". R. A. Brown [9] (another proponent of the Aegean theory) too assumed πέλεκυς and *paraśú* to be Near Eastern loans.

R. S. P. Beekes [10], conversely, stressed that a word occurring in several IE languages could still be an early borrowing (although the Indo-Iranian group is usually excluded in such cases). In his etymological dictionary [11], he followed H. Frisk [12], who had rejected the connection with Akk. *pilakku* on semantic grounds, since the Semitic word does not mean "axe" but "spindle" [13]. On other occasions too, R. S. P. Beekes stated that in doubtful cases, "it is better to consider such words as Pre-Greek, and to define them as loanwords […] only when there is reason to do so" [14]. What those reasons may be, we are not told. This rather peculiar methodological principle illustrates R. S. P. Beekes' attempt to keep his corpus of Pre-Greek words as large as possible.

*Pace* E. J. Furnée and R. S. P. Beekes, πέλεκυς is a less convincing example of Pre-Greek vocabulary (in R. S. P. Beekes' use of the term, i.e. belonging to a non-IE, non-Semitic substratum). The parallel with the Semitic language family (despite the minor semantic change) makes an early loanword in PIE plausible, although Semitic might have borrowed it from PIE as well. Alternatively, it could be explained as a so-called *Wanderwort*. Nevertheless, a PIE reconstruction **peleḱu-* remains plausible, even though the root structure is unusual for PIE [15]. For the problematic form βέλεκκος, the safest option is to assume a secondary evolution (rather than a Pre-Greek variation), since this variant is only attested from Aristophanes onwards, whereas the 'standard' form is already used by Homer. Still, this development remains puzzling. Perhaps the β was influenced by the word βέλος "missile" (later used of any weapon). Of course, caution is advised with this type of *argumentum ex silentio,* given the fragmentary preservation of Greek literature: many words may be unattested by sheer coincidence. Thus, the later attestation of βέλεκκος

8. G. Takács (1998, p. 144).
9. R. A. Brown (1985, p. 81).
10. R. S. P. Beekes - A. H. Kuipers (1975, p. 78). Cf. R. S. P. Beekes (1996, p. 215).
11. R. S. P. Beekes (2010, p. 1166-1167).
12. H. Frisk (1972, p. 497).
13. M. Mayrhofer (1996, p. 87) concluded the same for the Old Indic words in his etymological dictionary of Old Indo-Aryan.
14. R. S. P. Beekes (2010, p. xv).
15. T. V. Gamkrelidze - V. V. Ivanov (1995, p. 771).

does not mean that it did not exist yet in Homer's time. That is exactly why the Hesychian glosses, despite their late attestation, are so important for E. J. Furnée and R. S. P. Beekes. It was precisely the lexicographers' purpose to collect rare and perhaps even archaic forms of various origins. Nevertheless, nothing guarantees the Pre-Greek origin of such words. At best, they can point to a non-Greek (not necessarily Pre-Greek) origin. Moreover, since Hesychius is usually the only source for the word in question, the possibility of scribal errors cannot be excluded. Since it is not even certain *when* these words entered the Greek language, some glosses may well be Byzantine loanwords. Therefore, the examination of Pre-Greek features should primarily be based on (relatively) early attested words, whereas material from Hesychius should be treated more carefully. This does not imply that the latter material is useless, but such an approach is methodologically sounder.

Finally, the form βέλεκκος invites a remark on E. J. Furnée and R. S. P. Beekes' interpretation of the Pre-Greek stop variations. E. J. Furnée [16] considered most of these cases expressive variants (cf. the expressive geminate in *Iuppiter*), a hypothesis which proves to be untenable, since most words showing Pre-Greek variations belonged to the technical rather than the expressive vocabulary. In the debate on E. J. Furnée's work, several other explanations were suggested, the most popular one explaining these vacillations as resulting from the different nature of the Pre-Greek phonological system. According to R. S. P. Beekes, Pre-Greek lacked a phonological opposition between voiceless, voiced and aspirated stops [17]. A possible explanation is that they were allophonic variants differing from one word to another. Yet in several cases (e.g. βόλβιτον/βολβίδιον/βόλβιθος "cow-dung"), these variations occur within almost identical words. The suggestion by A. Heubeck [18] in his review of E. J. Furnée's doctoral thesis, viz. that Pre-Greek had a phonological opposition between *fortes* and *lenes*, is a reasonable explanation for the velars (where variation between voiced and aspirated stops is rare) but not for the labials and dentals [19]. One could assume that there were two velar phonemes, whereas labials and dentals lacked this

16. E. J. Furnée (1972, p. 108).

17. The real phonological opposition, according to R. S. P. Beekes (2010, p. xvi), is the opposition between plain, labialised and palatalised consonants.

18. A. Heubeck (p. 276).

19. The variation γ ~ χ occurs only 5 times and the variation κ ~ γ ~ χ only 7 times, whereas κ ~ γ is attested 55 times and κ ~ χ 51 times. For the labials and dentals, by contrast, the following proportions are found: β ~ φ (28), π ~ β (53), π ~ φ (43), π ~ β ~ φ (11), δ ~θ (16), τ ~ δ (27), τ ~ θ (26), and τ ~ δ ~ θ (6). See R. S. P. Beekes - A. H. Kuipers (1975, p. 72).

phonological contrast. Still, were aspiration and voicing attributed randomly in the borrowing process? A final possibility is that Pre-Greek had a voicing pattern different from that of Greek. J. Clackson [20], for example, mentioned with P. Ladefoged and I. Maddieson five types of voicing attested in the languages of the world: breathy voice, slack voice, modal voice, stiff voice and creaky voice. Pre-Greek might have had an unusual type of voice, which the Greeks sometimes perceived as voiced, sometimes as voiceless and sometimes as aspirated.

## **2.** τύμβος

τύμβος "burial mound, grave" is one of the stock examples of the Pre-Greek substratum research. The pivotal question is whether it is related to τάφος "grave, tomb" and θάπτω "bury", the latter two being derivatives of PIE **d$^{h}$emb$^{h}$-* "dig": cf. Arm. *damban*/*dambaran* "tomb, grave" [21], OPr. *dambo* "ground" [22], Goth. *faur-dammjan* "dam up", Rum. *dîmb* "bank" [23], Av. *daxma-* "grave". In his controversial book on the 'Afro-Asiatic roots of classical civilisation', M. Bernal [24] rejected the PIE root **d$^{h}$emb$^{h}$-*, assuming that τάφος and θάπτω are Egyptian loanwords, cf. *ṯp.t* "hole, cavern", an improbable hypothesis, given the parallels in other IE languages.

