

The “Saussure effect” in Greek: a reinterpretation of the evidence¹

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In its most common formulation, the “Saussure effect” (henceforth SE) states that a PIE laryngeal is lost in the environments **#HRO-* and **-oRHC-*. The phenomenon was discovered by Ferdinand de Saussure in 1905. Since the seminal treatment by Nussbaum 1997, it is now generally referred to by the name “Saussure effect”. Although SE is accepted and used as a research tool by almost all scholars, there are a number of problems with it. First, it is not well understood how SE may have worked phonetically. Second, as the name “Saussure *effect*” indicates, scholars hesitate whether the phenomenon should be understood to have been a regular sound change.² Third, there is no consensus about the date and spread of the phenomenon: examples have been adduced from Anatolian (Melchert 1994: 49-51), Balto-Slavic (recently Yamazaki 2009), Italic (Nussbaum 1997), Celtic, and Indo-Iranian. Some scholars have claimed, for this reason, that SE was a PIE sound change.

In this article, I will focus on the Greek material exclusively, while Tijmen Pronk’s article elsewhere in this volume (Pronk 2011) deals with the material in languages other than Greek. After a scrutiny of the material, I will argue that the laryngeal loss in Greek is not due to the *o*-grade of the root. Instead, I will advance the hypothesis that the laryngeal was lost in the environment **-VLHNV*, where *L* = *r*, *l* and *N* = *m*, *n*.

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²Nussbaum 1997 uses at least three terms: “effect”, “phenomenon”, and “syndrome”.

1.1. Precise formulation of SE. We might define SE by the following pair of sound changes that are supposed to have operated either in Proto-Indo-European or in one or more of its daughter languages:

(a) $*HR\check{\sigma} > *R\check{\sigma}$, loss of initial laryngeal before an σ -grade root³, where $*R = r, l, m, n, \underline{u}$ (on \underline{i} , see below), and $*H = *h_1, h_2,$ or h_3 . An example in Greek is $\acute{\omicron}\mu\epsilon\acute{\iota}\chi\omega$ ‘to urinate’ (Hes.+) beside $\mu\omicron\iota\chi\acute{\omicron}\varsigma$ ‘adulterer’ (Ion.-Att.).

(b) $*(C_1\dots C_m)\sigma RH-C > *(C_1\dots C_m)\sigma RC$, loss of a root-final laryngeal in an σ -grade root, when followed by a consonant⁴ ($*C_{(i)}$ = any non-vocalic segment). A Greek example is $\tau\acute{\omicron}\lambda\mu\alpha$ ‘courage’ (Ion.-Att.) beside $\tau\epsilon\lambda\alpha\mu\acute{\omega}\nu$ ‘carrying strap’ (Hom.).

I depart from the following conditions for SE. It is commonly assumed (e.g. Beekes 1969, Schrijver 1991) that the laryngeal loss took place at least when $*R$ was a liquid, a nasal or \underline{u} . Rasmussen 1989 includes one Greek example for $*\underline{i}$ ($\acute{\omicron}\hat{\iota}\mu\omicron\varsigma < *u\acute{\omicron}i h_1-m\omicron-$), but Nussbaum 1997 explicitly states that SE operated in Greek for $*R = \underline{i}$ as well, at least in internal position. Because the material for $*\underline{i}$ (both initial and internal) is potentially ambiguous, I will treat this in a separate section (see below sub 2.).

There are hardly any cases of $*CoTH-C > *CoTC$ - ($*T =$ any stop). The only potentially good example I have found in the literature is $\acute{\pi}\acute{\omicron}\tau\mu\omicron\varsigma$ ‘fate’, which could be considered related to $\acute{\pi}\acute{\iota}\acute{\pi}\tau\omega$, cf. the semantics of Lat. *cāsus*, G. *Fall*. It is uncertain, however, that we need to reconstruct $*poth_1-m\omicron-$, since the root may have been $*pet$.⁵

³As most instances concern σ , not $\acute{\sigma}$, I will henceforth refrain from writing $\acute{\sigma}$, and simply write σ when referring to the conditions of SE.

⁴If the consonant following the laryngeal is $*\underline{i}$, we might also ascribe the laryngeal loss to Pinault’s rule (Pinault 1982). Such examples will therefore not be treated here.

⁵This example is mentioned by Saussure (1905: 511 fn. 2), who did not yet consider the $*R$ to be the conditioning factor for SE, and by Rasmussen (1989: 178, 198). Both derive $\acute{\pi}\acute{\omicron}\tau\mu\omicron\varsigma$ from the root of $\acute{\pi}\acute{\epsilon}\tau\alpha\mu\alpha\iota$ ‘fly’, which I consider to be semantically weaker than the connection with $\acute{\pi}\acute{\iota}\acute{\pi}\tau\omega$ ‘fall’. But the roots ‘fly’ and ‘fall’ were perhaps ultimately identical: $*pet$. As an example, in $\acute{\pi}\tau\epsilon\rho\acute{\omicron}\nu$ ‘feather’, we find no trace of a laryngeal either. Therefore, it remains unclear whether the

Such cases are usually not thought to be examples of SE,⁶ and I will leave them out of further consideration.

1.2 History of research and problems with the SE.

Ferdinand de Saussure was the first (1905: 511 fn. 2) to discover a peculiarity shared by a number of Greek words. While their roots contained the “coefficient sonantique”, these words did not show a reflex of it. After comparing the examples, de Saussure suggested that the differing reflexes were due to the loss of the “coefficient” when the root contained an *o*-grade. The phenomenon discovered by de Saussure gained a place in Hirt’s handbook on Indo-European vocalism (1921: 185-186); hence the name “Saussure-Hirt’s Law” that used to be current.

The SE was given a prominent place in Beekes’ study of the development of the laryngeals in Greek (1969: 238-242). Beekes retained a rather limited number of examples, but did not explicitly pronounce himself on the regularity of the effect and remained sceptical. In subsequent treatments, Peters 1980 and Rasmussen 1989: 175ff. collected more material and confidently made use of SE to propose new etymologies. Since then, the *communis opinio* (Schrijver 1991, Melchert 1994: 49-51 and Nussbaum 1997, among others)⁷ on de Saussure’s rule seems to have become that the laryngeal loss in the environments defined in 1.1. was regular. De Lamberterie has collected a number of Greek examples for the effect in *Chronique d’étymologie grecque* 9, and his contributions have recently been reprinted in the Supplement of *DELG*. It is fair to state that SE has become common knowledge.

Only few dissenting voices have been heard. Ruijgh 1997: 277 speaks of the “absence étonnante d’une trace de la laryngale (...) dans quelques noms isolés comportant le degré *o* de la racine”, to remark that “il ne peut pas s’agir d’une perte phonétique de la laryngale”. He adduces the counterexample of $\pi(\tau)\acute{o}\lambda\epsilon\mu\omicron\varsigma$, which to my mind is not decisive (see below). Unfortunately, Ruijgh is not very

pre-form of $\pi\acute{o}\tau\mu\omicron\varsigma$ really contained a laryngeal. Cf. the remarks by Collinge 1994: 46.

⁶An exception is Rasmussen, l.c.

⁷See also Meier-Brügger 2002: 119.

explicit on the prehistory of forms like *τόλμα, πόρνη*.⁸

Concerning the interpretation of the material, a few points deserve special attention. First, de Saussure's suggestion was based on the comparison of just a few forms, all of which turned out to contain an *o*-grade. This does not mean that the *o*-grade *must* be the conditioning factor of the laryngeal loss in these forms, as shall become clear below.

Second, while de Saussure only posited the phenomenon for Greek, the rule was quickly applied in other languages as well, and the laryngeal loss was reinterpreted, though not universally, as a Proto-Indo-European sound change.⁹ The evidence for SE from Indo-European languages other than Greek is discussed in a separate contribution by Tijmen Pronk (Pronk 2011). He concludes that there is no secure evidence in favor of SE in any of the language families he considers (Indic, Italic, Anatolian, Balto-Slavic, Celtic). Moreover, the only example that seems to show loss of the laryngeal across different branches (**sol(H)uo-* 'whole')¹⁰ is shown to be a later thematicization that occurred independently in the daughter languages.

Third, a major difficulty with SE is that the phonetic loss of the laryngeal segment would be caused by a non-contiguous *o*. This has been a hard nut to crack for its proponents. Nussbaum (1997: 185-6) has pointed to the fact that in most good examples of SE, one expects a

⁸Since the *o*-vocalism of the root, in his view, points to an earlier root noun, Ruijgh departs from old root nouns with lengthened \bar{o} -grade. Here, the word-final laryngeal would have been lost after long vowel plus resonant (example: **tōlh₂ > *tōl*). But Ruijgh does not explain how or why the suffixes of *τόλμα, πόρνη* came into being: one only reads that "...*tōl doit avoir été [la réalisation] de *tol, forme qui figure dans *τόλμα̃*." (l.c.). In the absence of further substantiation, this scenario remains speculative.

⁹In the most recent treatment of the Effect, Yamazaki (2009: 430) states: "The fact that the effect is observed in several Indo-European branches suggests that it took place at the stage of Proto-Indo-European". Cf. Nussbaum 1997: 182: "... it is not only in Greek that the laryngeal in the inherited sequences *#HRo-* and *-oRHC-* fails to be reflected in the usual way. And this naturally suggests (...) that the Saussure syndrome reflects something that happened, or failed to happen, already in the proto-language."

¹⁰This example will also be discussed below.

syllabification in which the **H* and the *o*-grade are not only non-contiguous, but even heterosyllabic. Phonetically, therefore, it is highly improbable that the *o*-vocalism would be the cause for the non-vocalization or loss of the laryngeal. A related problem that was brought to attention by Nussbaum is the following: a laryngeal is assumed to be lost in **HRo-* when it is initial, whereas word-internal **-HRo-* does not undergo the same treatment (e.g. in **Ro-* adjectives derived from roots ending in a laryngeal). As Nussbaum remarks (1997: 184), "obvious examples of such a treatment of analogous, word-internal **-CHRǝ* have not really turned up".

In the fourth place, the Greek examples for SE are much more numerous than those in Latin, Balto-Slavic, or Hittite. On the one hand, this abundance of examples can be ascribed to the fact that the lack of a laryngeal reflex can be relatively easily recognized in Greek (as opposed to, e.g., the situation in Baltic, where the possibility of metatony severely complicates matters): one simply expects interconsonantal laryngeals to vocalize as *a*, *e* and *o*. Moreover, Greek is probably the best-documented Indo-European language. On the other hand, the Greek lexicon is notoriously full of words without a good etymology. As a consequence, the opportunities for etymologizing are almost infinite, especially when one takes into account information from lexicographical sources without further questioning. It is important to eliminate the uncertain and wrong etymologies from the material first. This is the first objective of this paper.

I will investigate both the evidence for laryngeal loss in initial position and loss in word-internal position. For each of these environments, my main questions will be, after a sifting of the material: (A) Is there enough evidence in Greek to speak of laryngeal loss induced by regular sound-change? (B) If so, does the evidence really point to the *o*-grade as the environment determining the laryngeal loss?

For initial laryngeals, question (A) will be answered negatively, and for word-internal position, (B) will be denied. The plan is as follows: in 2., I will point out why the case **R = *i* will be left out of consideration. Then, I

will discuss the available evidence and counterevidence for the loss of initial laryngeal (3. and 4.), and after that the evidence and counterevidence for the loss of word-internal (root-final) laryngeal (5. to 7.). Finally, a new solution will be proposed for the remaining evidence for word-internal position (8. to 10.).

2. The environments *Hio- and *-oiHC-. There are important reasons to leave the sequences *Hio- and *-oiHC- out of consideration. First, in a word-internal sequence *-ViHC-, it is unclear whether a laryngeal is expected to vocalize, or to assimilate to the preceding *i*. For Latin, this problem has been discussed by Nussbaum (1997: 200). For Greek, Nussbaum accepts a vocalization of the laryngeal in *-ViHC- on the basis of Hom. δέατο ‘seemed’, which he reconstructs as *deih₂-to (1997: 182 fn. 13). On the other hand, in the thematic optative, the 3sg. *-o-ih₁-t does not develop to PGr. **oiet, but becomes Gr. -oi. For this reason, Nussbaum assumes that the laryngeal was lost in this sequence: “... the mere fact that *h₁ in the sequence *-oih₁C- fails to “vocalize” in Greek is itself most likely to be explained by the Saussure phenomenon, ...” (l.c.). But this view is at variance with the fact that the 3sg. thematic optative ending -oi counts as disyllabic for accentual purposes, a fact which Nussbaum (l.c.) explicitly chooses to disregard.

In order to account for the accentual behavior of 3sg. opt. -oi, Kortlandt has suggested that the laryngeal was assimilated to a preceding *yod* before it vocalized¹¹ in other positions (e.g. Kortlandt 1992: 237): *-oih₁t > *-oiit. This view seems in conflict with Hom. δέατο ‘seemed’, but Kortlandt (l.c. fn. 3) has argued that its *e*-grade points to an original stative formation (cf. κείτο for older *kēi-o). If the *-t- in δέατο is not old, δέατο is not decisive evidence for the outcome of *-eiHC-.¹²

¹¹The phonetical background of this “vocalization” and “assimilation” cannot be discussed here. It cannot be excluded, for instance, that in the case of a preceding **i* an epenthetic vowel developed that was colored not by the laryngeal, but by **i*.

¹²Kortlandt points out to me an alternative explanation of the thematic

As a second point, when dealing with initial **Hio-*, it is difficult to decide whether a laryngeal reflex is missing as long as the distribution between ζ and *h* is subject of debate. And in any case, the material is too scanty (perhaps $\zeta\acute{o}\phi\omicron\varsigma$ and $\acute{o}\varsigma$, see below). It is probable, to my mind, that the reflex of PIE **HiV-* was PGr. **iV-*, as against PIE **iV-* > PGr. **dV*.¹³ And the non-vocalization of **H* in PIE **HiV-* may in principle have preceded the operation of SE in early Proto-Greek, in which case no trace of the latter change can be expected.¹⁴ This means that counter-examples cannot be relied upon either.