### 2.1. *Genetic relationship between* τύμβος *and* τάφος

According to V. I. Georgiev [25], τύμβος and τάφος are genetically related. The latter was interpreted as the regular Greek outcome of the PIE proto-form, whereas the former showed a 'Pelasgian' development characterised by the following sound laws: dissimilation **d$^{h}$-b$^{h}$ > *d-b$^{h}$*, vocalisation **m̥ > um*, **d > t* and **b$^{h}$ > b*. In his re-examination of the Pelasgian theory, K. Strunk [26] distinguished two evolutions of a nasal + **b$^{h}$*: a Greek evolution, viz. μφ (e.g. ἀμφί "around" < PIE **h$_{2}$m̥b$^{h}$í* "around": cf. Lat. *amb-* "around", Ved. *abhí* "on both sides", OHG *umbi* "around") and a Pelasgian evolution, viz. μβ or φ (e.g. κόρυμβος "top of a

20. J. Clackson (2007, p. 48).

21. J. Clackson (1994, p. 120-121), however, interpreted *damban* and *dambaran* as loanwords, given the late attestation of these words (from the 10th century onwards). In the earliest Armenian, the words to designate a tomb or grave were *gerezman* and *širim*.

22. J. Pokorny (1969, p. 248-249) only accepted the Armenian words as derived from PIE **d$^{h}$emb$^{h}$-*, explaining that OPr. *dambo* had to be corrected into *daubo*, a derivative of PIE **d$^{h}$eu̯b-* "deep".

23. According to J. Clackson (1994, p. 121), Rum. *dîmb* is a Dacian survival.

24. M. Bernal (2006, p. 428-429).

25. V. I. Georgiev (1981, p. 103).

26. K. Strunk (2004, p. 94-96).

hill", κορυφή "top, summit, peak of a mountain"). The former group shows parallels in other IE languages, whereas the latter does not, thus implying a non-IE origin for this group. K. Strunk, furthermore, suspected that the β was of an allophonic nature rather than an independent phoneme.

I. Hajnal [27], by contrast, attempted an inner-Greek explanation for τύμβος. According to him, τύμβος and τάφος are etymologically related, though not through Pre-Greek sound laws. τάφος would derive from the zero-grade **dʰm̥bʰ-os*, whereas τύμβος was explained as reflecting the full-grade **dʰómbʰ-os*. In I. Hajnal's view, PIE **ŏ* developed into *ŭ* in accordance with Cowgill's rule [28] (cf. νύξ "night" < PIE **nokʷt-* "*id.*"), whereas the loss of the aspiration could be explained by Miller's rule: in the combination of a nasal and a voiced aspirated stop, the stop lost its aspiration if the accent was on the previous syllable. As I. Hajnal himself acknowledged, the problem with this reconstruction is that the expected form would be †θύμβος. An early dissimilation of the aspirates is excluded, since Miller's rule operated before Grassmann's law [29]. The only possible explanation was analogy, although I. Hajnal was not clear about its model.

### 2.2. *No genetic relationship between* τύμβος *and* τάφος

Other scholars have rejected the etymological relation between τύμβος and τάφος. In his complementary Greek etymological dictionary, A. J. Van Windekens [30], who had been a staunch defender of the Pelasgian theory in his previous work, suggested an inner-Greek explanation, a tendency also found in the rest of his dictionary. He explicitly rejected V. I. Georgiev's analysis, claiming that τύμβος could not derive from PIE **dʰm̥bʰ-*, since in that case, it would mean "what is dug out". He also mentioned the variant τῦμος (found in inscriptions from Corcyra and Eretria), which he connected with Lat. *tumulus* "hill, sepulchral mound" and *tumēre* "swell", as had been proposed before him by H. Frisk [31]. If the relation with these Latin words, which must derive from the PIE extended root **teu̯-m-* "swell" (cf. OE *đūma*, OHG *dūmo* "thumb"), is accepted, the β in τύμβος becomes problematic. The *ad hoc* solution suggested by A. J. Van

27. I. Hajnal (2005, p. 197-198).

28. See A. L. Sihler (1995, p. 42-43). Note, however, that Cowgill's rule is generally restricted to a position between labial and resonant.

29. According to I. Hajnal (2005, p. 197), the order is as follows: loss of the aspiration (Miller) > devoicing of the PIE voiced aspirated stops > dissimilation of the aspirates (Grassmann).

30. A. J. Van Windekens (1986, p. 223).

31. H. Frisk (1972, p. 943-944).

Windekens was that τύμβος resulted from a contamination of τῦμος and κόρυμβος "top, summit, peak of a mountain".

A Pre-Greek interpretation of the word-pair τῦμος - τύμβος was proposed by E. J. Furnée [32], who analysed the fluctuation between μ and μβ as reflecting two Pre-Greek sound variations, viz. β/μ and β/μβ ('nasalisation' or, in R. S. P. Beekes' terminology, 'prenasalisation'). In this interpretation, a form with the single labial (*τυβος) must be reconstructed, a variant of which is found in τοῦφος (Hsch.) [33]. E. J. Furnée associated τύμβος / τῦμος not only with Lat. *tumulus* but also with MIr. *tomm* "little hill", Arm. *t'umb* "bank" and OWN *pūf* "little hill", assuming a pre-IE *Wanderwort*.

R. S. P. Beekes [34] considered the possibility that τύμβος derives from a nasalised variant of the PIE extended root **teu̯H-bʰ-* "hump, bump, knag" [35] (cf. τύφη "plant used for stuffing cushions and beds"), with loss of the aspiration after the nasal. Like A. J. Van Windekens, he rejected the connection with τάφος on semantic grounds: in his opinion, τάφος denotes the grave or pit, whereas τύμβος primarily indicates the hill, later more specifically the burial hill, and finally the grave.

### 2.3. *Conclusion*

It cannot be excluded that τύμβος and τάφος are related, although popular etymology may be involved. Some other word might have been remodelled to τύμβος under the influence of τάφος, an association that may have been stimulated by their semantic proximity. However, if τύμβος is related to Lat. *tumulus*, *tumēre*, OE *đūma* and OHG *dūmo*, the connection with PIE **dʰembʰ-* is impossible, since the Latin and Germanic words cannot derive from this root. The pivotal question is whether this set of words continues a PIE root (viz. **teu̯-m-* "swell"). By connecting τύμβος with the Latin and Germanic words and interpreting τύμβος as a Pre-Greek word, R. S. P. Beekes implied that the Latin and Germanic words are non-IE as well. K. Strunk, on the other hand, proposed viewing μβ as an allophone of μ (i.e. with a weakly pronounced β). If a Pre-Greek origin is assumed, one could reconstruct a phoneme **mᵇ*, although caution is advised, given the limited number of cases showing the variation μ/μβ.

32. E. J. Furnée (1972, p. 287-288).
33. τοῦφος· τάφος (Hsch.).
34. R. S. P. Beekes (2010, p. 1517-1518).
35. This was also suggested by P. Chantraine (1968, p. 1144).

## 3. σῑγή - σῐωπή

### 3.1. σῑγή

Although σῑγή "silence" shows parallels in other IE languages, viz. OHG *swīgēn* "be silent", OSax. *swīgōn* "*id.*", OE *swīgian/sugian/suwian* "*id.*", an IE reconstruction for Greek is problematic, since the initial **s-* should have developed into an aspiration in Greek [36]. The proponents of the Pelasgian theory derived σῑγή from the same PIE root as the Germanic words and considered it a Pelasgian loanword (i.e. a word belonging to a hypothetical IE substratum). They did not agree, however, on the exact reconstruction of the PIE root. V. I. Georgiev [37] posited a root **su̯īgʰ-*, with preservation of the initial *s-* and an evolution of PIE **gʰ* into Pelasg. γ. K. Strunk [38] adjusted this into **su̯iHgʰ-*, the long *ī* resulting from the combination of **i* with a laryngeal. E. P. Hamp [39], on the other hand, suggested a reconstruction **su̯eig̑ʰ-* with a Pelasgian development of **ei* to *ī*. Incidentally, V. I. Georgiev [40] suggested the same phonetic evolution for σῖτος "grain, food" but did not invoke this rule to explain the ῑ of σῑγή. The problem with V. I. Georgiev's reconstruction is that the assumed PIE root is of an unusual shape.

R. S. P. Beekes [41] originally considered σῑγή a 'European' substratum word (i.e. belonging to a prehistoric language that extended over Central Europe and left traces in several IE languages), thus explaining the similarity with the above-mentioned Germanic words. On the basis of ῥίγα (Hsch.) [42], probably a writing error for **ϜίγαϜ* (by confusion of <ϜI> and <PI> in majuscule script [43]), he concluded that the original Greek form must have been **sw-*. *Ϝ-* can easily derive from **σϜ-* but σ- cannot. In his etymological dictionary, by contrast, R. S. P. Beekes [44] considered the etymology of σῑγή unknown.

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36. Because of this irregularity, M. Bernal (2006, p. 307) suspected that the Greek word is an Egyptian loanword, viz. *sgr(i)* "silence", a seemingly rash conclusion.
37. V. I. Georgiev (1981, p. 100).
38. K. Strunk (2004, p. 91).
39. E. P. Hamp (1983, p. 148).
40. V. I. Georgiev (1981, p. 102).
41. R. S. P. Beekes (1996, p. 233-234).
42. ῥίγα· σιώπα (Hsch.).
43. P. Chantraine (1968, p. 1001) and K. Strunk (2004, p. 91).
44. R. S. P. Beekes (2010, p. 1327).

A final explanation was suggested by G.-J. Pinault [45]. This scholar derived σῑγή from the interjection σῖγα "hush", based on an onomatopoeia /ss/, which was syllabified by the insertion of an /i/.

### 3.2. σῐωπή

P. Chantraine [46] assumed that the word-pair σῑγή - σῐωπή went back to an onomatopoeia and that σῐωπή was an expressive variant. This expressive interpretation was rejected by G.-J. Pinault [47], who reconstructed the verb σῐω-πάω (from which σῐωπή would be derived) as a compound with *$peh_2$- "protect, keep" as its second member [48]. Thus, he believed, the assumed Homeric meaning of σιωπᾶν, viz. "garder le silence" (as opposed to σιγᾶν "être silencieux") could be explained [49]. For the first element of the compound, he considered two explanations: an interjection /si/ "hush" or a reduced form of the imperative σῑγῶ > σῐω- (the loss of the intervocalic γ being explained on the basis of a similar evolution in ὀλίος < ὀλίγος "little, small") [50]. The former explanation, however, fails to account for the ω, whereas the latter is implausible, since vocalic contraction and weakening of intervocalic γ are both relatively late developments, not yet operating in Homeric Greek, and since the variation of long and short ι remains unexplained.

According to A. J. Van Windekens [51], the original form of σῐωπάω/σῐωπή was σωπάω/σωπή: cf. σεσωπαμένον (Pind.) "kept silent", διασωπάσομαι (Pind.) "I shall be silent", σωπή (Call.) "silence", εὐσωπία (Hsch.) [52]. He explained this form as a Pelasgian loanword derived from the PIE lengthened grade **su̯ōp*- "sleep" (cf. Lat. *sōpīre* "lull to sleep"); more specifically, he assumed a Pelasgian dialect showing the development PIE *$su̯$- > Pelasg. σ- but not the consonant shift PIE *$p$ > Pelasg. φ. The form σῐωπάω, in his opinion, arose through contamination of σωπάω either with σῑγάω (despite the contrast between ῐ and ῑ) or with an unattested Pelasgian word *σῐ-, deriving from the PIE zero-grade *$ḱi$- of the root *$ḱei̯$- "lie down" (cf. Gr. κεῖ-ται "he lies down", OI *śé-te* "*id.*") and showing the development of PIE *$ḱ$ into Pelasg. σ.

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45. G.-J. Pinault (1994, p. 503).
46. P. Chantraine (1968, p. 1008).
47. G.-J. Pinault (1994, p. 503).
48. G.-J. Pinault (1994, p. 518-519).
49. G.-J. Pinault (1994, p. 516).
50. G.-J. Pinault (1994, p. 521).
51. A. J. Van Windekens (1986, p. 216).
52. εὐσωπία· ἡσυχία (Hsch.).

Originally, R. S. P. Beekes [53] also connected σῐ̈ωπή with σῑγή, the variation velar/labial, the ablaut ῑ/ῐ and the ω indicating, in his view, a non-IE origin. He did not rule out the possibility of a loanword from a lost IE language, although, in his opinion, the variation labial/velar rather points to a 'European' (i.e. non-IE) borrowing. σῐ̈ωπή would be derived from **swīp-*, which developed into **sīwp/sīup-* through metathesis, then into **sīop-* (because Greek had no diphthong *iu*) and finally into **siōp-*, where the long *ō* arose through popular etymology under the influence of words in -ωπ-. This whole explanation seems somewhat far-fetched, however.

Later, R. S. P. Beekes [54] withdrew his aforementioned interpretation, abandoning the etymological relation between σῐ̈ωπή and σῑγή and explaining the former as a genuine Pre-Greek substratum word that can be reconstructed as **sʸup-* with a palatalised sibilant **sʸ-*. This palatal element was normally rendered with ι, but in some cases, it was completely ignored, which would explain the above-mentioned variants without ι. Note, however, that these forms are poetic variants, which may derive from a secondary synizesis. In any case, in this new interpretation by R. S. P. Beekes, the variation labial/velar, one of the main reasons for explaining σῑγή as a 'European' loanword, was dropped. Note, moreover, that this scholar neglected to explain the development of **u* into *ō* in **sʸup-* > σῐ̈ωπή, for which he could not assume an original form **sʸōp-*, since, in his opinion, Pre-Greek originally only had the vowels *a*, *i* and *u*. [55] Recently, R. S. P. Beekes has revised his system of the Pre-Greek vowels, now assuming a system consisting of five vowels. [56]

### 3.3. *Pre-Greek labiovelars*

Even though R. S. P. Beekes now rejects an alternation between velar and labial for σῑγή-σῐ̈ωπή, this pair invites a comment on the vacillation between labial, velar and dental stops (cf., for instance, γέφυρα, Boeot. βέφυρα, Lacon. δέφυρα "[Hom.] dam; [later] bridge"), for which he usually reconstructs a Pre-Greek labiovelar [57], the existence of which is attested, for instance, by Myc. *qasireu* /gʷasileus/. Apparently, this

53. R. S. P. Beekes (1996, p. 233-234).

54. R. S. P. Beekes (2008, p. 52).

55. One explanation could be to assume analogical influence of words in -ωπ-, as R. S. P. Beekes suggested in his former reconstruction.