For the sake of completeness, I have gathered the following instances that may be of relevance. For **Hio-*, $\zeta\acute{o}\phi\omicron\varsigma$ 'darkness, west' (Hom.+, poet.) has been etymologized as **h₃ióbb^h-o-* 'entering', from the root of $\omicron\acute{i}\phi\omega$ 'to have sexual intercourse' which probably derives from **h₃e-h₃ib^h-e/o-*.¹⁵ This etymology, however, is not without semantic problems, and the fact that Greek also has $\delta\nu\acute{o}\phi\omicron\varsigma$ and $\kappa\nu\acute{\epsilon}\phi\alpha\varsigma$ in the same meaning does not inspire confidence either.

The relative pronoun $\acute{o}\varsigma$ may reflect **h₁i-o-*, a thematization of the pronominal stem **h₁i-* (as in Lat. *is* / *ea* / *id*). Since PIE words could not begin with a vowel (cf. Beekes 1995: 162), one could be inclined to reconstruct

optative ending *-oi* (pers. comm.): the disyllabicity of the 3sg. opt. ending *-oi* may also be understood if it does not directly reflect **-oih₁-t*, but rather represents re-shaped **-oi-t* (the zero grade allomorph of the optative suffix may have been taken from e.g. the optative of the sigmatic aorist). The accentual difference between the loc.sg. and nom.pl. of the *-o-* stems has a similar origin: the originally disyllabic loc. derives from a post-PIE formation **-oi* and differs from monosyllabic nom.pl. $\tau\omicron\acute{i}$ < PIE **tói*. Therefore, **-oih₁t* isn't decisive evidence for the outcome of **-ViHC-* either.

¹³ In view of the convincing etymology of $\acute{\upsilon}\gamma\iota\eta\varsigma$ < **h₂iu-g^wiH-es-* proposed by Weiss (1994), and that of $\epsilon\acute{\nu}\theta\acute{\upsilon}\varsigma$ < **Hieud^h-u-* proposed by Willi (2001), the root **Hieud^h-* probably being an enlargement of **h₂iur-*.

¹⁴ An early date for the development of **HiV-* would at least be compatible with the fact that in **Hue-* the initial laryngeal vocalizes. The development of **HiV-*, like SE, probably preceded the vocalization of initial pre-consonantal laryngeals.

¹⁵ For the reconstruction of $\omicron\acute{i}\phi\omega$, see Cheung (2007: 175), followed by Beekes *EDG* s.v. $\omicron\acute{i}\phi\omega$.

an initial laryngeal in order to account for full-grade forms of the type Skt. *áyam*, which are found in various daughter languages. It could then be argued that the thematization **h₁i-o-* goes back to a stage when the laryngeals were still present, in view of the correspondence between *ós* and Skt. *yáh*.

For **-oiHC-*, a number of words have been derived from pre-forms containing a root-final laryngeal in PIE, but without justification. For instance *oíosos* ‘chasteberry’ (Thphr.), related to OCS *větvb* ‘branch’¹⁶ which is supposed to derive from **uoiH-tu-*. But the Slavic verbal paradigm (e.g. Ru. *vilá* ‘she twisted’) shows no trace of Hirt’s retraction law, which would be expected if the pre-form were **uiH-lá*, as has been shown by Kortlandt (an overview of his arguments is found in Schrijver 1991: 228). This shows that the root ‘to twist, wind’ was not **ueih₁-*, but **uh₁i-* (i.e. **uh₁-i-*), cf. Schrijver 1991: 245. In *o’vη* ‘ace’, no internal laryngeal is needed to explain the Balto-Slavic cognates, and we may reconstruct **Hoi-no-* (see Pronk 2011 and fthc.). The same holds for *óa* ‘elderberry tree’ < **Hoi-u-h₂-*, and *oíos* ‘alone’ < **Hoi-u-*.

Apart from the 3sg. ending of the thematic optative, there is one word which possibly contained a sequence **-oiHC-*: *oímos* ‘track, streak, etc.’. The hiatus in *δέκα oίμοι έσαν μέλανος κυάνοιο* (*Il.* 11.24) has been taken to point to initial digamma. This has led Rasmussen 1989: 198 to reconstruct **uoih₁-mo-*, from **ueih₁-* ‘to pursue’ (cf. *DELG* s.v.). An alternative etymology departs from the root **h₁ei-* ‘go’.

3. Examples in favor of SE in word-initial position. In this section, I will discuss the examples for SE in word-initial position. By comparison, the first two examples are strongest.

(a) *οὐρέω* ‘to urinate’ (Hes., Hdt., Ion.-Att.), *οὐρόν* ‘urine’ (Hdt.+). The verb is usually interpreted as an iterative **Huors-ei-e/o-* related to *έέρση* ‘rain, dew’ (*Il.*+).¹⁷

¹⁶ See *DELG* s.v. *oíosos*.

¹⁷ E.g. Rasmussen (1989: 176), Nussbaum (1997: 181). The relation

The initial **H-* should be reconstructed as **h₁₋*.¹⁸ (Within Homer, *ἔέρση* is clearly an archaic form compared to *ἔρση*, which occurs only once in the *Odyssey*, in the specialized meaning 'young animal' < 'drop'. Thus, *ἔρση* was probably imported from the continuant of *ἔέρση* in the living vernacular; both derive from the same pre-form.)¹⁹

(b) *ὀμείχω* 'to urinate' (Hes.+) is often compared with *μοιχός* 'adulterer' (Ion.-Att.).²⁰ I am not convinced by the semantic side of this comparison. Cognates of *ὀμείχω* < **h₃meiǵ^h-e/o-* mean 'to piss' in all languages, but are never used for adulterers. Since *μοιχός* denotes someone committing a legal or religious offense, I do not expect a semantic derivation from the physical act. Proponents of the equation may assume a development 'piss' → 'use the penis' → 'use the penis in an improper way'.²¹ Note that the etymology dates from the time when Greek forms with and without "prothetic vowels" could still be equated without further ado. This becomes clear, for example, in the reasoning followed by *DELG* s.v. *μοιχός*.

It is highly suspicious that both examples involve roots meaning 'to urinate'. Words with this meaning may easily

between the verb and the noun *ὄδρον* 'urine' (Hdt.+) is not clear, as Nussbaum remarks. But note that *ὄδρον* can hardly be derived from **Huórso-* given that *-rs-* seems to be preserved as *-ρσ-* if the accent was on the directly preceding vowel.

¹⁸ Previously, **h₂₋* was reconstructed because of *ἄερσαν· τὴν δρόσον* 'dew(drop)' (Cretan *apud* Hsch.), *ἀέρσην* (pap.), with vowel assimilation (cf. Nussbaum l.c. with fn.). However, such vowel assimilations are doubtful (see Van Beek 2011). The initial *â-* in these late and unreliable attestations may rather be due to contamination with *ἀήρ* 'mist, haze' (Tijmen Pronk, pers. comm.).

¹⁹ *ἔρση* does not lack a reflex of the laryngeal, but is probably the result of the early contraction of like vowels (**ewe > *ē*) and subsequent shortening before *ρ* plus consonant in Ionic, cf. Att. *εἴργω* beside Ion. *ἔργω* 'to ward off'. See Peters 1980: 316-318.

²⁰ E.g. Rasmussen 1989: 176, Nussbaum 1997: 181. The etymology was recently defended by de Lamberterie in *CEG* 9, cf. *DELG Supp.* s.v.

²¹ In Dutch, the expression *naast de pot pissen*, lit. "to piss beside the toilet", is used for adultery. However, the element of adultery is *not* expressed by the verb *pissen*, but by *naast de pot*, which indicates that a rule is broken. Therefore, this expression cannot be used to bolster the etymology proposed for *μοιχός*.

undergo irregular developments due to taboo. Therefore, they do not present us with clear evidence of SE for initial laryngeals. (For a different proposal concerning οὐρέω and οὐρον, see 5.3. below.)

The following examples have also been adduced as positive evidence. They are much weaker, however, in view of the speculative phonetics or semantics, or unclear attestations:

(c) οὐλος ‘curly, woolly’ (*Il.*+, mainly poetic, a separate entry from οἶλος ‘pernicious’ discussed further below) has been reconstructed as **h₂uolh₁-no-* and compared with the etymon of Skt. *úrṇā-*, Gr. *λήνος*, Lat. *lāna*, OIr. *olann* and Hitt. *hulana-* ‘wool’. The reconstruction of the initial laryngeal is based on the appurtenance of Hitt. *hulana-*, and has been invoked to explain OIr. *olann*, but Greek *λήνος* rather points to a reconstruction **ulh₁-n-*. *EDHIL* s.v. *hulana-* discusses the problems pertaining to the Anatolian words.

Another point is that οὐλος need not be genetically related to λήνος, and **h₂uolh₁-no-* would be a root etymology at best. At least as plausible would be **uol-no-*, i.e. derivation from the *aniṣ* root **uel-* ‘to twist, turn’ (or even **uol-u-o-*, if the word is epic-Ionic in origin), an alternative also proposed by *DELG* s.v. οὐλος. The latter root does not contain an initial laryngeal, and οὐλος is therefore not a conclusive example in favor of SE in initial position.

(d) The etymology connecting λοιγός ‘ruin, death’ (*Il.*+) with ὀλίγος ‘little, inferior’ (*Il.*+) ²² is called “douteux” by *DELG*, and to my mind rightly so. ²³ The paroxytone accentuation on the zero grade of ὀλίγος is unexpected ²⁴,

²² Rasmussen 1989: 176, Nussbaum 1997: 181.

²³ The semantic connection is possible, but not evident. Yamazaki (2009: 2) translates λοιγός as ‘decimation’, but there is no indication in Homer that the word means anything else than ‘ruin (pestilence), destruction (e.g. of ships), death’.

²⁴ If barytone, Greek tribrachs with initial vowel usually have proparoxytone, not paroxytone accentuation, cf. ἄραβος, ἄραβος, ἄρακος, etc. This is even the case if the penultimate syllable has an etymological full grade, as in ὄροφος ‘roof’ beside ἐρέφω ‘to cover’, PIE **h₁reb^h-*.

and words for ‘big’ and ‘little, small’ are easily borrowed (cf. Fr. *petit*). For *λοιγός*, I propose the following etymological analysis: it is an old agent noun to the root of Lith. *liegti* ‘to suffer from severe illness’, *nuliegti* ‘to become tired or exhausted’, and Lith. *ligà* ‘illness’, Latv. *liga* ‘illness, bad luck, ill fate’, etc. This Baltic verbal root could perhaps be related to Lat. *ligāre* ‘to bind, tie’ (so far without cognates, cf. *EDL* s.v.): for the semantics, see Gr. *πένθος* ‘suffering’ beside the old perfect *πέπονθα* ‘am bound’ > ‘suffer’.

(e) The comparison of the epithet *νώροπι* (*Il.*, of unclear meaning)²⁵ and the gloss *νωρεῖ: ἐνεργεῖ* ‘is active’ (Hsch.)²⁶ with *ἀνήρ* < **h₂ner-* can hardly be taken seriously. The etymology is highly problematic in view of the unmotivated lengthened grade that has to be assumed in *νωρεῖ* and/or *νώροπι*, and the semantics are not compelling at all.

(f) Peters 1980: 61 fn. 30 (followed by Rasmussen 1989: 176) states that the gloss *βωτεάζειν βάλλειν* (Hsch.) “zeigt (...) regulären Laryngalschwund vor -ǵ- (cf. *νωρεῖ* < **h₂nōr-*) und kann sehr gut ein deverbales intensives **h₂uōt-* reflektieren (...)” He assumes that the gloss *βωτεάζειν* is related to *ὤτειλή* ‘wound’ and *οὐτάω* ‘to wound, hurt, strike’ (both *Il.*+). Assuming that this combination is correct (which is not certain), the following counterarguments can be adduced.

First, *ὤτειλή* and *οὐτάω* lack a convincing Indo-European etymology (pace Peters 1980: 60f., who follows a suggestion by Pokorny), and it is therefore difficult to give a reconstruction. Peters argues that Homer has an old root aorist 3sg. *οὔτα*, but this does not automatically imply a PIE reconstruction **h₃(e)uth₂-*: *οὔτα*, with its strange morphophonology, may be a substrate word or another kind of borrowed element that was reinterpreted as a root aorist. Now, even accepting a reconstruction **h₃(e)uth₂-*, it is highly suspicious that *ὤτειλή* < **owat-elnā* (vel sim.)

²⁵A discussion of Kuiper’s article on *νώροπι χαλκῶ* is found in Beekes 1969: 75.

²⁶E.g. in Peters 1980: 61 fn. (see f. below), Rasmussen 1989: 177, Nussbaum 1997: 181.

would require an *a*-grade, phonologically impossible in the Leiden framework, but morphologically difficult to motivate in any case. The fact that Peters reconstructs **h₂uōt-* for *βωτεάζειν*, but **h₂uāt-* for the supposed Baltic cognates (see below) only arouses further suspicion. Finally, the morphology of **owat-elnā* itself remains obscure (Peters' comparison with *ἀέλλη*, p. 61 fn. 30, does not help much). In view of these objections, it is impossible to relate *ὠτειλή* and *οὐτάω* to each other by means of regular Greek processes. They *could* be compared, but only as substrate words.

From an Indo-European perspective, Pokorny's comparison with Lith. *voṭis*, *vóṭis* 'offenes Geschwür' and Latv. *vāts* '(eiternde) Wunde' ("erscheint in lautlicher wie semantischer Hinsicht plausibel wie wünschenswert" – Peters, 61) is impossible in view of the acute root in Baltic, which asks for a reconstruction **(H)ueh₂-ti-*. This implies that both *ὠτειλή* and *οὐτάω* remain without IE cognates.²⁷

I have dwelt a bit longer on this example, because it has found its way into the handbooks: *LIV*² reconstructs a lemma **h₃uath₂-* based on Peters' discussion.