56. See R. S. P. Beekes (2010, p. xix-xx). Incidentally, R. Gordeziani (2008, p. 33) suggested that *i* and *u* were vocalic allophones of *i̯* and *u̯* respectively.

57. R. S. P. Beekes (1995/1996, p. 12-13), R. S. P. Beekes (2002, p. 17) and R. S. P. Beekes (2010, p. xxviii).

phoneme developed differently from the PIE labiovelars [58], which is only plausible if the Greeks borrowed the substratum word *after* the evolution of the PIE labiovelars to labials or dentals, since the Linear B tablets show that Mycenaean Greek still knew the labiovelars. This implies that in Pre-Greek words that were borrowed into early Greek, the Pre-Greek labiovelars must have developed in the same way as the IE ones. Accordingly, words showing the variation labial/velar/dental, are not likely to have previously been borrowed in Mycenaean Greek. An enigmatic case is ξίφος "sword", attested in Mycenaean in the dual form *qisipee*, which unmistakably shows a labiovelar. R. S. P. Beekes [59] assumed that the cluster **k$^{w}$s* normally developed into ψ (e.g. Μόψος < Myc. *Moqoso* /Mok$^{w}$sos/), which implies, of course, that *qisipee* is read as /k$^{w}$sip$^{h}$ee/ (i.e. with a dummy *i*) and not as /k$^{w}$isip$^{h}$ee/ (as R. S. P. Beekes suggested in his etymological dictionary [60]), unless a (Pre-Greek?) syncope is assumed. According to R. S. P. Beekes, the labial element was lost through dissimilation against the following φ. Alternatively, the initial consonantal cluster may have been reduced to *ks* for articulatory reasons.

## **4.** ἀγαθός

The etymology of ἀγαθός is highly controversial. The etymological explanations largely fall into two categories: one assumes the word to be of non-IE origin, whereas a second regards it as a compound based on IE elements. The following section explores both tendencies.

### 4.1. *Non-IE interpretation*

#### 4.1.1. *Aegean substratum word*

In his dissertation, E. J. Furnée [61] mentioned several Greek variants of later date, viz. ἀκαθός (Hsch.) [62], ἀκητόν (Hsch.) [63], *ἀκατός (Ἀκατίδης) and ἀγεθός (Cypriot inscription [64]). In these variants, he recognised the following Pre-Greek sound variations: γ/κ [65], θ/τ and α/ε.

58. The PIE labiovelars developed in Greek into labials (*$k^{w}$ > π, *$g^{w}$ > β, *$g^{wh}$ > φ), except before front vowels, in which case they developed into dentals (*$k^{w}$ > τ, *$g^{w}$ > δ, *$g^{wh}$ > θ). In contact with *u* or *w*, they were delabialised at an early stage. For the Pre-Greek labiovelars, these restrictions are lacking.

59. R. S. P. Beekes (2002, p. 17).

60. R. S. P. Beekes (2010, p. 1036-1037).

61. E. J. Furnée (1972, p. 124; p. 347).

62. ἀκαθόν· ἀγαθόν (Hsch.).

63. ἀκητόν· κράτιστον (Hsch.).

64. H. Van Herwerden (1910, p. 9).

65. E. J. Furnée (1972, p. 106) interpreted this variation as an assimilation of γ-θ to κ-θ.

In his review of this work, R. S. P. Beekes [66] added the gloss χάσιος (Hsch.) [67], which shows the variations γ/χ and θ/σ. The latter variation, however, is more likely to have resulted from Greek assibilation of the dental before ι rather than from a Pre-Greek consonantal variation.

4.1.2. *European substratum word*

ἀγαθός resembles words of similar meaning in other IE languages, viz. Germ. **gōda-* "good, fitting" (Goth. *gods* "good", OHG *guot* "*id.*", MLG *gaden* "fit"), OCS *godьnъ* "pleasant", Russ. *gódnyj* "useful", which point to an underlying root **g$^h$ad$^h$-* "fit". According to R. S. P. Beekes [68], this reconstruction presents us with two problems. First, **g$^h$ad$^h$-* cannot develop into ἀγαθός through regular Greek sound laws, since the expected outcome would be †κάθος < *χάθος (in accordance with Grassmann's law). Second, this root contains the supposedly non-IE phoneme /a/. In the aprioristic conception by the Leiden IE School of the phoneme /a/, a Greek α can only go back to a PIE laryngeal or vocalised liquid. Although few words require the reconstruction of a PIE phoneme /a/, this does not mean that the phoneme did not exist at all. R. S. P. Beekes was right, however, to point out other irregularities in the Greek forms, viz. variation of the stops (γ/κ, θ/τ, γ/χ), variation of *a/ā* and the prothetic vowel. Since these variations are 'typical' of the 'European' substratum [69], he traced ἀγαθός with its IE parallels back to a European substratum word with the root **(a)g$^h$ad$^h$-/*(a)g$^h$ād$^h$-* "good". He justified the consonantal alternation by assuming that the 'European' aspirated stops were of a different quality than the PIE stops. In his etymological dictionary [70], by contrast, he was more cautious about the origin of ἀγαθός, acknowledging that it can be either of IE origin or a substratum word.

4.1.3. *Kartvelian substratum word*

In his later work, E. J. Furnée [71] identified ἀγαθός (and its variants ἀκαθός and ἀγεθός) as a 'Pelasgian' substratum word, i.e. a substratum word of Proto-Kartvelian origin. More precisely, he reconstructed the Pre-Greek word as **aγat-/*aγet-*, analysing it as a combination of the Kartvelian prefix **aγ-* "upwards" and an adverbial formation in *-ad-/-at-*. This reconstruction seems rather random, however. While E. J. Furnée

66. R. S. P. Beekes - A. H. Kuipers (1975, p. 79).
67. χάσιος· ἀγαθός, χρηστός (Hsch.).
68. R. S. P. Beekes (1996, p. 227-230).
69. Incidentally, vowel prothesis does not belong to the 'European' features as enumerated by R. S. P. Beekes (2000, p. 23-24).
70. R. S. P. Beekes (2010, p. 7).
71. E. J. Furnée (1986, p. 131).

supposed that the basic form was an adverb derived from a prefix, all other scholars have attempted to connect it with a (predominantly verbal) root.

A Kartvelian hypothesis was also advocated by R. Gordeziani [72], who connected ἀγαθός with Geo.-Zan *ķet* "good, kind". The irregularity in this reconstruction is that Kartv. *ķ* usually corresponds to Pelasg. κ [73], unless some secondary development κ > γ is assumed (although in Greek, the form in κ appears to be secondary, given its late attestation). A second problem is that R. Gordeziani did not explain the origin of the initial ἀ-. Vowel prothesis, in the system of E. J. Furnée [74], on which R. Gordeziani's relied, was a feature typical of Aegean (i.e. the non-IE, non-Kartvelian substratum layer in the eastern part of the Mediterranean).