(g) The connection of *αὐδή* 'voice', aorist *αὐδα* (Hom.+), with *γοδᾶν· κλαίειν* 'to weep' (Hsch.) and other glosses (Peters 1980: 14) is uncertain: the glosses have no clear initial *ʃ-* (cf. *DELG* s.v. *αὐδή*). There is no ascertained Indo-European etymology. *LIV*² posits a root **h₂uedH-* 'tönen, sprechen' on the basis of the comparison between of *αὐδή* and *ἀήδων* 'nightingale' with the Vedic verbal root *vadⁱ* 'to speak, discuss'. However, the Schwebeablaut and

²⁷ Not to mention the Schwebeablaut involved. The only sensible comparison for the group of Lith. *voṭis*, *vóṭis* 'ulcer' would be that with Hom. *ἀάομαι* 'to be blinded or misled' (of the mind), *ἄτη* 'disaster' < **awatā*, if from a root **h₂ueh₂-*, with a *t*-stem **h₂ueh₂-t-* in Baltic. This root etymology could perhaps work phonologically, assuming that Greek continues a zero grade **awa-* (analogically created? – a full grade **h₂ueh₂-* would be much easier for Greek, cf. Beekes *EDG* s.v. *ἀάω*). The etymology is not particularly strong, since the semantics are not self-evident (though certainly possible, cf. *βλάπτω* 'to damage, mislead', both physically and mentally), and since the distribution of the material is limited.

the lengthened grade in ἀήδων are highly suspicious.²⁸

(h) ῥοχθέω ‘to rush, roar (of sea-waves)’ (*Od.*+) beside the sound verb ὀρεχθέω (*Il.*+, meaning not clear) is adduced by Rasmussen 1989: 176. As sound-verbs of unknown etymology (see Beekes *EDG* s.v. ὀρεχθέω), I leave this pair aside.

(i) λοῖσθος ‘the last, utmost’ (*Il.*+) is compared with ὀλισθάνω ‘to slide’ (see Beekes *EDG* s.v.) and adduced as evidence for SE by Rasmussen 1989: 176. But two root variants $*h_3leisd^h-$ (ὀλισθ-) and $*(h_3)sleid^h-$ (Skt. *sredh-*) are found side by side²⁹, where contaminations are a good possibility. For instance, λοῖσθος could be from $*sloid^h-to-$ > λοῖστος, and then have its -τ- influenced by ὀλισθ-. It is best, therefore, not to use λοῖσθος as evidence.

4. Counterexamples to word-initial SE. Forms where a verbal root synchronically exists beside a *τομος*-type noun do not make good counterexamples. This holds for all cases like ἀμοιβή beside ἀμείβω, ἀγορή beside ἀγείρω, etc. Such thematic derivations may have been formed at a later stage, as the *τομος*-type was productive for a long time. The following two counterexamples, however, seem to be particularly strong:

(a) ὄνυξ ‘nail’ < $*h_3nog^{wh}$ -. In order to explain the presence of a reflex of the initial laryngeal, Vine (1999: 559f.) assumes paradigmatic leveling of $*h_3nog^{wh}-s$, $*h_3ng^{wh}-os$ > (Lex Rix in the oblique cases, SE followed by Cowgill’s Law³⁰ in the nominative) $*nuk^hs$, $*onk^{wh}os$, which was then leveled in more than one step to $*onuk^hs$, $*onuk^hos$. This is

²⁸The connection of αὐδή with Hitt. $uātarnaḫḫi-$ ‘to order, instruct’ is doubtful too (*EDHIL* rejects a connection with Hitt. *uttar* ‘word’): the long vowel in $uā-$ is problematic, and the morphological analysis of *-ma-* is unclear.

²⁹In ὀλισθεῖν, the $-d^h-$ could be the same enlargement as in a number of other Greek thematic aorists. Compare αἰσθέσθαι < $*h_2euis-d^h-$ (Lat. *audiō*), μαθεῖν < $*mn-d^h-$ (beside $*mns-d^h-$), etc.

³⁰Cowgill’s Law states that $*o$ appears as Gr. *v* in certain phonetic environments, mostly defined as “between a labial and a resonant” (Sihler 1995: 42). Its precise conditions are the subject of Vine’s 1999 paper.

a rather complicated scenario: one wonders why Greek would have generalized neither **nuk^hs* nor **onk^{wh}os*, but rather a combination of the two. Vine proposes an alternative (following Nussbaum 1997: 183²⁴): *o/e*-ablaut in an old root noun **h₃nóg^{wh}-s*, gen. **h₃nég^{wh}-s*. Other branches, however, offer no indications for an *e*-grade root in this word. (It would be *ad hoc* to date Cowgill's Law before SE.) I conclude that a regular development **h₃nog^{wh}-s* > *ὄνυξ* is the most likely scenario for this word, which makes it a strong counterexample.

(b) Homer has two homonyms *ἐρωή*: 1. *ἐρωή* 'impulse', and 2. *ἐρωή* 'rest'. The first stands beside a verb *ἐρωέω* 'to flow, gush forth' (*Il.* 1.303 = *Od.* 16.441). *ἐρωή* 1. may be derived from PIE **h₁roh₁s-eh₂-*: a similar form **h₁reh₁s-eh₂-* seems to be found in Gm. **rēsō-* > OE *rǣs* (m.) 'run, race, attack', ON *rás* (f.) 'run', and in the verbs ON *rasa* (v.) 'to fall down', MoHG *rasen* 'to rage'. Together, Greek and Germanic point to an IE root **h₁reh₁s-*. The second word, *ἐρωή* 'rest', together with the verb *ἐρωέω* 'to rest', may be derived from a pre-form **h₁roh₁-u-eh₂-* and be connected with Gm. **rōwō-* as in OHG *ruowa*, OE *row*, ON *ró* (f.) 'rest', beside OHG *rāwa* 'id.' < PGm. **rēwō-*. In neither of these homonyms do we find a trace of ablaut within Greek. Consequently, one would expect the laryngeal to be dropped before the *o*-grade in *ἐρωή*.

Although the following counterexamples are much less evident than *ὄνυξ* and *ἐρωή*, they do deserve mention here:

(c) *ἄορον* *μοχλόν* ('bolt'), *πυλῶνα*, *θυρωρόν* ('doorkeeper'). *Κύπριοι* (Hsch.), which is derived from the root to be reconstructed as **h₂uer-* 'to close' (see Lubotsky 2000), is probably a productive deverbal formation from a stage when the laryngeals had already been lost. If *ἀείρω* 'to attach, bind together' continues the root **h₂uer-* mentioned, *ἄορον* is simply an example of the type with productive ablaut just discussed.

(d) *ὀμόργνυμι* 'to wipe off, make dry' (*Il.*+, also with *ἀπ-*; the simplex is only epic). This verb is clearly related to Skt. *marj-*, 1sg. pres. *mārjmi* 'to wipe, cleanse', Av. 3sg. pres.

marazaiti 'touches lightly, grazes', from a root **Hmerg̃-* 'to sweep, wipe'.³¹ The *o*-vocalism in the root of *ὁμόργνημι* is hard to explain (it might be oldest in the *s*-aorist *ὁμορῆ-*), which makes this rather uncertain as counterexample.

(e) *ἀύλαξ* (Hes.) 'furrow', acc.sg. *ᾠλκα*, pl. *-ας* (both Hom.), have been reconstructed as **h₂u_lk-s*, **h₂uolk-m* and have been considered to be a possible counterexample by Rasmussen and Nussbaum.³² Apart from the fact that the vocalization **h₂u_lks* assumed for *ἀύλαξ* is not without problems, Beekes has convincingly pointed out that the variant forms *ἄλοξ*, gen. *-κος* (trag., com.) and *εὐλάκᾱ* 'plough', *ἀυλάχα* ἡ ὕνυς 'ploughshare' (Hsch.) point to substrate origin (EDG s.v.). Therefore, this word cannot be used in the discussion.

The evidence for SE in word-initial position is very meager. The best examples, by comparison, are *μοιχός* and *οὐρέω*.³³ But *ὀμείχω* 'to urinate' and *μοιχός* 'adulterer' are not semantically close enough to be compelling. I have already noted that both examples belong to a peculiar semantic field, and may have been subject to taboo. Important counterexamples are *ὄνυξ* and *ἔρωή* (which in both meanings seems to have a Germanic cognate).

5. SE for root-final laryngeals. In the discussion of SE for root-final laryngeals, I will start by eliminating the weaker examples (5.1-5.4). After that, the stronger examples that remain shall be listed (6.), and I will discuss a few counterexamples to SE (7.), none of which is convincing. Then, a new interpretation of the stronger examples in favor of SE will be advanced (8.).

³¹The connection with *ἀμέγρω* (Sapph.+) 'to pick flowers, squeeze olives' (cf. Peters 1980: 24) is quite possible semantically (cf. Hitt. *uars̃i* 'to reap, harvest, wipe' beside Lat. *verere* 'to sweep clean'), but contradicted by the deviant initial vowel (see Van Beek 2011). Therefore I will leave it out of consideration.

³²See Rasmussen (1989: 222ff.), who argued that the **ó* in acrostatic root nouns does not trigger SE, and Nussbaum 1997: 183²⁴.

³³A speculative possibility is that *οὐρέω* and *οὐρον* derive from the PIE word **uh₁-r-* 'water', see 5.3 below.

5.1. The following examples can be dismissed because the reconstruction involving the sequence *-oRHC-* cannot be upheld:

(a) οὐλαί ‘barley corns’ (*Od.*+) has been connected with ἀλέω ‘to grind’ since Schmidt (1893: 382). In laryngealist terms, ἀλέω goes back to a root **h₂elh₁-*, so the comparison would require a reconstruction **h₂olh₁-u-eh₂-*. The etymology is not evident, however: οὐλαί are *unground* barley corns that were roasted and strewn between the horns of the sacrificial animal (Frisk s.v.). Substrate origin is much more probable, in view of the by-form ὄλπα (Hsch.), cf. Furnée (1972: 155 and 240), followed by *EDG* s.v.

(b) πόλτος ‘porridge’ (*Alcm.*+) has been connected with πάλη ‘fine dust, fine flour’ (*Hp.*) and with Lat. *pulvis* ‘dust’, *pollen* ‘flour, powder’; Ru. *polóva* ‘chaff’, Skt. *paláva-* ‘chaff’, etc. (cf. the discussion in Schrijver 1991: 257). Within Greek, the verb παλύνω ‘to disperse flour, etc.’ (*Il.*), which is found beside πάλη, could be taken to point to the prior existence of an *u*-stem **παλύς* ‘fine, dispersed’ < **plH-u-*. Both Schrijver and Nussbaum (1997: 197f.) question the necessity to connect the words for ‘chaff’ with those meaning ‘dust, flour’, and Nussbaum gives a number of possible objections to adducing *pulvis* and *pollen* as evidence for SE in Latin.

There is no obvious verbal root to which πόλτος could be connected as an old *to*-derivative: derivation from **pelh₁-* ‘to swing’ remains hypothetical (see *EDL* s.v. *pollen*, with the remark that only an original root meaning ‘pulverize, grind’ could account for the various meanings).³⁴ Thus, I agree with Schrijver (1991: 257) about *pollen* beside πόλτος

³⁴Nussbaum (1997: 197) remarks: “Against the combination [of words meaning ‘chaff’ with words meaning ‘flour’] is the semantic argument that ‘chaff’ and ‘hay’ are not so similar to ‘flour’ and ‘dust’ that an etymological identification is compelling. Perhaps slightly for it is the formal parallelism of *pulvis* (< **polǵui-*) with Skt. *paláva-*.” To my mind, it would be possible to understand the identification of ‘chaff’ and ‘flour’ (thence ‘dust, powder’) if we depart from the process by which both are separated: winnowing. Both are in some sense the product of winnowing (for which there is a different verbal root, **kreh₁(-i)-*).

that “the reconstruction of the laryngeal only rests on a somewhat far-fetched root etymology”.

Within Greek, *πόλτος* could belong to *πλάθανον* ‘cake mould’ (Theoc.), *παλάθη* ‘cake made of conserved fruits’ (Hdt.+), in which case the variation *πλάθ-* / *παλάθ-* / *πόλτ-* points to substrate origin (cf. *EDG* s.v.: variation *τ/θ*, *α/ο* is frequent in such words). This is favored by the semantic field (the word denotes a kind of dish). Alternatively, the combination of Lat. *puls*, *pultis* ‘porridge’ with *πόλτος* could point to a common pre-form **polt-* or to a Mediterranean substrate word (a loan from Greek is difficult, as one would expect it to be borrowed as an *σ*-stem, see *EDL* s.v. *puls*).

(c) About the gloss *νεώβορτον νεωστὶ βεβρωμένον* ‘eaten recently’ (Hsch.), Rasmussen (1989: 178) remarks: “Endglied sicher **gʷór-to-* zu Wz. **gʷerh₃-*”. It cannot be used as evidence, however, as *νεώ-* is not a well-formed first member of a compound. It is therefore quite possible that the gloss contains an error. To my opinion, it could well stand for **νεόβρωτον*.

(d) *ὑψι-βρεμέτης* ‘thundering on high’ beside *βροντή* ‘thunder’ (both *Il.*+), which was already adduced by de Saussure (1905: 511), does not stand up to scrutiny.³⁵ The suffix of *-βρεμέτης* must be *-έτης* (as in a different epithet of Zeus, *νεφεληγέτης* ‘cloud-gatherer’), for the simple suffix *-της* is found in related compounds like *ἀργι-βρέντας* (Pi., with *ε*-grade root!). Finally, there is no further indication that the root of *βρέμω* (which has no good etymology, see *EDG* s.v.) contained a laryngeal.