### 4.2. *IE interpretation*

#### 4.2.1. *Haplology: *aga-g$^h$ad$^h$-o-*

M. Harari [75] explained ἀγαθός as developed from *ἀγα-καθος through haplology. The first element, the intensifying prefix *ἀγα-, is also found in such words as ἀγα-κλεής, ἀγα-κλειτός, ἀγα-κλυτός "very famous", ἠγά-θεος, Dor. ἀγά-θεος "most holy", ἀγά-ννιφος "much snowed on", ἀγά-ρροος "strong-flowing", etc. The second element developed through regular Greek sound laws from the PIE root *$g^had^h$- "seize". Apart from the above-mentioned Germanic and Slavic words, M. Harari also connected this root with OI *gádhyaḥ* "which has to be held on to", *ā-gadhitaḥ* "seized", OSax. *gigado* "one's equal", Latv. *gāds* "supply", OCS *godъ* "right time", *u-goditi* "please". Thus, the meaning of *καθος evolved from "tangible" to "useful" and finally "good". M. Harari interpreted these semantic shifts on the basis of the primitive hunter-gatherer culture. R. S. P. Beekes [76], however, found this reconstruction "most improbable" and rejected the connection between the Old Indic words (meaning "seize") [77] and the Germanic and Slavic words (meaning "fit").

#### 4.2.2. *Dissimilation: *sm̥-g$^h$ad$^h$-o- or *n̥-g$^h$ad$^h$-o-*

In his article on Grassmann's law, A. Pârvulescu [78] also interpreted ἀ-γαθ-ός as a derivative of the verbal root *$g^had^h$- "fit". The first element was not explained as an intensifying prefix *ἀγα- but as derived from PIE

72. R. Gordeziani (2008, p. 35).
73. E. J. Furnée (1979, p. 56).
74. E. J. Furnée (1979, p. 15; p. 32).
75. M. Harari (1979).
76. R. S. P. Beekes (1996, p. 230).
77. According to M. Mayrhofer (1993, p. 461), the Old Indic words (related to Lat. *prehendo* "seize" and *praeda* "booty") derive from PIE *$g^he(n)d$-.
78. A. Pârvulescu (1993, p. 63-65).

**sm̥-* “with” or **n̥-* “together with”, the combination of both elements resulting in **sm̥-gʰad-* or **n̥-gʰad-* “fitting together”. That γ in ἀγαθός should go back to PIE **gʰ* is confirmed, in his view, by the variants χάσιος (with PIE **gʰ* > Gr. χ) and ἀκαθός (with PIE **gʰ* > Gr. χ > κ according to Grassmann’s law), both of which show the expected outcome. Consequently, A. Pârvulescu had to assume a dissimilation of the aspirates that already operated in PIE before Grassmann’s law, a phenomenon which apparently only left traces in Greek. R. S. P. Beekes [79] rightfully thought it unlikely that this early, ‘Pre-Grassmannian’ dissimilation would only have operated in Greek and not in Germanic. Moreover, there are practically no other instances of such a sound law in Greek [80].

### 4.2.3. γηθέω*: *sm̥-gʰ₂dʰ-o-*

In his complementary etymological dictionary, A. J. Van Windekens [81] also regarded ἀγαθός as a derivative with the prefix **sm̥-* (with intensifying value). The second element, however, he connected with γηθέω, Dor. γᾱθέω “rejoice” (which he derived from PIE **geh₂dʰ-*; cf. Toch. AB *kātk-* “be happy”), assuming -γαθ- to be derived from the zero-grade **gʰ₂dʰ-*. **sm̥-gʰ₂dʰ-*, he explained, developed into **ἄγαθός and then into ἀγαθός through dissimilation of the aspirates. The original meaning was thus “about which one rejoices”. Contrary to most of A. J. Van Windekens’ proposals, this reconstruction was applauded by M. E. Huld, one of Van Windekens’ critics [82]. Note that it implies that the Germanic words are not related to ἀγαθός, since in Germanic, PIE **g* developed into *k* in accordance with Grimm’s law.

### 4.2.4. **h₂gadʰ-o-*

Like A. J. Van Windekens, Rosemarie Lühr [83] also connected ἀγαθός with Toch. AB *kātk-*. The PIE root was reconstructed as **h₂gadʰ-*, however, probably in order to explain the so-called prothetic vowel in

79. R. S. P. Beekes (1996, p. 229).

80. A. Pârvulescu (1993, p. 65) saw parallels for this phenomenon in φεύγω “flee” < PIE **bʰeugʰ-*, θυγάτηρ “daughter” < PIE **dʰugʰh₂tḗr* and θιγεῖν “touch” < PIE **dʰigʰ-*. R. S. P. Beekes (2010, p. 561; p. 1564-1565), however, reconstructed the first two words as **bʰeug-* and **dʰugh₂-ter-* respectively (i.e. without a second aspirated stop). θιγεῖν probably took the γ from the present tense θιγγάνειν, where **gʰ* might have lost the aspiration after a nasal: see R. S. P. Beekes (2010, p. 549).

81. A. J. Van Windekens (1986, p. 1).

82. M. E. Huld (1988, p. 467).

83. Rosemarie Lühr (2000, p. 119-120).

Greek. Contrary to A. J. Van Windekens, she did not mention a connection with γηθέω [84].

4.2.5. μέγας*: *m̥ǵh$_2$-d$^h$ó-*

G.-J. Pinault [85] explained ἀγαθός as a combination of the zero-grade of μέγας "big" and a Caland suffix **-d$^h$o-*. Apart from this suffix, he found PIE **meǵeh$_2$-* also connected with the following suffixes belonging to the Caland system: **-i-* (Hitt. *mekki-* "big" < PIE **meǵh$_2$-i-*), **-es-* (Ved. *máhas-* = Av. *mazah-* "size" < PIE **meǵh$_2$-es-*) and **-ent-* (Ved. *mahánt-* = Av. *mazant-* "big" < PIE **meǵeh$_2$-ent-*, Gr. ἄγαν "too much" < PIE **m̥ǵeh$_2$-nt-*, Lat. *ingēns* "enormous" < PIE **m̥ǵh$_2$-n̥t-*).

4.2.6. μέγας*: *m̥ǵh$_2$-d$^h$h$_1$-ó-*

Like G.-J. Pinault, several other scholars have also identified the first element as the prefix **ἀγα-* (interpreted as the zero-grade **m̥ǵh$_2$-* "big"), though now taking the second part as the zero-grade of the verbal root **d$^h$eh$_1$-* "put, do" [86]. J. W. Poultney [87] was the first to propose this reconstruction in a short article read at the Bopp-Symposium of 1992. According to C. J. Ruijgh [88], a similar compound is found in Latin, viz. *magnificus* < **magno-fak-o-s* (with **fak-* derived from PIE **d$^h$eh$_1$-k-*, cf. Gr. ἔ-θηκ-α "I put"). Among the scholars who adopted this reconstruction, there has been discussion concerning the meaning of the compound, however. According to J. W. Poultney, C. J. Ruijgh, S. Scarlata and P. Ragot, ἀγαθός originally had an active sense, viz. "große Taten wirkend" [89], "Großes leistend" [90], "qui accomplit de grands actes" [91], "dont les actes sont grands" < "qui s'applique à des actes de grande allure" [92]. O. Panagl and S. Neri, by contrast, assumed that it had a passive sense, viz. "hochgestellt", "groß gemacht" [93]. For both interpretations, reference was made to Homer's use of ἀγαθός, in which the word is

84. Recently, O. Hackstein (2002, p. 8) explained γηθέω and Toch. AB *kātk-* as compounds of **geh$_2$-* "brilliance" and **d$^h$eh$_1$-* "put", thus, originally meaning "in Glanz versetzen". According to R. Viredaz (2003, p. 115), however, an active compound in **d$^h$eh$_1$-* is incompatible with the intransitive meaning of the verbs.

85. G.-J. Pinault (1979; 1991).

86. The laryngeal $h_1$ was lost between consonant and vowel.

87. J. W. Poultney (1994).

88. C. J. Ruijgh (1996, p. 379).

89. J. W. Poultney (1994, p. 210).

90. S. Scarlata (1999, p. 260).

91. P. Ragot (2006, p. 340).

92. C. J. Ruijgh (1996, p. 378; p. 388; p. 393).

93. See O. Panagl (1995, p. 235) and S. Neri (2003, p. 48). Irene Balles (2003, p. 16; 2006, p. 223) remained neutral as to the exact semantics and mentioned both interpretations.

applied to noble heroes. According to O. Panagl, the word in Homer is still felt as a compound, since there are no compounds with ἀγαθο- yet in the Homeric epics. C. J. Ruijgh, on the other hand, claimed that already at an early stage, ἀγαθός was no longer recognised as a compound: ἀγα- was no longer identified as the zero-grade of μέγα- and -θό- was no longer associated with the verb τί-θη-μι "I put". As proof of this hypothesis, C. J. Ruijgh argued that already in Homer, compounds were made with μεγα- (e.g. μεγά-θυμος "great-hearted").

4.2.7. ἄγω*: *aǵn̥-dʰh₁-o-*

R. Anttila [94], finally, accepted the reconstruction of the second element as the verbal root **dʰeh₁*- "put, do" but derived the prefix ἀγα- from the PIE root **h₂eǵ*- "drive" instead of the zero-grade **m̥ǵh₂*- "big" [95]. In his opinion, the *aga* were games or contests (cf. ἀγών "contest"), so that an adjective such as ἀγακλυτός "very famous" originally meant "famous with respect to the *aga*, the games". In the derived superlative meaning, the prefix was also combined with words that were not connected the games (e.g. ἀγάννιφος "much snowed on"). In ἀγαθός, R. Anttila explained, the first element goes back to **aǵ-n̥* "drove, herd", an agrarian term which, he believed, was applied to people at a certain time (cf. the similar use of ποίμνη, ἀγέλη, πῶυ "herd"). Consequently, the original meaning of the compound **aǵn̥-dʰh₁-o-s* was "supporting the *aga*, upholding the (social) unit". Like J. W. Poultney, C. J. Ruijgh, S. Scarlata and P. Ragot, R. Anttila interpreted the verbal root in an active sense. The ἀγαθοί were the drivers or leaders of society, doing what was useful and therefore good for society. Thus, ἀγαθός originally had a primarily social meaning. Via this social meaning, R. Anttila made the connection with the games (*aga*): the contester did not act as an individual but represented his group or family.

### 4.3. *Conclusion*

A. Pârvulescu's reconstruction (viz. an early dissimilation that only worked in Greek and that chronologically precedes Grassmann's law) is the least convincing of all proposals, since it relies on controversial sound laws. Occasionally, the variants ἀκαθός, ἀγεθός and χάσιος are adduced (viz. by E. J. Furnée, R. S. P. Beekes and A. Pârvulescu). Other linguists, however, ignored these forms and based their reconstructions solely on

94. R. Anttila (1996) and R. Anttila (2000, p. 70-75).

95. R. Bracchi (1999, p. 89) accepted the reconstruction of the second element as PIE **dʰeh₁*- but hesitated between **m̥ǵh₂*- and **h₂eǵ*- for the reconstruction of the first element.

ἀγαθός itself (e.g. M. Harari, A. J. Van Windekens, O. Panagl and R. Anttila). Indeed, the question arises whether these words are all related. Especially in the case of χάσιος, this claim seems doubtful. This word, which probably developed from *χάθιος (with assibilation of the dental before ι) may be derived from PIE *$g^{h}ad^{h}$- "to fit", an interpretation which would enable a connection with the Germanic and Slavic words. If the root is reconstructed as *$g^{h}eh_{2}d^{h}$- (in an attempt to avoid reconstructing a phoneme /a/, as the Leiden researchers are eager to do), the Slavic words cannot be related for phonological reasons [96]. ἀγαθός itself is most likely a compound (*$m̥gh_{2}$-$d^{h}h_{1}$-*ó-s* or *$ag\acute{n}$-$d^{h}h_{1}$-*o-s*), with *$m̥gh_{2}$-$d^{h}h_{1}$-*ó-s* (either meaning "made great" or "doing great things") as the most likely reconstruction from a semantic point of view. The variant ἀγεθός is probably a secondary form, arisen by (epichoric) dissimilation of the vowels. ἀκαθός, finally, might be a contamination of ἀγαθός and an unattested form *καθός (which, like χάσιος, might continue PIE *$g^{h}ad^{h}$-). This last suggestion should be treated cautiously, of course, given the great risk involved in working with unattested forms.

Although R. S. P. Beekes' hypothesis of a 'European' substratum word showing several variants is often a reasonable suggestion, we should be careful not to label words as substratum words too easily. Indeed, E. J. Furnée's dissertation was often criticised for listing several words that could be alternatively explained within Greek or PIE. In fact, the reconstruction *$m̥gh_{2}$-$d^{h}h_{1}$-*ó-s* appears to be the common opinion on ἀγαθός in comparative linguistic research [97].

## 5. The suffix -νθος

A final case-study concerns the recent theories about the suffix -νθος, which was used to form both place names (e.g. Κόρινθος, Ζάκυνθος, Ἐρύμανθος) and appellatives (e.g. ἐρέβινθος "chick pea", κολόκυνθος "gourd, pumpkin"). From the beginning of the substratum research, it was considered a Pre-Greek suffix, since it could not be derived from PIE through regular Greek sound laws. An important question is whether words in -νθος form one homogeneous group and whether the suffix is related to the Anatolian suffix *-nda* (-νδα), with which it is often connected.

96. In Balto-Slavic, a laryngeal is never vocalised between consonants; $eh_{2}$ would give *ā*. Therefore, in OCS *godьnъ* "pleasant" and Russ. *gódnyj* "useful" a laryngeal is excluded. See R. S. P. Beekes (1996, p. 228).