(e) *ὄλμος* ‘mortar, etc.’ and *ὄρμος* ‘chain, necklace’ are left out of consideration here because there is no clear evidence (contra Rasmussen 1989: 178, 198) that the Greek continuants of **uel-* ‘to roll’ and **ser-* ‘to insert’ had a root-final laryngeal. In Homeric Greek, we find the middle perf. ptc. *ἐέλμενος* and the aor. *ἔλσαι*, and from the root **ser-*, Homer has only middle perfect forms: *ἔερτο*, ptc. *ἐερμένος*. Rasmussen’s suggestion that *ἔρματα* ‘earrings’ (Hom.) was influenced by the present *ἔρρω* (post-Hom.) is

³⁵ Thus already Beekes (1969: 239).

not viable: this present and the corresponding *s*-aorist are attested later than the Homeric middle perfect forms, and were probably built on them. The Baltic items adduced by Rasmussen l.c. (e.g. Latv. *sērt* ‘Getreide zum Trocknen zurechtlegen’, Lith. *pasártis* ‘reck’) must therefore be explained differently.

5.2. In the following examples, a different reconstruction is possible or necessary. Therefore, they are not decisive evidence.

(a) *οὔλος* ‘woolly, curly’: rather from **uol-no-* or **uol-u-o-* (root **uel-* ‘to wind’) instead of **h₂uolh₁-n-o-*, see 4. above.

(b) *κόρση* ‘temple, hair on the temple’ (*Il.*+) is often compared with *κέρας* ‘horn’ and Skt. *síras-* ‘head’ etc. < **k̑(e)rh₂-s-(n-)*. On the other hand, it may be connected at least as plausibly with the root **kers-* ‘to cut’. Compare Att. *κουρά* ‘cropping of hair, pluck of wool, etc.’ which may continue **kors-h₂-* or be derived directly from *κέρω* ‘to shave, cut’ as an action noun, if this continues a thematic root present **kers-e/o-*; cf. the old compound *ἀ-κερσε-κόμησ* ‘with uncut hair’ (Hom.) beside *ἀ-κειρε-κόμησ* (Pi.).³⁶ This root is also found in Hitt. *kars^{zi}* ‘to cut off’ and in Toch. A and B *kärs-* ‘to know’.

(c) *ὄρμη* ‘urge, impulse, attack’ is reconstructed by *LIV*² as **sorh₃-meh₂-* and derived from the root of *ῥώομαι* ‘to rush on, storm’, Hitt. *šarhiie/a^{zi}* ‘to attack’. But again, there is a good alternative etymology: derivation as **orsmā-* < **h₃(e/o)r-smeh₂-* from the root **h₃er-* ‘to rise, arise’ (note meaning III of *ὄρμη* in LSJ: ‘setting oneself in motion, start’). It is difficult to decide between these alternatives – but if the first is to be preferred, see 8. below.

(d) For the feminine stem *πολλή* ‘much, many’, Nussbaum 1997: 184 fn. 24 accepts the reconstruction **poluiǎ-* (which goes back to Schulze, and has been advocated by de Lamberterie 1990: 632f.). The form

³⁶I accept the rule that Greek regularly preserved the cluster IE **-rs-*, unless the accent was on the following vowel, in which case the **s* > **h* was lost with compensatory lengthening. See Miller (1976).

**poluiǎ-* is supposed by Nussbaum to be a “remodeled continuator” of a Proto-Indo-European feminine also continued in Skt. *pūrṛī-*, Av. *paoirī-*. By ‘remodeled continuator’, he means that **poluiǎ-* presupposes a stem form **polu-*, “with an unambiguous Saussure-effect outcome of **pol(h₁)u-*”.

There are at least three reasons why *πολλή* cannot be considered a probable example of SE. First, assuming that Nussbaum is right in assuming that *πολλή* presupposes a stem **polu-*, the examples of *δόρυ*, pl. *δοῦρα* and *γόνυ*, pl. *γόνυα* show that the stem form of the nom.-acc. sg. ntr. could be used to form the other cases. There is nothing to suggest that the creation of such paradigms within Greek preceded the loss of prevocalic laryngeals.

Second, in view of the diverging root vocalism of Greek and Indo-Iranian (*πολλή* would require **polh₁-u-ieh₂-*, while Skt. *pūrṛī-* points to **plh₁-u-ih₂-*), the thesis that a separate PIE feminine inflection may be reconstructed for this adjective requires special pleading. For *πολλή*, Nussbaum (l.c.) first argues that “since this form has no competitor of the predictable shape (**πολεῖα* or the like), it is reasonable to entertain the idea that *πολλή* is itself not simply analogical to masc.-neut. *πολλό-* (beside which *πολύ-* survives), but is rather the remodeled continuator of the PIE fem. reflected by Skt. *pūrṛī-*.” I find it difficult to understand, however, why the fact that no *u*-stem forms like **πολεῖα* are found would favor the idea that *πολλή* continues a PIE form. On the contrary, it seems attractive to assume, with Szemerényi 1974: 18, that the thematic and feminine forms of the Greek paradigm of *πολύς* were built on the ntr. pl. *πολλά*. The latter form is by far the most frequent thematic form of the paradigm in the Homeric epics, and could very well have served as a pivot, e.g. for creating the ntr. sg. (and adverb) *πολλόν*, and then the other cases.³⁷

³⁷Nussbaum (l.c.) also tries to bolster the existence of a PIE feminine in **-ih₂* to this root as follows: “... the antiquity of [Skt. *pūrṛī*] is indicated by the contrast between (...) *pūrṛī* : *pūrṛī-* and *gūrṛī* : *gūrṛī-* (with *gūr-* analogical to the masc.-neut.)” This contrast, however, only shows that the

As a third point, the easiest explanation for the fact that the Homeric feminine has no *u*-stem forms is that there was no separate feminine before the rise of the thematic forms. There is strong evidence for this in Homer: the verse-final formulae *πουλὺν ἐφ' ὑγρήν* and *ἥρα πουλὺν ἔχευε* (cf. Chantraine 1958 I: 254) seem to contain a common gender form of the adjective in coordination with a feminine noun. In view of the metrical lengthening of *πουλὺν*, these formulae could well be quite old,³⁸ and on the other hand, there is no compelling evidence for the assumption that *πουλὺν* stands for older **πολλάν* (as is maintained, e.g., by de Lamberterie, l.c.).³⁹

If one accepts that the ntr. pl. *πολλά* is the origin of the feminine *πολλή*, and that the latter form and Skt. *pūrṣī* may well be post-PIE formations, the evidence for laryngeal loss in a pre-form **polh₁-u-* disappears. Whether or not one accepts Szemerényi's explanation for the geminate in *πολλά* from an *u*-stem form **πολέα* is a different matter.

(e) Recently, de Lamberterie (2004) has discussed the words *θρόνος* 'throne' and *θρᾶνος* 'footstool, bench, etc.'. He remarks that *θρᾶνος*, already found in Myc. *ta-ran-u-we*, is attested earlier than *θρόνος*. The pair *θρόνος*, *θρᾶνος* is analyzed as **d^horh₂-no-*, **d^hḡh₂-nu-*, with root ablaut. In order to make this work, de Lamberterie argues that the Homeric (and later) form *θρόνος* replaces earlier

form *pūrṣī* preserves a phonological archaism in comparison with *gurṣī*; it does not show that its formation is older, nor if either formation goes back to PIE. In fact, there is no way to exclude that Skt. *pūrṣī*, Av. *paoirī* was formed in Proto-Indo-Iranian as a motional feminine **prHu-iH-* to **prHu-* (> Skt. *pūrī*, etc.).

³⁸Cf. Chantraine 1958: 252, who mentions the fem. sg. *θῆλυσ*, *-υν* beside the plur. *θήλειαι*, *-ας* (but once the [dactylic] *u*-stem form *θήλεας*), and the isolated form *ἦδὺς ἀντιμή* (*Od.* 12.369, probably an old formula). While de Lamberterie 1990: 887 is right in pointing out, following Sommer, that *ἦδὺς ἀντιμή* is non-probative, it seems that the feminine gender of *θῆλυσ* is an archaism, preserved by the fact that there was no need to re-characterize its gender with the suffix PGr. **-ια*.

³⁹Note that the reconstruction **polu-iā-* obscures the fact that the feminine only has nom. *πολλή*, acc. *πολλήν* (not **πολλά*, *πολλάν*).

*θόρνος, which according to him is attested in Myc. *to-no* and indirectly in the Cypr. gloss θόρναξ· ὑποπόδιον (Hsch.). In other words, the Achaeian forms are supposed to continue an *o*-grade, not a zero grade root as is often thought. In Myc. *to-ro-no-wo-ko* one might recognize the later form θρόνο-, which de Lamberterie assumes to be secondary after the initial cluster of θρᾶνvs.

Although I admit that the scenario proposed by de Lamberterie would be a possible (though not evident) way of explaining the Greek words, there is a problem with the IE etymology. The verbal root **d^her-* from which the forms are derived (Skt. *dhar-* ‘support’) is *anit*, a problem not discussed by de Lamberterie. In view of this, I regard this example as highly uncertain.

(f) μορφή ‘beauty, shape, appearance’ has been compared (by Rasmussen 1989: 178)⁴⁰ with the root of Lith. *márgas* ‘motley’, 3sg. pres. *mìrga* ‘blinks, lights up’. In view of the acute accent in Lithuanian, the root has been set up as **merHg^{wh}-*, with loss of laryngeal in Gr. μορφή. The root structure **merHg^{wh}-*, however, is awkward because of the full grade slot *CVCCC-. This difficulty would be avoided if the Baltic acute intonation is taken to point to a root **merg^w-*, by Winter’s Law (for its formulation, cf. Kortlandt 2009: 65-76). In fact, such a root exists outside Baltic in the group of OIc. *myrkr* ‘dark’.

As far as μορφή is concerned, it may have an inner-Greek cognate in the gloss ἀμερφές· αἰσχρόν ‘ugly’ (Hsch.), an *s*-stem compound adjective which suggests that μορφή is an old verbal noun. If the gloss is to be considered a genuine attestation, it shows that μορφή never contained a laryngeal (it is ad hoc to assume, with Rasmussen l.c., that ἀμερφές lost the laryngeal because it is a compound, cf. ἐνδελεχής < **-delh₁-g^h-* where it is preserved).

I tentatively suggest that the root of μορφή is also continued in Lith. *mergà* ‘girl’ < **merg^{wh}-h₂-* ‘appearance, beauty’ with a non-acute root, and perhaps also in Lat. *fōrma* if this derives from **g^{wh}erm-h₂-*, with an early

⁴⁰ DELG s.v. μορφή rejects the connection: “Le radical **merg^{wh}-* que l’on a posé ne mène nulle part.”

metathesis of **merg^{wh}-h₂*.⁴¹

(g) ὀργή ‘temperament, impulse’ has been compared (e.g. Beekes 1969: 241) with Skt. *úrj-* ‘strength, power, nourishment’. The forms are assumed to reflect PIE **uorHǵ-*. The most frequent impulse or temperament denoted by ὀργή is clearly *anger, wrath* (*LSJ* mg. II). I assume that ὀργή is a feminine action noun derived from the root **uerǵ-* ‘work, be active’. For the semantic derivation of ‘anger’ from ‘activity’, compare OIr. *ferg* ‘anger’ beside W. *gwery* ‘active’, OBret. *guerg* (gl. *efficax*), all from Proto-Celtic **wergā-*. Although the comparison of ὀργή with the Sanskrit root noun *úrj-* remains possible, it is not necessary.⁴² It therefore does not provide evidence for SE.

(h) ὀρθός ‘upright, right, straight’ beside Skt. *ūrdhvá-* ‘high, upright’ has been reconstructed as **u(o)rHd^huo-* (cf. Nussbaum 1997: 187; an extensive discussion of the IE reconstruction is given by Schrijver 1991: 312-13).⁴³ A number of objections can be put forth against such a preform.

First, there is no reflex of an internal laryngeal in YAv. *arəδβa-* ‘risen, upright, erect’, Lat. *arduus* ‘high, elevated, lofty, steep’, OIr. *ard* ‘high, elevated’, Lith. *aĩdvas, eĩdvas* ‘spacious’.⁴⁴ The Baltic material is most

⁴¹The long *ō* in *fōrma* is assumed to be secondary, see *EDL*. The accepted etymology for Lith. *mergā* is to assume a root **mer-* ‘young’ as found in Gr. *μείραξ* ‘unmarried girl’ < PGr. **mer-ja-(k-)* vel sim., with an extension in *-g^h* in Baltic, beside an extension with a different velar *-k-* as in Celtic (W. and Bret. *merch* ‘girl’ < Proto-Celtic **merkā*), as proposed by Fraenkel (1962 s.v. *mergā*). In my opinion, it is awkward to assume various different “suffixes” *-g^h*, *-k-* beside the unextended root.

⁴²It is interesting to note that a different etymology for *úrj-* has been proposed by Scharfe 1985: since the word only appears in the oblique cases and never in the nom. sg., while *rāj-* ‘power’ only occurs in the nom. sg., he assumed that these still formed a paradigm nom. *rát*, obl. *úrj-* in the RV. Scharfe derives this root noun from the root **h₂reh₁ǵ-*, as in Gr. *ἀρήγω* and Ved. *rāṣṭi*. Against this etymology, it can be argued that **h₂th₁ǵ-* would have to yield *úrj-*, but Scharfe’s analysis of *rát* and *úrj-* forming one paradigm is not affected by this objection, as far as I can see.

⁴³Schrijver (l.c.) remarks that the etymology of Lat. *arduus* and its cognates “is beset with problems.”

⁴⁴The meaning of the Baltic adjective is different from ‘high, upright’,

straightforwardly explained by a laryngeal-less pre-form, in view of the circumflex accent.⁴⁵ In view of their clear semantic proximity, it is impossible to separate ὀρθός and *ūrdhvá-* from these words (or to separate *ἄρδβα-* and *ūrdhvá-*, see below). Second, the group of YAv. *ἄρδβα-*, Lat. *arduus*, etc. shows no trace of initial *u-*. There is no evidence for initial digamma in ὀρθός either (Chantraine 1958, I: 125), nor in Myc. *o-two-we /ort^hwōweh-* ‘with upright ears’.⁴⁶ This leaves only the Skt. word as evidence for PIE **u-*. But poetic phraseology should be taken into account as well: we find Av. *ἄρδβᾱ̎ hīštanta* beside Skt. *ūrdhvá- sthā-*, and Hom. *στῆ δ’ ὀρθός*. The word clearly belongs to Indo-Iranian and Indo-European poetic diction. There is only one possible conclusion: the reconstruction **u(o)rHd^huo-* is to be abandoned, and a different reconstruction **h₃rd^huo-* should be envisaged, leaving the exact origin of *ūr-* in *ūrdhvá-* as an inner-Sanskrit problem (cf. Lubotsky 1988: 94 fn. 22 and 104 fn. 24).

The most important problem left is how to reconstruct the root vocalism. YAv. *ἄρδβα-* points to a zero grade **Hrd^h-*, while Latin is unclear but compatible with **Hrd^h-*

but not different enough to invalidate the comparison.

⁴⁵The acute accent of these words, which occur beside circumflex ones (*árvas* beside *ārdvas*, *érdvas*, cf. also *érdvé* ‘space’), can be ascribed to the influence of Lith. *irti* ‘to disintegrate’ (Derksen 1996: 356).

⁴⁶Although initial *wǵ-* seems to have yielded *ǵ-* at an early date in some words, other words do show traces of digamma (e.g. ὄσσα ‘voice’ in Hes. *Th.* 10 *περικαλλέα ὄσσαν ἰέϊσαι*; it seems to me that the discussion of the reflex of **wǵ-* by Chantraine, l.c., can be improved on a number of points.) Therefore, a reconstruction **h₃rd^huo-*, without initial **u-*, would be the most straightforward option for Greek.

I leave *φορθεια* (and variants), a Laconian epithet of Artemis, out of the discussion. Interpretations of this epithet as ‘the upright one’ (or: ‘the lofty one’) would be possible at best, but not compelling at all. (The alternative interpretation by Ruijgh – *φορθεια* would be a ‘déesse de la croissance’, and the epithet derive from the root **uerd^h-* ‘grow’ (1967: 158 fn. 315) – is difficult if the root of Vedic *várdhate* actually reflects **Hued^h-*. Of course, it cannot be excluded that *φορθεια*, like Artemis herself, is a Pre-Greek deity: see Beekes *EDG*.) Further, the gloss *βορθαγορίσκια* (Hsch.) beside *ὀρθαγορίσκος* (Ath.), together with its folk-etymological explanations in the lexica (see *EDG* s.v.), is too uncertain to be relied upon.

(Schrijver, l.c.). OIr. *ard* could point to zero grade $*Hrd^h$ - as well. On the other hand, Baltic (Lith. *aĩdvas*, *ẽĩdvas*) and Germanic (Oic. *ørðugr* ‘steep’) seem to have a full grade $*h_3er-$. Greek, of course, is compatible with both zero grade and full grade. Unless one is prepared to accept that the Baltic and Germanic forms have secondary full grades, the root ablaut is most straightforwardly explained by assuming thematization of older ablauting $*h_3rd^h u-$. The meaning of $\acute{\omicron}\rho\theta\acute{\omicron}\varsigma$ and cognates, of course, would perfectly suit the root $*h_3er-$ ‘to rise’.

5.3. $\acute{\omicron}\upsilon\theta\alpha\rho$ and IE ablaut. The word $\acute{\omicron}\upsilon\theta\alpha\rho$ ‘udder’ is reconstructed, since Schindler (1975: 7-8), as $*H(e/o)uHd^h-r/n-$, an ablauting heteroclitic paradigm with static inflection. The internal laryngeal is reconstructed on account of Skt. *ũdhar* ‘id.’. For $\acute{\omicron}\upsilon\theta\alpha\rho$, which seems to contain an *o*-grade but shows no trace of the internal laryngeal, this reconstruction would imply that SE has been at work (Nussbaum 1997: 182).⁴⁷ Reconstructing an *e*-grade would be possible for Greek (reconstructing initial $*h_3$), but not for Germanic, in view of material pointing to $*eu-$ (Old Norse *júgr*, Old Saxon *ieder*).

The Skt. paradigm is generally thought to continue zero grade $*HuHd^h-r$. The zero grade yielding a long vowel is also found in Balto-Slavic: Lith. *ũdróti* ‘to be with young’ (presupposing an older nominal stem $*ũdr-$ meaning ‘udder’), and Russian *výmja* ‘udder’, a *mn*-stem that replaced the heteroclitic inflection in Slavic. It has long been thought that the acute Proto-Balto-Slavic $*ũ-$ must derive from $*HuH-$, like the Sanskrit form. As Pronk has shown, however, this $*ũ-$ may have arisen due to metathesis of stressed $*HúC-$, yielding an acute long vowel in Proto-Balto-Slavic (Pronk fthc.). Thus, for Slavic one may reconstruct either $*HuHd^h-men-$ or $*Húd^h-men-$.

Beside these zero grades, we seem to find two different ablaut grades: *e*-grade in Germanic (Old Norse *júgr*, Old Saxon *ieder*), *o*-grade in Greek. Latin *ũber* may derive from a zero grade $*HuH-$ according to Nussbaum

⁴⁷This analysis is now accepted by de Lamberterie in *DELG Supp.* s.v. $\acute{\omicron}\upsilon\theta\alpha\rho$. The vocalization of a laryngeal in $*euHC-$ is found in Myc. *re-wo-to-ro-ko-wo* /*lewotro-k^howoi*/ ‘pourers of bath-water’, from $*leuh_3-tro-$.

1997, but may also contain full grade of the root (*e* or *o*-grade), see the discussion in Pronk 2011. In Germanic, beside **eu-* we also find material with **ū-* (e.g. Swiss German *üter*, Dutch *uier*).

There is a number of problems with the reconstruction of this word. First, it is supposed that we find *e*-grade, *o*-grade and zero grade within one paradigm. Most scholars would agree that the distribution of these ablaut grades in the original paradigm remains enigmatic. Schindler reconstructs sg. nom.-acc. *(*h*₁)*óuHd^hǵ*, gen. **(*h*₁)*éuHd^hǵ-s* (replaced by forms with zero grade root, e.g. *(*h*₁)*uHd^hn-és*), coll. nom.-acc. *(*h*₁)*éuHd^hǵr*, gen. *(*h*₁)*uHd^hn-és*. He explicitly states that the full grade root of Germanic (Old Saxon *ieder*) directly continues the PIE collective, although there is no clear evidence that this was the original situation.

Second, there are hardly any parallels for the *o*-vocalism of Greek *οὔθαρ*. Of course, the *o*-vocalism is considered to be in accord with a static paradigm, and a static paradigm is also implied by the root accent of the Skt. paradigm. But in such a paradigm, the almost pan-IE generalization of the zero grade is rather embarrassing. In particular, there is no evidence in the ‘udder’ word to substantiate the assumption that the gen.sg. was originally *(*h*₁)*éuHd^hǵ-s*, before it was replaced by *(*h*₁)*uHd^hn-és*.⁴⁸

⁴⁸As a tentative proposal, one might consider the following. Since there are no parallels in other languages for the iterative formation *(*H*)*uors-ét-e/o*-reconstructed for *οὔρέω* (cf. 3. above), it is conceivable that *οὔρον* is a primary formation and the base word for *οὔρέω*, which in this case would be a denominative of a productive type. Although *οὔρον* is attested later (Hdt.+) than *οὔρέω* (Hes.+), it may well be older (cf. Nussbaum 1997: 181). But it is difficult to derive *οὔρον* from *(*H*)*uóroso*, since we would expect the *-rs*-cluster to be retained when directly preceded by an accented vowel (cf. *ῥπος* ‘arse’ beside *οὔρα* ‘tail’). It is therefore worth considering whether *οὔρον* can be related to **uh₁-r* ‘water’, and in particular whether Oic. *úr* ‘rain’ < **uHro-* continues the same formation. This could be the case if we posit a sound change *(*H*)*uHG* > Gr. *oûC*, via an intermediate stage **āC*, with diphthongization of **uwC* to *owC*. This would have the advantage that we are able to derive *οὔθαρ*, plur. *οὔθατα* from the same static paradigm as Skt. *údhar*, gen. *údhnas*: non-ablauting *(*H*)*úHd^h-r/n-* would directly yield *οὔθαρ*. There is no counterevidence to the sound change **āC* > *oûC*.

Finally, the most important question to be answered is what the element $*(h_1)uHd^h$ - is. Melchert has assumed a root $*(h_1)eu h_{1/\beta}$ - with enlargement $*-d^h$,⁴⁹ based on his interpretation of Hitt. $u\dot{u}a$ - as ‘nurse’ and the word for ‘water’ and ‘milk’ continued in Luwian $va-a-ar$, Skt. $v\acute{a}r$, Av. $v\acute{ā}ra$ - ‘rain’ and OIr. $fír$ ‘milk’, which he reconstructs as $*h_1ueh_1$ - (see the recent discussion of the evidence in Vine and Yokoyama 2010). But apart from the Schwebelablaut that Melchert has to assume, it would be unattractive to separate Luwian $va-a-ar$ etc. from the other word for ‘water’, $*ud-r/n$ -, which has no laryngeal. Moreover, the interpretation of Hitt. $u\dot{u}a$ - as ‘nurse’ is not certain, see EDHIL s.v.

The fact that the morphological problems just discussed remain unsolved severely reduces the value of $o\acute{\upsilon}\theta\alpha\rho$ as an example for SE.

5.4. Greek has a number of *wo*-adjectives that are derived from a root ending in a laryngeal, but in which the laryngeal has left no trace. I will discuss the following

proposed here (all examples of initial $h\bar{u}$ - in Greek derive from $*s\bar{u}$ - or from compensatory lengthening of $*us$ - before a resonant).

There are also two less attractive sides to this proposal. The sound change $*\bar{u}C > o\acute{\upsilon}C$ - can only be assumed for initial position, since the normal result of internal $*-uH$ - is obviously Gr. \bar{u} (as in $\theta\upsilon\mu\acute{o}s$), leaving aside uncertain examples of ‘laryngeal breaking’. For a possible cause of a divergent treatment in word-initial position, one could think of the influence of an automatic glottal stop in this position. Furthermore, it remains to be shown that $*uHC$ - does indeed yield $*\bar{u}C$ - and not $*wVC$ -. Beekes has argued for the latter development (on the basis of $\acute{\alpha}\sigma\tau\upsilon < *uh_2stu$ -, $\acute{\alpha}\gamma\nu\nu\mu\iota < *uh_2\acute{g}nu$ -). I hope to treat these questions in the near future. Summarizing, the proposal to derive $o\acute{\upsilon}\theta\alpha\rho$ from $*(H)uHd^h-r$ by regular sound change would not only explain $o\acute{\upsilon}\theta\rho\nu$, which cannot derive from $*(H)u\acute{o}rso$ -, but it would also have the advantage of clarifying the PIE paradigm of ‘udder’, aligning it with normal heteroclitic inflection (only ϵ -grade and zero grade). Needless to say, the proposal needs further elaboration.

⁴⁹The compound may have been transformed into an r/n -stem after other names of body parts, such as ‘liver’. A different analysis of ‘udder’ as a compound could be to assume as a first member the root $*h_1euH$ - ‘to assist’ (Skt. av^i -), if this meaning developed from earlier $*\acute{a}$ - ‘to grant, provide’. One might even consider dissimilation of the internal laryngeal in $*h_1euH-d^h h_1$ -, as in $*uerh_1-d^h h_1-o$ - > $*uerd^h h_1-o$ - > Lat. *verbum*.

examples: ὅλος ‘whole, entire’, κόρη ‘maiden’, θούρος ‘impetuous’, οὖλος ‘baneful’.⁵⁰

Lubotsky has recognized that these formations cannot all be old: “As a matter of fact, several adjectives formed with the suffix *-u-* became thematized in Greek, merging with the inherited category of adjectives in *-uo-* such as οὖλος ‘whole’ (Skt. *sárva-*), ὀρθός ‘straight’ (Skt. *ūrdhvá-*), etc.” (1988: 122).⁵¹ Lubotsky distinguishes four types of adjectives in *-uo-* which can be shown to be of recent formation: (1) the old *u-*stem is preserved within Greek, e.g. *τανυ-* < **tnh₂-u-* as a first member of compounds beside *ταναός* ‘thin’ (thematized from **tanaw-* < **tnh₂-eu-*). (2) the old *u-*stem is preserved in or presupposed by other IE languages, e.g. *λείος* ‘smooth’ < **leh₁i-uo-* beside Lat. *lēvis* ‘id.’ < **leh₁i-u-*; (3) two or more ablaut grades of the suffix and/or root are found in Greek, e.g. *κενός* ‘empty’ < **kenewo-* beside *κεινός* < **kenwo-*; (4) an earlier *u-*stem must be assumed in order to explain the Greek form, as is the case with the vocalism of *σῶς*, *σάος* ‘healthy’ < Proto-Greek **sawo-*. This form, which is probably related to Skt. *taví-* ‘be strong’ and within Greek to Hsch. *ταῖς*· *μέγας*, *πολύς*, can only be understood if we start from a paradigm with nom. **tueh₂-u-s*.

⁵⁰I exclude from the discussion *οὐροί* ‘furrows for drawing a ship to the sea (or ashore)’ (*Il* 2, 153). García Ramón 2004 has shown that *οὐροί* is an agent noun belonging to *ἐρύω* ‘to draw’ (semantic parallels: *ὀλκός* ‘drawing machine for ships’ to *ἔλκω* ‘to draw’, and *κελέτρα* ‘fishing device’ to (*ὀ*)*κέλλω* ‘to put ashore’). This verb ultimately goes back to PIE **uerH-u-*, but in Proto-Greek the verbal root seems to have been **weru-* already. Note that the word for ‘wool’, *εἶρος* (‘that which is plucked’), probably belongs to the same root and does not show a trace of the laryngeal either. Thus, to my mind *οὐροί* is not a formation in *-fo-*, but simply a thematic agent noun of the type *τομός*, derived from a verbal root within Greek. Inner-Greek origin cannot be surprising, given the highly specialized meaning.