97. See the recent works of M. Janda (2000, p. 242) and Dagmar S. Wodtko - Britta Irslinger - Carolin Schneider (2008, p. 108; p. 470-471).

### 5.1. *Identity between* -νθος *and* -*nda*

A first group of scholars identified the suffixes -νθος and -*nda* with each other but disagreed on their origin. L. R. Palmer [98] and Margalit Finkelberg [99] assumed these suffixes to be of Anatolian origin, considering Luwian as the most probable donor language for appellatives and place names. Y. Duhoux [100], though sceptical of any hypothetical Pre-Greek language, thought of one or more Anatolian (i.e. not necessarily Luwian) languages. According to him, -*nda* could be connected with PIE *-*nt*-, like -νθος (with aspiration of the dental), although he neglected to explain the origin of the aspiration. In her monograph on the suffix -νθος, Adriana Quattordio Moreschini [101] also concluded it to be of Anatolian origin. More specifically, she assumed the suffix -νθ- to be derived from two different Anatolian suffixes, viz. -*(a)nt*- (used to build plurals and collectives) and -*(a)nda*/-*(a)nta* (a place name suffix). Because the singular morpheme -ος was added, the Greeks were no longer aware of the original collective meaning in appellatives. Thus, ἐρέβινθος, for instance, should originally have denoted a collective of chick peas or the plant name in general and only later a single chick pea, an interpretation that seems needlessly complicated. Adriana Quattordio Moreschini, moreover, failed to explain the discrepancy between Anatolian *d* and Greek θ. Should we assume that the Greeks perceived the Anatolian voiceless dental in -*ant*- as an aspirate?

V. I. Georgiev [102] accepted the IE origin of both -νθος and -*nda* but considered the former suffix to be of Pelasgian instead of Anatolian origin. He added that the suffixes -ανθος, -ινθος and -υνθος derived from different PIE forms, viz. -ανθ-ος < PIE *-*ont*- (with PIE **o* > Pelasg. α and PIE **t* > Pelasg. θ), -ινθ-ος < PIE *-*ent*- (with PIE **e* > Pelasg. ι before *nt* without stress) and -υνθ-ος < PIE *-*n̥t*- (with PIE **n̥* > Pelasg. υν), whereas in Anatolian, all these variants developed into -*ant*-/-*and*-. This last remark cannot apply to PIE *-*ent*-, however, since in Hittite, PIE **e* developed into *e/i* (not *a*).

The proponents of the Aegean theory associated -νθος and -*nda* as well but assumed both of these suffixes (i.e. also Anatolian -*nda*) to be of non-IE origin [103]. Thus, R. A. Brown [104] considered -νθος to be a prenasalised

98. L. R. Palmer (1980, p. 11-12).
99. Margalit Finkelberg (2005, p. 52).
100. Y. Duhoux (2007, p. 228).
101. Adriana Quattordio Moreschini (1984, p. 107-108).
102. V. I. Georgiev (1981, p. 106).
103. H. Haarmann (1996, p. 5) and K. Strunk (2004, p. 89) agreed on the non-IE origin of -νθος.
104. R. A. Brown (1985, p. 12).

variant of the Pre-Greek suffix -ᾱτος. R. S. P. Beekes [105] elaborated on this theory and connected -νθος with a set of other not prenasalised suffixes. Thus, he connected -ανθ-/-ινθ-/-υνθ-, -ανδ-/-ινδ-/-υνδ- and -αντ-/-υντ- [106] with -αθ-/-ιθ-/-υθ-, -αδ-/-ιδ-/-υδ- and -ατ-/ -ιτ-/-υτ-. In other words, the basic suffix had the form VC, which could be prenasalised and could show the Pre-Greek variation τ/θ/δ.

The proponents of the Kartvelian theory also accepted the association of the suffixes -νθος and *-nda*. According to E. J. Furnée [107], these suffixes were of East Mediterranean origin (i.e. belonging to a non-IE, non-Kartvelian substratum that left traces in both Greek and Kartvelian). More specifically, he connected -νθ- with Georgian *-nd-* and supposed a secondary, 'Aegean' aspiration. Later, he considered the East Mediterranean *-int-* a secondary, 'nasalised' variant of *-it-*, corresponding to Kartvelian *-et-/*-etj-* [108], whereas Anatolian *-ind-* was explained as assimilated from **-int-*. A. Uruschadse [109], on the other hand, connected the suffixes *-nth-*, *-nd-* and *-nt-* with Georgian *-ian-ta*, *-an-ta* and *-ta* (without the nasal element), which are used to build plurals and to express possession.

### 5.2. -νθος *and -nda: two different suffixes*

Other scholars have kept -νθος and *-nda* etymologically separated, most of them agreeing on the genuine Anatolian nature of the suffix *-nda* (derived from PIE **-nt-* and **-u̯ent-*). Anna Morpurgo Davies [110] doubted that -νθος could be a reflex of this Anatolian suffix, since the expected outcome would be -ντ- and -νδ- (not -νθ-). C. Renfrew [111] too kept the two suffixes separated, explaining *-nda* as an Anatolian suffix and -νθος as a Pre-Greek and Pre-Anatolian but not Pre-IE word. F. Lochner von Hüttenbach [112] considered the suffixes *-wanda*, *-anda* and *-assa* to be of IE origin, but since there are no traces of a Hittite-Luwian migration to Greece, he preferred to keep -νθος separated from the similarly sounding suffixes in Asia Minor. In his contribution to *Der neue Pauly*, J. L. García-Ramón [113] considered three possibilities: these suffixes could derive from a common pre-IE substratum, go back to an extension of (IE or non-

105. R. S. P. Beekes (2010, p. xxxiv).
106. The suffix *-ιντ- is not attested.
107. E. J. Furnée (1982, p. 29).
108. E. J. Furnée (1986, p. 67-68).
109. A. Uruschadse (1984, p. 102-104).
110. Anna Morpurgo Davies (1986, p. 120).
111. C. Renfrew (1998, p. 254).
112. F. Lochner von Hüttenbach (1985/1986, p. 7).
113. J. L. García-Ramón (2002, p. 334).

IE) linguistic material from Asia Minor, or reflect different developments of the same basic form.