⁵¹With regard to their accentuation, Lubotsky remarks (loc. cit.): “As these recent *fo-*adjectives show both accentuations [i.e. barytone and oxytone], I assume that the thematization of *u-*stem adjectives is anterior to the generalization of the oxytonesis in this category. If this is correct, the recent *fo-*adjectives have preserved the original accentual distribution of *u-*stem adjectives.”

We will now argue that all four examples ὅλος, οὔλος, θοῦρος, and κόρη are *u*-stems in origin, rather than old thematic *uo*-derivations. (The same may be true, as we have seen, of ὀρθός: cf. supra, 5.2 h.)

(a) Att. ὅλος, Hom. Ion. οὔλος ‘whole, entire’ is derived from a root **selH-* (often equated with **selh₂-* ‘to restore order, appease’ as found in ἴλαος ‘merciful’, ἰλάσκομαι ‘to appease’). In my treatment of this word, I depart from Nussbaum’s discussion of the Italic material relating to *sollus* and *salvus* (1997: 186ff.).⁵² Hittite has an adjective *šalli-* / *šallai-* ‘great, important, chief’. Both this form and OIr. *slán* ‘complete, sane’ reflect a root-final laryngeal: **slH-i-* and **slH-no-*, respectively. According to the *communis opinio*, this means that in Skt. *sárva-* and Gr. ὅλος, which both seem to reflect PIE **sól-uo-*, the original laryngeal that is expected on account of the root etymology (**solH-uo-*) was lost due to the *o*-grade.

Although the comparison with Skt. *sárva-* may seem to imply the reconstruction of a thematic pre-form PIE **sólH-uo-*, there is an important reason why we have to assume thematization of an older *u*-stem: the Italic evidence (Lat. *salvus*, Osc. *σαλαϜς*), which requires a PIE *u*-stem **slH-u-*. I refer to Pronk 2011 for detailed argumentation concerning the Italic forms. For PIE, Pronk departs from an adjectival paradigm nom. **solH-u-s*, acc. **slH-eu-m*, gen. **slH-eu-(o)s*.

Within Greek, too, indications may be found to suggest that ὅλος is a thematization of older **sólH-u-*. First, its barytone accentuation could point to an old neuter noun **hólu*, as in *μῶνος* ‘alone’ which could be a thematization of older **mónu* (see Ruijgh 1987: 537).

Second, Hsch. seems to preserve the full grade of the suffix in *ὀλοεῖται ὑγιαίνει* ‘is healthy’, which could be a denominative to **holowo-*. Taking this gloss at face value⁵³,

⁵²This analysis of ὅλος ‘whole’ and its cognates was carried out jointly with Tijmen Pronk; see also his article elsewhere in this volume (Pronk 2011). The responsibility for any faults in the present text, however, is entirely mine.

⁵³It cannot be completely ruled out that the form stands for **ὀλφεῖται*.

the occurrence of **holwo-* beside **holowo-* points to ablaut in an earlier stage of Greek, and therefore to a PGr. *u*-stem.⁵⁴

⁵⁴ The reconstruction of the PIE *u*-stem paradigms (notably the difference between adjectives and substantives) cannot be dealt with extensively at this point, and it would certainly deserve a fresh treatment. By way of digression I will give a very brief sketch of my ideas about this topic.

It seems quite possible that the *o*-grade root in ὄλος points to the existence of a nom.-acc. sg. of a neuter *u*-stem noun, as in **dor-u* ‘wood’, **h₂oi-u* ‘lifespan, good health, etc.’ (similar in meaning to Lat. *salvus*), **ġon-u* ‘knee’, etc. For *salvus*, this suggestion is also made by EDL (s.v.): “Both PIt. **salu-* and Ir. Gr. **solwo-* can be interpreted as deriving from a n. noun **sólH-u-* / **slH-u-* ‘wholeness’, with an ins. sg. **slH-u-h₁* from which *salū-t-* and **salū-pli-* were derived,” with reference to a lecture by Pike at the 2007 East Coast Indo-European Conference. The forms in *salū-* presuppose a verb *saluere* derived from an adj. **salu-* (like *arguere* to **argu-* ‘bright’), cf. EDL s.v.

Some case forms of the neuter noun (e.g. the loc., but perhaps also the gen.) must have had **slh₂eu-* (giving PIt. **salau-*, with **au* developing to *ū* in an internal syllable – in this version, we do not need the instrumental to arrive at the Latin *-ū*). This ablaut form is supported by the Skt. form *prasalavī-* ‘towards/on the right side’, which is thought to continue a locative **s(o)lH-eu-i* (Plath 2000). It is also consistent with the type **doru* (Gr. δόρυ), gen. *dreus* (continued in e.g. Goth. *triu*). I therefore assume an original neuter nom.-acc. **sólh₂-u*, loc. **slh₂-éu-i* (and, perhaps, gen. **slh₂-éu-s*), which may account for the forms attested in Italic (*sollus*), Greek and Indo-Iranian by independent thematizations.

Elaborating on Ruijgh’s suggestion cited above, I suppose that beside the neuter substantive **sólH-u* ‘a whole (of)’, PIE may have had an adjective **slH-u-* ‘whole’. This **slh₂-u* > *salu-* | *C* yielded Latin *salvus* after thematization. Since an old thematization **saluo-* of **salu-* would have led to geminated **sallo-*, it is necessary to assume that the thematization of PIt. **salu-* to **saluo-* is recent (Nussbaum 1997, cf. EDL s.v. *salvus*). This situation (adj. beside neuter) would be paralleled by the *u*-stem adjective **plh₁-u-* ‘much, many’ > Skt. *purí-*, where Gothic has *filu* (+ gen.) ‘a lot (of)’, which behaves as a substantive (Schmidt 1893: 382). Perhaps it could be assumed that Greek πολύ also continues an older substantive. It may not be a coincidence that πολύ has an *o*-grade root, if it derives from a nom. sg. ntr. **pólh₁-u* ‘a lot of’ (the oxytone accent could be a consequence of the reanalysis as an adjective).

Thus, I arrive at a reconstruction ntr. **pólh₁-u* beside adj. **plh₁-u-* and ntr. **sólh₂-u* beside adj. **slh₂-u-* (the two pairs are close, both semantically and formally). I suspect that ultimately, a syntactic difference (attributive vs. predicative use) could be at the basis of the different ablaut forms and thematizations (cf. the difference between strong and weak declension in Germanic and Balto-Slavic). Needless to say, this is a suggestion for which further argumentation will have to be provided.

(b) οὖλος ‘pernicious, baneful’ < earlier **olwo-* to the root **h₃elh₁-* ‘to fall, perish’, mechanically < **h₃elh₁-uo-*. An earlier athematic *u*-stem is particularly clear in this case, for we also find the epic word ὀλοός ‘pernicious’ << PGr. **ol-Vw-* with a different ablaut grade. The example belongs to Lubotsky’s category 3 (it is discussed in Lubotsky 1988: 122), and the mechanical reconstruction of a proto-form is invalid.⁵⁵

(c) θοῦρος ‘impetuous, furious’ < **t^horwo-* to the root **d^herh₃-* ‘to jump’, mechanically < **d^horh₃-uo-*. The word is old within epic Greek, in view of the athematic feminine θοῦρις which is formulaic in the verse-final genitive θούριδος ἀλκῆς ‘furious resistance’. But θοῦρις proves that the *ʃo*-stem cannot be old. Lubotsky (l.c.) already suggested loss of the laryngeal in the nominative **d^horh₃-u-s*. As has been suggested above for ὄλος, one could prefer to start from the neuter **d^horh₃-u*, if this form is indeed the origin of the *o*-vocalism in the root.⁵⁶

(d) Att. κόρη ‘maiden’, epic (Ion.) κούρη, Arc. Cor. κόρφα etc. from a pre-form **korwā-*, to the root **kerh₁-* ‘to bring forth’ as in Lat. *creō* ‘to grow’, Arm. *serem* ‘to produce’ (rather than from IE **kerh₃-* ‘to satisfy, feed’ — if these

⁵⁵ It is conceivable that the root was not **h₃elh₁-*, but rather **h₁elh₃-*, in view of the Greek *vu*-present. This would presuppose that the sigmatic forms (aor. ἀλέσαι etc.) are the oldest formations, in which the metathesis of *o* and *e* first occurred. In this case, the *nu*-present would have taken the vocalism of the aorist, like in pres. θόρνυμαι beside aor. θορεῖν.

⁵⁶ A different analysis of the adjectives in *-ʃo-* is found in García Ramón (2000), who reconstructs οὖλος and θοῦρος as old derivatives in *-uó-*. According to him, these forms are “quasi-partizipiale Bildung[en] der Struktur **CoC-uó-*”, a type of formation which he separates from primary adjectives (e.g. ὄλος) and from denominal adjectives like ἴσος ‘equal’, which are supposed to have parallel formations in other IE languages. However, it seems doubtful that the suffix **-uó-* dealt with here was really accented in all examples. García Ramón argues that οὖλος and θοῦρος are Aeolic forms that underwent retraction of the accent. While such an analysis is possible in the case of Homeric forms, the accent of Attic ἴλεως < **hi-hlā-wo-* is a tougher nut to crack. In view of the quantitative metathesis it underwent, ἴλεως seems an inherited Ionic-Attic form, not a borrowing from (epic) Aeolic.

two roots can be distinguished at all).⁵⁷ The fact that Mycenaean already has both *ko-wo* /*korwo-*/ ‘boy’ and *ko-wa* /*korwā-*/ ‘girl’ suggests that this pair is of adjectival origin. This adjective **korwo/ā-* may itself be a thematicization of a neuter PGr. **kóru* < PIE **kórH-u* ‘growth, produce’. (There is no decisive argument to prove the last statement, but there is no evidence either to support the reconstruction of an old form **kórH-u-*, because the formation is restricted to Greek.)

None of the four examples of Greek *fo*-stems furnishes compelling evidence for SE in Greek. In all cases, there is concrete evidence pointing in the direction of later thematicizations. This is not a surprise, in view of the general tendency of Greek to get rid of its *u*-stem adjectives.⁵⁸

6. Strong examples for loss of root-final laryngeal. In the following examples, the root-final laryngeal is lost in the Greek reflexes. I consider them to be the best evidence for what has been called the “Saussure effect”.

(a) *τόλμα* (Pi.), *τόλμᾶ* (Ion.-Att.) ‘(over)boldness’, derived from the root **telh₂-*. A monosyllabic root *τελ-* does not occur in Greek (we only find *τελα-* and *τλη-*).⁵⁹

(b) *τόρμος* ‘socket in which a pin is fixed’ (Hdt.+),

⁵⁷The reconstruction of **kerh₃-* is largely based on *κορέσαι* ‘to satisfy’, a type of aorist which comprises roots originally ending in **h₃*. The reconstruction of **kerh₁-*, on the other hand, is mainly based upon Latin forms like *crēvi*, *crēsco*, which cannot be derived from a root **kerh₃-* but with great difficulty. This matter cannot be pursued here. The important fact is that the Greek words derive from a root ending in a laryngeal.

⁵⁸It cannot even be excluded that the lack of a laryngeal reflex in some of the derivatives in **-wo-* should be explained differently, namely by loss of laryngeal in an environment comparable to Pinault’s Law (Pinault 1982). That is, one might wonder whether the laryngeal could be lost not only in PIE **CHiV-* (as in e.g. *τείρω* ‘to wear out’), but also in PIE **-CHuV-*. A strong piece of evidence for this could be the 2pl. middle ending *-σθε* < PGr. **-st^hwe* < **-t^hwe*, which in view of Hitt. *-ttuma* must derive from **-d^hh₂ue* – see *EDHIL* s.v. *-ttuma(ri)*, *-ttumat(i)*. This matter cannot be pursued here; and the argument does not depend on it.

⁵⁹But note that according to Beekes (1969: 240), “The comparison with OHG *hamma* < **konHm-a* (s.v. *κνήμη*) and OHG *halm* etc. < **kolh₂m-* (s.v. *κάλαμος*) suggests a noun **tolh₂m* **t^hh₂m-*”.

derived either from **terh₁-* (τέρετρον ‘drill, borer’, τρητός ‘bored through’) or from **terh₃-* (as in the aor. τορέειν ‘to pierce’). The etymological connection with Hitt. *tarma-* ‘peg, nail’ (see *EDHIL* s.v.) is highly probable, that with PGm. *parma-* ‘intestine’ possible. It presupposes an action noun **tór_h₁-mo-* ‘piercing’. The loss of the laryngeal in Hittite is due to the environment between resonants and may be post-PIE (see *EDHIL* loc. cit.). Since *-mo-* was not a productive suffix in Greek (cf. Chantraine 1933: 151f., where incidentally *τόρμος* is not mentioned), this is probably an old etymon, without a trace of the laryngeal.

(c) The same holds for *τόρνος* ‘knife, lathe’ (Thgn.), whence *τορνόμαι* ‘to draw a circle’: the primary suffix *-no-* was not productive in Greek⁶⁰, and the formation **tórH-no-* is therefore probably old.

(d) Ion.-Att. *πόρνη* ‘whore’ belongs to the root **perh₂-* ‘to sell’, found in the nasal present *πέρνημι* ‘id.’, aor. *περάσαι* (Hom.). An outer-Greek cognate is OIr. *renim* ‘id.’ < PIE **pr-n(e)-h₂-*. Judging by the glosses *πορνάμεν· πωλείν* ‘to sell’, *πορνάμεναι· πωλούμεναι* ‘being sold’ (Hsch.), this nasal present was also found in Aeolic or Achaean (*-or-* continuing **-r-*). It would not be possible, however, to derive *πόρνη* from this nasal present directly. Therefore, it seems that *πόρνη* continues an old formation **porh₂-neh₂*.

7. Possible counterexamples to SE for root-final laryngeal.

It is difficult to find good counterexamples to the Saussure effect, and this is certainly one of the reasons why SE has been embraced with so much enthusiasm for Greek. I did not manage to find any decisive counterexamples to **-oRHC- > *-oRC-* either. Still, the following words deserve to be mentioned.

(a) The adj. *όμαλός* ‘level’ could theoretically be analyzed as continuing **somh₂-lo-*. But an ablauting root is suggested by Lat. *similis* < Pit. **semali-* (cf. *EDL* s.v.), OIr.

⁶⁰“En grec le suffixe *-no-* n’a pas été productif pour la formation de substantifs; seule l’étymologie peut nous faire reconnaître, plus ou moins probablement, des formes affectées de ce suffixe qui n’a jamais été vivant dans le grec historique.” (Chantraine 1933: 191).

samail ‘likeness’, Goth. *simle* ‘once’. Moreover, it is quite possible that ὁμαλός continues older **hamalo-*, the *-o* being taken e.g. from ὁμός. Since the pre-form was probably different, e.g. **smh₂-el-*, ὁμαλός cannot be used as counterevidence.

(b) Within Greek, δολιχός ‘long’ should first be compared with the *s*-stem adjective ἐνδελεχής ‘continuous’, which probably derives from **-delh₁g^h-s-*. There are outer-Greek comparanda in Skt. *dirghá-* ‘long’, Ru. *dólgo* (adv.) ‘id.’, and Lith. *ilgas* ‘id.’ (with loss of initial **d-*), all of which may derive from **dlHg^hó-*, with BSl. retraction of the accent to an acute syllable by Hirt’s Law. Greek is the only language to show an *o*-grade in this word. This seems to point to a reconstruction **dolh₁g^hó-*.

Peters (1988: 374 fn. 3) has adduced this word as an example in favor of SE, as it would show the development of an anaptyctic vowel in δολιχός < **dolk^hó-* < **dolh₁g^hó-*, while the laryngeal reflex is seen in ἐνδελεχής < **delh₁g^h-s-*. To my mind, assuming an anaptyctic *-i-* in δολιχός is an ad hoc solution. In fact, had the laryngeal been lost, it does not seem very probable that an anaptyctic vowel *-i-* would have developed in Greek, seeing that nothing similar happens in clusters with voiceless stop like *-λκ-*. It seems more plausible that the *-i-* is somehow related to the *preservation* of the **-h₁-*. But how exactly the *-i-* arose must remain an open question, and therefore the word cannot be used as a counterexample.⁶¹

(c) For πόλεμος ‘war’ (also Hom. πτόλεμος), Ruijgh reconstructs a root **tpelh₁-* ‘défendre’ (1997: 277) in an attempt to etymologically connect πόλις with πόλεμος. He explicitly argues, on this basis, that πόλεμος is a counterexample against SE (“il ne peut pas s’agir d’une perte phonétique de la laryngale”, l.c.). This etymology is hardly convincing, because a verbal root **tpelh₁-* is not attested anywhere.⁶² It is therefore unknown whether the

⁶¹ Strunk (1969, 1970) famously explained *-ολι-* as the regular reflex of **Clh₁C*, but this matter cannot be discussed within the scope of this paper.

⁶² On the other hand, in view of the forms with *πτ-*, derivation of πόλεμος from the root **pelh₁-* ‘to swing’ (comparing *πελεμιζώ* ‘to shake, vibrate’)

-ε- in *πόλεμος* reflects an interconsonantal laryngeal.

(d) A different argument against a purely phonetic form of SE was pointed out to me by Prof. Pinault: the middle present participle **-mh₁no-* (> Gr. *-μενος*, Lat. *fēmina*, Toch. B *-māne*, etc.) not only shows that the word-internal sequence **-HRo-* does *not* undergo SE; the correspondence of thematic forms such as Gr. *ἀγόμενος* beside Toch. B *akemāne* < **h₂eĝ-o-mh₁no-* could also be used as a counter-argument against SE for **-oRH-* (at least for non-root *o*).⁶³

After a scrutiny of the evidence for and the counter-evidence against the Saussure effect in Greek in word-internal position (sections 5.-7.), my first major conclusion is that much evidence is of doubtful value or open to different explanations. However, some serious examples for the loss of word-internal laryngeal persist. This group consists of *τόλμα*, *τόρμος*, *τόρνος*, *πόρνη*. Counterexamples against SE-loss of word-internal laryngeal are not particularly numerous or convincing. It could now be argued, following the traditional interpretation, that a group of four solid examples, with no obvious counterexamples, forces us to accept SE as a regular phenomenon. But it is not necessary to embrace this conclusion if a different explanation can be given for those four forms.

In the remaining pages, I will defend the thesis that the environment **-VLHNV-* (rather than the *o*-vocalism of the root) is responsible for the loss of laryngeal in forms like *τόλμα*. In other words: PIE **-VLHNV-* > Greek **-VLNV-*. In order to bolster this hypothesis, I will first provide evidence for laryngeal loss in **-eLHNV-* as well. After this (sub 9.), a discussion of possible counter-evidence to Greek laryngeal loss from PIE **-eLHNV-* will follow.

8. Proposal for a new solution. In the commonly accepted formulation of SE for internal laryngeals, a conditioning

is not evident either.

⁶³The anonymous referee suggests to me that the thematic middle ptc. suffix may have been restored from the suffix in athematic forms (in Greek, found in root formations and in the middle perfect).

environment **-oRHC-* is found. In the four examples under 6. that have survived the scrutiny under 5., it may be noted that:

- (1) the suffixal consonant is always a nasal,
- (2) the resonant found in the root is always a liquid,
- (3) the suffix is always of the shape *-CV-*.

This means that the environment conditioning the laryngeal loss could in fact be much more specific than is usually thought. The possibility to re-formulate this conditioning environment as **-eLHNV-* leads to the question whether the same may have happened in **-eLHNV-*.

I therefore propose a new explanation for forms of the type *τόλμα*: any laryngeal drops between a liquid and a nasal in the sequence **-VLHNV-*. Note that it is possible, within the terms of this new proposal, to accommodate for the etymologies of **θορός* (= Myc. *to-no*) and *ὄρμη* that were discarded as compelling evidence under 5.3 above. If these etymologies are correct, they may represent **d^horh₂-no-* and **sorh₃-mo-*, respectively.

Phonetically, a sound change **-VLHNV- > *-VLNV-* is much more attractive: unlike in the commonly accepted formulation of SE, the segmental loss of the laryngeal is now conditioned by contiguous phonemes. One could object that laryngeals are always vocalized in interconsonantal position in Greek. I will comment on the question of vocalization below; first, the new hypothesis will be tested. It turns out that laryngeal loss in **-eLHNV-* may also be found in:

(a) *στέρνον* ‘chest, breast’ < **sterh₃-no-* (*Il.*+), cf. OHG *stirna* (f.) ‘forehead’. Scholars usually start from the root **sterh₃-* ‘to spread out’ found in Gr. *στροφτός* ‘extended’ (cf. *EDG* s.v. *στέρνον*). Compare *εὐρύστερνος* (*Hes.*) ‘with a wide chest’ for the chest as something which is extended. The loss of the laryngeal has remained without explanation so far.⁶⁴

⁶⁴One might also adduce *στόρνη* ‘belt, ζώνη’ (*Call.*+), which is usually assumed to derive from the same root (*GEW, DELG, EDG*), and which

(b) $\tau\acute{\epsilon}\rho\mu\alpha$ ‘end, highest point’ (Il.+) and $\tau\acute{\epsilon}\rho\mu\omega\nu$ ‘limit, boundary’ (A.+) are related to Lat. *termō* (m.), *termen* (n.) ‘boundary (stone)’. I derive these as $*terh_2-mn-$ from the root $*terh_2-$ ‘to cross, overcome’ found in Skt. *tirāte* ‘to cross, overcome’, *tirās* ‘across’, OIr. *tar* ‘id.’ < $*trh_2-ós$, Lat. *trāns* ‘id.’ < $*trh_2-nt-s$, and with an *u*-extension in Hitt. *tarhu-*, Skt. *tūr(v)-* ‘to overcome’ < $*t(e)rh_2-u-$.⁶⁵ Alternative etymologies have to start from other roots that contain a laryngeal, namely $*terh_1-$ and $*terh_3-$ ‘to pierce’.⁶⁶ Therefore, this etymon shows loss of the root-final laryngeal after an *e*-grade in any case.

It seems that the correspondence between Greek and Latin could point to an early loss of the laryngeal in this environment, perhaps in late PIE. The same conclusion seems to follow from Skt. *su-tārman-* ‘having a good crossing’, which is unlikely to contain the *o*-grade of the root.⁶⁷

reminds of $\pi\acute{o}\rho\upsilon\eta$. It is unlikely that this is an old formation, however, in view of the late attestation.

⁶⁵ Cf. Nussbaum 1997: 184 with fn. 26. I do not think that $\tau\acute{\epsilon}\rho\mu\alpha$ and Lat. *termen* belong together with Hitt. *tarma-* ‘peg, nail’ (EDL s.v. *termen*). This would presuppose that the meaning shifted from ‘pole’ > ‘boundary pole’ > ‘boundary’, then to ‘boundary stone’ in Latin, which seems artificial to me. De Vaan (EDL, l.c.) argues that “The Hittite noun and the usage in Latin suggest that the PIE word denoted a concrete object which came to refer to a boundary-stone. For this reason, the etymology deriving *termen* from the PIE root $*terh_2-$ (...) is unattractive.” I do not see, however, why the Latin usage could not point to a basic meaning ‘boundary’. As I have argued above (6.), Hitt. *tarma-* should be connected with Gr. $\tau\acute{o}\rho\mu\omicron\varsigma$ ‘socket’. This has two advantages: first, $\tau\acute{o}\rho\mu\omicron\varsigma$ and *tarma-* may continue exactly the same action noun $*torH-mo-$ ‘piercing’. Second, Latin does not attest the meaning ‘pole’ (but ‘boundary stone’), and the Homeric meaning ‘turning point in a chariot race’ does not necessarily point to a pole. On the other hand, the meanings ‘highest point, supreme power’ attested for $\tau\acute{\epsilon}\rho\mu\alpha$ in Pindar and tragedy would be difficult to explain from ‘pole’. But these meanings can be understood very well if we connect the words with the root of Skt. *tirāte* ‘to cross, overcome’ and Hitt. *tarhu-* ‘to overcome, overpower’. For these reasons, I reconstruct a PIE *mn*-stem $*terh_2-mn-$ ‘crossing, boundary’.

⁶⁶ Nussbaum (1997: 184) mentions the example $\tau\acute{\epsilon}\rho\mu\alpha$, $\tau\acute{\epsilon}\rho\mu\omega\nu$, but rejects an explanation in terms of the suffixal *o*-vowel of $\tau\acute{\epsilon}\rho\mu\omega\nu$.

⁶⁷ Hackstein 2002: 2 explains $\tau\acute{\epsilon}\rho\mu\alpha$ as $*terh_2-mn-$ (with loss of laryngeal in the environment $*CH.CC$). However, this rule still awaits a critical survey of all the evidence and counterevidence (note the counterexamples

(c) A possible example is ἐλλός (*Od.*) ‘deer-calf’ beside ἔλαφος ‘deer (m., f.)’ (*Il.*+). The acute of the related Balto-Slavic forms Lith. *ėlnis* ‘deer’, PSl. **ōlni* > Ru. *lan* ‘doe’, dat.sg. *lāni* points to a laryngeal (see Derksen 2007 s.v. *ōlni*, who reconstructs **h₁el-h₁n-ó-*, with the Hoffmann suffix). It is now possible to assume that ἐλλός derives from **h₁el-h₁n-ó-* as well. Another possibility would be to reconstruct **h₁elh₂-no-*, in which case ἔλαφος could be from **h₁elh₂-b^ho-* (instead of the traditional reconstruction **h₁el-n-b^ho-*).⁶⁸

(d) τέρνακα: τῆς κάκτου τοῦ φυτοῦ καυλός ‘stalk of the cardoon-plant’⁶⁹ (*Hsch.*) can be analyzed as replacing **τέρνο-* < **terH-no-* (**terh₁-* or **terh₃-* ‘to pierce’), to which a Greek suffix *-ak- (frequent in plant names) was secondarily added. But the evidence of **tr-no-* ‘thorn’ (found in Skt. *tṛṇa-* (n.) ‘grass, blade of grass’, PSl. **tṛmь* (accent paradigm b, cf. *EDSIL* s.v.), and the Germanic group of Goth. *þaurmus* (m.) ‘thorn’) suggests that a pre-form without a laryngeal would also be possible for τέρνακα.⁷⁰

9. Counterexamples to *-eLHN̥- > *-eLN̥-. In this section, I will discuss cases where traditionally the laryngeal is assumed to be vocalized between liquid and nasal (when the root has *e*-grade). Such cases may receive an alternative explanation in two different ways:

mentioned by Hackstein, op. cit. 19). Also, the attested Greek declension does not show this environment, as all cases have **terh₂m̥(t)*. I therefore prefer the inclusion of τέρμα as an example of the rule proposed here. Another explanation of Skt. *su-tárman-* would be to assume laryngeal loss in a compound, but I am reluctant to assume such loss without prior necessity.

⁶⁸ Another related form, which might derive from the same pre-form as ἐλλός, is Arm. *etn* ‘deer’. The word for ‘deer’ may be related to the color term Skt. *aruṇá-* ‘reddish brown’, OAv. *auruna-*. If so, we are probably dealing with the interchange of suffixes -u-/-n- frequent in animal names (cf. Lat. *corvus* ‘raven’ beside *cornix* ‘crow’, etc.).

⁶⁹ *Cynara Cardunculus*, especially its uncultivated varieties, has thorny stalks.

⁷⁰ The evidence of κέρνα (n.pl.) or κέρναι (f.pl.) ‘transverse processes of the vertebrae’ (*Poll.*) is too uncertain to take into account; in any case, it could continue a root form **ker-* ‘head / horn’ without laryngeal.

(a) Generalization of paradigmatic ablaut. For Greek γέρανος ‘crane’ (*Il.*+), the most obvious reconstruction **ĝerh₂-no-* would contradict the rule proposed here. A Celtic group of cognates (e.g. *W. garan*) is often explained from **ĝerh₂-no-* as well, with Joseph’s rule (followed by Matasović 2008 s.v. **garano-*), and directly equated with the Greek forms.