In contrast to the previous scholars, who frequently did not go beyond a negative conclusion (viz. that the Greek and Anatolian suffix could not be related), Françoise Bader [114] in her review of Adriana Quattordio Moreschini's work suggested a positive etymological explanation of the suffix -νθος. She believed that it derives from an inherited combination of a nasal and an aspirated dental (parallel complex suffixes being *-*nt*- and *-*nd*-). The dental could be connected not only with a nasal but also with *-*i*- (e.g. ὄρν-ῑ-θ- "bird") or *-*u*- (e.g. κόρ-υ-θ- "helmet"). Consequently, Anatolian -*nd*- shows a different, though parallel, combination of a nasal with a dental. Another explanation of the suffix was proposed by M. Bernal in his controversial *Black Athena* [115], where the suffix was assumed to have various origins. First, it would go back to "simple introduction of a nasal before a dental" [116] (i.e. [pre]nasalisation), an explanation which, as J. H. Jasanoff and A. J. Nussbaum [117] argued in their review of the linguistic evidence in *Black Athena*, cannot be invoked as a regular Greek sound change without further justification. Second, M. Bernal assumed that some instances of -νθος were renderings of Eg. -*nṯr* "holy", which, in his view, was also borrowed as νίτρον "sodium carbonate", ἄνθος "flower" (with vowel prothesis and loss of final *r*), ξανθός "yellow" (< *snṯr* "make holy", with a causative *s*- and transcription of an 'uncertain' Egyptian sibilant as ξ), κάνθαρος "dung-beetle" (< **kȝ nṯr* "holy spirit") and σάτυρος "satyr" (< *snṯr*, where the *n* was dropped). This second explanation does not seem likely either, since no traces of the so-called original meaning of -νθος are preserved in the Pre-Greek toponyms and appellatives.

### 5.3. *Conclusion*

Most scholars agreed on the Pre-Greek origin of -νθος, except for M. Bernal and Françoise Bader. As the Anatolian suffix -*nda* can be explained on a PIE basis, it seems safer to keep both suffixes separated when discussing their etymology. If one wants to associate them, Françoise Bader's explanation (i.e. IE origin for both suffixes, although the formations are not completely identical) seems the most likely suggestion. The strongest objection against the identification of both suffixes is the fact

114. Françoise BADER (1987, p. 232-236).
115. M. BERNAL (2001, p. 126-132).
116. M. BERNAL (2001, p. 128).
117. J. H. JASANOFF - A. J. NUSSBAUM (1996, p. 187).

that in toponyms, they are never attested with the same root (for instance, we do not find Anatolian **Korinda* besides Κόρινθος) [118].

## 6. General conclusion

A first conclusion to be drawn is that the Anatolian theory has proven to be the least influential. Its main proponents concentrated on the suffixes -νθ- and -σσ-. The other three theories (Pelasgian, Aegean and Kartvelian) had a wider scope, examining more data.

Second, several words not only have competing Pre-Greek interpretations (as presented in my first article) but have also received explanations within PIE or Greek (e.g. τύμβος, σῑγή and ἀγαθός). For other words (e.g. πέλεκυς), an alternative borrowing could be considered (e.g. from Semitic) rather than substratum influence.

Third, the Pelasgian theory, though influential in the past, failed to explain a large part of the data collected by E. J. Furnée. For most of the terms discussed in the present article, a Pelasgian suggestion could be made, but this is far from true for the rest of E. J. Furnée's corpus (e.g. γέφυρα - βέφυρα - δέφυρα).

A fourth conclusion concerns the Kartvelian theory, an innovation in the substratum research. The proponents of this approach pointed to a few more or less systematic sound correspondences between Pre-Greek and Kartvelian, although the question of the original donor language often cannot be resolved. Moreover, not every Pre-Greek word can be explained as a Kartvelian substratum word, as becomes evident from the elements examined: there are no Kartvelian parallels for πέλεκυς, τύμβος and σῑγή. Therefore, E. J. Furnée did not abandon the Aegean theory but incorporated it into his theory of Pre-Greek as consisting of two substrata, viz. a non-Kartvelian and a Kartvelian one. Still, the great chronological gap between 'Pelasgian' (which, according to E. J. Furnée [119], goes back to the third millennium BC) and the historically attested Kartvelian languages (with Georgian, attested from the fourth century BC onwards, as the only Kartvelian language with a historical tradition) invites us to be cautious. Unsurprisingly, K. H. Schmidt [120] was sceptical of the extent to which the Proto-Kartvelian material could still be reconstructed on the basis of the Kartvelian languages.

Research on the basis of the Aegean theory (as currently practised by R. S. P. Beekes) seems the most fruitful approach. For several instances, it

118. A possible exception may be the pair *Labraunda* - Λαβύρινθος.
119. E. J. Furnée (1979, p. 14).
120. K. H. Schmidt (1979, p. 96).

can be supplemented with the Kartvelian theory. Still, a few critical remarks are in order, first concerning the criteria used by the linguists of Leiden in the identification of substratum elements [121], which are the following:

(1) Absence of a good IE etymology
(2) Limited geographical distribution: the word in question only occurs in one language (group)
(3) Unusual word formation: suffixes unknown in PIE
(4) Meaning: loanwords for certain local phenomena
(5) Phonological irregularity: ablaut patterns impossible in PIE

Objections can be made to each of these criteria. First, the limited geographical distribution of a certain word does not necessarily point to a non-IE origin, since it may have been lost in other languages. This might be the case for πέλεκυς, which is only attested in Greek and Old Indic, although these languages may have borrowed the word separately from Semitic. Second, certain phonological irregularities can be explained by assuming assimilation, dissimilation, onomatopoeia, taboo or contamination. An onomatopoeic value may be present in σῑγή, whereas contamination and dissimilation may have given rise to ἀκαθός and ἀγεθός respectively (two variants of ἀγαθός). Third, a so-called non-IE suffix may be a complex IE suffix cluster, for instance in the case for -νθος (as Françoise Bader suggested), although most scholars agreed on its Pre-Greek nature. Fourth, the semantic argument is not sufficient to label a certain word as non-IE either, since our knowledge of the Indo-European culture is still fairly limited. Finally, the presence of the so-called non-IE phoneme **a* is also a debatable issue. It is one of the main reasons for R. S. P. Beekes to assume that ἀγαθός is of non-IE origin. Most modern scholars, however, do accept the existence of this phoneme in PIE. Although each of these criteria can thus be challenged, a non-IE origin is usually made plausible not by simply one of these criteria but by the combination of these features, as P. C. H. Schrijver [122] argued.

Another problem is that R. S. P. Beekes' methodology can often be questioned. He adduced many Hesychian glosses as so-called proof of the Pre-Greek sound variations, although nothing guarantees the antiquity of these glosses: some of them may even be recent (perhaps Byzantine) loanwords. Furthermore, many borrowings that presumably came from a different source (e.g. Semitic) are subsumed under the Pre-Greek

121. For a more detailed discussion of these criteria, see P. C. H. Schrijver (1997, p. 293-296). See also R. S. P. Beekes (1999, p. 14) and R. S. P. Beekes (2010, p. xxiii).

122. P. C. H. Schrijver (1997, p. 296).

vocabulary. Therefore, as a suggestion for future research, a stricter methodology seems in order, in which a distinction should be made at least between early attested Pre-Greek words, Hesychian glosses and loanwords that may be of a different origin.

One last crux is the unity of Pre-Greek, which was assumed by R. S. P. Beekes. The wide geographical distribution of the Aegean substratum, however, makes a linguistically diverse continuum (perhaps even comprising IE elements) more plausible. Moreover, given the chronological gap between the various attested words, diachronic variation too remains possible. Finally, dialectal differentiation within Pre-Greek cannot be a priori excluded. Any speaker of a natural language will agree that the dialects of his language can show extreme differences. Retrieving these Pre-Greek dialects, however, may forever be beyond our grasp.

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