There are several indications that γέρανος does not directly continue **ĝerh₂-no-*. First, the Greek word probably was originally athematic, given that an *n*-stem form γερήν is attested in Hsch. Therefore, one could consider departing from a hysterodynamic paradigm nom. sg. **ĝerh₂-ēn*, acc. sg. and nom. pl. **ĝrh₂-en-*, obl. **ĝrh₂-n-* (or the like). An *n*-stem formation also appears in Germanic (**kran-*, pointing to **ĝr-on-*), though the loss of laryngeal is unexplained.

As a second point, a number of other IE languages have *u*-stem forms (Lat. *grūs*, Lith. *gėrvė*, SCr. *žèrāv*, Arm. *k’runk’*) instead of *n*-stem forms. Kortlandt (1985: 120) reconstructs a paradigm nom. **ĝérh₂-ōu*, gen. **ĝrh₂-u-ós* for these *u*-stem forms. Since an alternation between *u*- and *n*-stem forms seems to have been typical for bird names in PIE (**-u-* originally denoting the male and **-n-* the female of a species, as in Lat. *corvus* ‘raven’ : *cornix* ‘crow’), it is highly improbable that Celtic and Greek underwent a common innovation **ĝerh₂-no-* in this word. Both derive from certain *n*-stem forms within the paradigm. The question is: from which forms? As long as this remains uncertain, γέρανος cannot be used as counter-evidence to the rule proposed.⁷¹

(b) The formation is derived from a synchronically

⁷¹ A parallel case for an *n*-formation which was thematicized within Greek is the word for ‘acorn’, Lith. *gīlė* < **g^hlh₂* continuing the plain root, and Gr. βάλανος perhaps deriving from earlier **βάλανα* < **g^hlh₂-en-h₂*. Note that the feminine gender of βάλανος supports the analysis as an old collective, and that there are compounds with βαλανη- (*Alc.*, *Hdt.*). Various results of thematicization may coexist within Greek: e.g. ὠλένη ‘elbow’ beside ὠλλόν· τὴν τοῦ βραχίονος καμπήν ‘the curve of the upper arm’ (*Hsch.*). This points to an old *n*-stem ὠλήν, ἔνος that is in fact preserved as such in *Suidas*. We lack a comprehensive study of nominal thematicization in PIE and its daughter languages, in spite of (or perhaps due to) the fact that it was so frequent.

existing verbal root. At first sight, it seems that *τελαμών*, gen. *-μῶνος* ‘carrying strap’ (*Il.*+), ‘base of a column’ (*inscr.*), also the name of the father of Ajax, derives from a PIE formation **telh₂-mon-* “carrying”.⁷² Within Greek, (*πολυ-*)*τλήμων* ‘enduring’ is clearly formed with the productive root shape *τλη-*, and the productive meaning ‘endure’. But while *τελαμών* preserves a trace of the older root meaning ‘to carry, bear’ and may claim greater antiquity than *τλήμων*, it does not follow that it continues a pre-form **telh₂-mon-* dating from the time when the laryngeals were still present.⁷³

Within Greek, the (accented) suffix *-μῶν*, gen. *-μῶνος* differs from *-μων*, *-μονος*, which is a productive way to form agent nouns and is mostly (but not always) unaccented.⁷⁴ For *-μῶν*, *-μῶνος* there are only five examples in Homer: beside *τελαμών*, only *λειμών* ‘meadow’, *θημών* ‘heap’, *χειμών* ‘winter’, *κευθμών* ‘hideout’, see Risch 1973: 51-3. Post-Homeric, but certainly old in view of Skt. *prathimán-* ‘extension’, is *πλαταμών* ‘flat surface’ (*h.Merc.*+); further, *-ών*, *-ῶνος*, as in *αἰών*, *ἄγών*, etc. is frequent. It seems clear that the non-ablauting suffix *-μῶν*, *-μῶνος*, which is limited to Greek, originated within the prehistory of that language (although the reasons for its origin are

⁷² OIr. *talam* ‘earth’ (*n*-stem) could theoretically be compared, but *n*-stems were a productive category in that language, and the meaning of *talam* is quite different from that of *τελαμών*.

⁷³ This seems to have been doubted by Nussbaum 1997: 184 as well, but on different grounds. In dealing with the question whether a suffixal *o*-vowel could also induce SE, he remarks that “... stem shapes like *τελαμών* can reasonably be explained by invoking paradigmatic ablaut (**telh₂-mon-*/**tlh₂-mn-*, cf. *τλήμων* ‘patient’)”. I doubt, however, that *τλήμων* and *τελαμών* were ever part of the same paradigm.

⁷⁴ See Chantraine 1933: 170-74. There, Chantraine suggested that oxytone ablauting *μῶν*-stems like *ἡγεμών* ‘leader’, *δαιτυμών* ‘participant at a common meal’ and *κηδεμών* ‘who takes care of’ are archaic formations, while barytone formations would be more recent. But many nouns with stem accentuation look archaic too: *ῥήμων* ‘spear-throwing’ (only in *ῥήμονες ἄνδρες*, *Il.* 23.886), *αἶμων* ‘desirous’ (only in *αἶμονα θήρης* *Il.* 5.49) from the root **sh₂i-* of *ἵμερος*, *δαίμων* ‘chthonic god’, etc. It is unclear what the origin of the difference in accentuation is.

unclear). While *λειμών* and *χειμών* do not derive from a verbal root and are certainly old,⁷⁵ *θημών* and especially *κευθμών* may have been built on a synchronic verbal root.

The same may be assumed for *τελαμών*. The root *τελα-* is continued in the Homeric *s*-aorist *ἐτάλασσα* << **ἐτέλασσα*, replacing an older root aorist 3sg. **e-telh₂-t* > **e-tela*). The *e*-grade root is expected on etymological grounds, but also attested in Hsch. *τελάσσαι τολμῆσαι, τλῆναι*.⁷⁶ Thus, *τελαμών* may have been derived from the root **tela-* as long as this old full grade was present. Contrast *τέρμων*, where there was no synchronic verbal root in Greek, so that the reflex of the laryngeal could not be restored.

A number of other examples of *-a-* between liquid and nasal are most probably of substrate origin, e.g. *κέραμος* ‘potter’s earth’ (see Beekes 1969: 191 and *EDG* s. v.).

10. Notes on the conditioning of the laryngeal loss. The sound change **-VLHNV-* > **-VLNV-* may be obtained by taking the intersection of all examples (in 6.) that probably show regular laryngeal loss. One could wonder, however, why the conditions for the proposed sound law are so specific. That is, if the laryngeal drops in **-VLHNV-*, wouldn’t the expectation be that, more generally, the laryngeal drops in the position between two *resonants* (**-VRHRV-*)? The condition that the *second* resonant is a nasal cannot be distilled from the material: it could theoretically also be a liquid, but I have found no examples to show the opposite.⁷⁷

⁷⁵ Of course, *χειμών* derives from a PIE *m*-stem **ǵʰi-m-* > Skt. *himá*, Russ. *zimá*, Gr. *δύσ-χιμος*. The Skt. loc. *hēman* ‘in winter’ may have been the origin of the *n*-stem forms which are found, beside *χειμών*, in Hittite loc. *gimmi* ‘in winter’, *gimaniie/a^{zi}* ‘to spend the winter’, Alb. (Gheg) *dimēn* ‘winter’.

⁷⁶ The generalized *a*-vocalism of the aor. *ταλασ-* may have been taken from the 3pl. **e-tlh₂-ent* > **e-talan*, or from compounds in **ταλα-*, cf. *ταλασί-φρων*.

⁷⁷ If the second consonant is a yod (**-VLH₁V-*), we have a special case of the so-called Lex Pinault (Pinault 1982, e.g. *τείρω* ‘to rub, wear out’ < **terh₁-ie/o-*). Given that Lex Pinault is usually thought to be a pan-IE

About the restriction on the first resonant, more precision is possible. The middle ptc. of the thematic present (e.g. $*h_2e\hat{g}-o-mh_1no-$ > Gr. ἀγόμενος, Toch. B *akemāne*) could show that the laryngeal was not lost if the first resonant was $-m-$. But as the referee points out to me, the suffix of the thematic middle ptc. may have been restored on the basis of the athematic middle ptc.

Another possible counterexample against $*-VmHNV-$ > $*-VmNV-$ is τέμενος 'sacred precinct' (*Il.*+) < $*temh_1-nos-$. This word derives from the root of Att. ἔτεμε 'cut' < $*(h_1e)-temh_1-t$, an old root aorist, and the suffix $*-nes-$, which is found in words indicating types of property in Sanskrit, too (*rēkṇas-*, *dráviṇas-*, *páriṇas-*). The suffix $-vos$ enjoyed limited productivity in Greek (cf. Chantraine 1933: 420, Risch 1973: 80), but it seems that τέμενος was the origin of a number of other formations rather than the other way round: cf. κτήνος 'possession' (post-Homeric), but especially ἄφενος 'wealth' (*Il.*), which could have taken its $-ε-$ from τέμενος, beside Pi. ἄφνος. I conclude that τέμενος is probably old, though post-PIE derivation from the PGr. root $*teme-$ cannot entirely be excluded.

For $*-VnHNV-$ > $*-VnNV-$, ἄνεμος 'wind' is a counterexample, but only apparently so, as this may in principle owe its ϵ to a pre-form $*h_2nh_1-mo-$ rather than $*h_2en h_1-mo-$ (cf. the vocalization of $*h_3nh_3-mn-$), or to the thematization of an older m -stem $*h_2on h_1-m$, obl. $*h_2nh_1-em-$, cf. Arm. *hotm* 'wind', and Lat. *animus* beside *anima*. On the other hand, inclusion of $*-VnHNV-$ would perhaps allow us to explain γέννα 'race, descent', e.g. as $*\hat{g}en h_1-n-h_2$ (which would be an old collective).⁷⁸

It is not possible, at this moment, to conclude with full confidence that $*-VLHNV-$ is the conditioning environment. But for the time being, I depart from the

effect, it does not seem probable that it is a special case of the effect discussed here.

⁷⁸A different proposal for the origin of the geminate of γέννα was made by Hackstein (2002: 2), who reconstructs $*\hat{g}en h_1-mn-eh_2-$ with regular loss of the laryngeal in a sequence PIE $*CH.CC$. The $CH.CC$ -rule has recently become a popular research tool, but in my view, it still awaits a critical survey of all the evidence and counterevidence.

best examples for the laryngeal loss under discussion, and these happen to be in the sequence **-VLHNV-*. For this reason, I will refrain from more precise statements about the phonetic background of the laryngeal loss. In general, I subscribe to Nussbaum's words about SE (1997: 186), which he formulated without reference to the *o*-vocalism: "To state the relatively obvious, it would seem either that laryngeals were simply dropped in the relevant environments, or that the anaptyctic *ə*'s that normally developed around laryngeals (...) did not develop when the *H* was in a Saussure environment."⁷⁹

Finally, a comment on the supposition that the laryngeal in the cluster **-LHN-* was only lost if this cluster was preceded *and* followed by a vowel, and not if another consonant followed. The amount of evidence where **-VLHNV-* is not followed by a vowel is not very large. Still, there are some examples that may speak against a general loss of the laryngeal in **-VLHNV-*. A probable case is *ἀτέραμνος* 'hard, stubborn, merciless'. Although this could ultimately be based on an aorist stem **τερα-* 'to cross' ("who/which cannot be overcome"), there is no direct evidence for this verbal root in Greek, as has been pointed out earlier. Another case is *βέλεμνα* (n. pl.) 'projectiles, arrows' (*Il.*), which is an Aeolic (or even Achaeon) derivative of *βάλλω* 'to throw, hit'.⁸⁰

11. Conclusion. A scrutiny of the Greek evidence adduced for SE has shown that many examples are unreliable and can be explained otherwise. Especially for initial position,

⁷⁹ One could speculate about the reason why epenthetic vowels did develop in **-THT-* (where *T* is a stop, as in *δοτήρ* 'giver' < **dh₃ter-*), but not in **-VLHNV-*. The cause for the different treatment of **-VLHNV-* as compared with **-CLHNV-* > **-CLHNV-* could be the smaller size of the consonant cluster (and a different realization of **L*). The cause for the different treatment of **-VLHNV-* as compared with **VTHCV-* > **VTH₃CV-* (e.g. aor. *σκεδάσα-*) may perhaps be sought in the sonority of **L* and **N* with respect to that of the stops.

⁸⁰ However, even in the case of *βέλεμνα* it is unclear whether a direct reflex of the PIE laryngeal has been preserved: it may have been built on the old root aorist **g^wele* < **g^welh₃-t* found in *ἔζελεν* *ἔβαλεν* (Hsch.), before the oblique cases of the neuter *mn*-stems adopted the *nt*-stem inflection.

there is hardly any convincing example (best by comparison are *μοιχός* and *ὀνρέω*), while there are two good counterexamples (*ὄνυξ*, *ἔρωή*).

On the other hand, for laryngeal loss in internal position quite a few examples have survived our critical examination. The rule proposed in this article, PIE **-VLHNV-* > PGr. *-VLNV-*, provides a different explanation for all these examples (*τόλμα*, *τόρμος*, *τόρνος*, *πόρνη*). At the same time, it explains the lack of a laryngeal reflex in material with *θ*-grade root (especially *στέρνον* and *τέρμα*, *τέρμων*). In cases where a laryngeal has so far been assumed to have vocalized in the environment **-VLHNV-*, e.g. *γέρανος* and *τελαμών*, we have shown that their formation is not certain to be of PIE date, and may postdate the rule defended here.

In conclusion, I hope to have shown that the non-adjacent *o*-vowel was not necessarily the cause of the laryngeal loss in the Saussure effect forms, and that the alternative proposal **-VLHNV-* > PGr. *-VLNV-* is at least compatible with the evidence.

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Abbreviations:

- DELG (Supp.)* = Chantraine 2009
EDG = Beekes 2010
EDL = de Vaan 2008
EDHIL = Kloekhorst 2008
LIV² = Rix, Kümmel, et al. (eds.) 2001
 Pokorny = Pokorny 1959

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