

Greek ῥίζα ‘root’ and “Schwa Secundum”

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1. Introductory

1.0. The root vocalism of Gk. ῥίζα ‘root’ is aberrant vis-à-vis its presumed cognates (Lat. *rādix*, Go. *waurts* ‘id.’ etc., IEW 1167), and therefore constitutes a long-standing problem of Greek phonology (see e.g. Schwyzer 1939: 352). Two recent treatments of this problem (1.1., 1.2.) have independently converged on the same solution. The weaknesses inherent in this solution (1.3.) justify the proposal of an alternative account (2., including remarks [2.4.1.] on the problematic *i*-vocalism of Gk. ῥίμφα ‘swiftly’), which in turn calls for more general remarks on the problem of “schwa secundum” (3.). The paper concludes (4.) with a discussion of Gk. ἰπνός ‘oven’, the difficult root vocalism of which may yield to an analysis similar to that proposed here for ῥίζα.

1.1. In his recent book on Germanic root nouns and their prehistory, W. Griepentrog has devoted a lengthy footnote (1995: 460n30) to a discussion of the problematic “schwundstufigen Bildungen mit *i*-Vokal” in Greek ῥίζα (Aeol. βρίζα)¹ and certain presumed cognates in Celtic (e.g. Welsh *gwrysg* ‘branches’). To consider first ῥίζα: under the standard assumption of a zero-grade starting point ** μ r \grave{h} ₂d-*, there appears to be no phonologically regular way to generate *ĩ*-vocalism, and Griepentrog rightly rejects unsatisfactory attempts (by Schwyzer and Specht) to do so.² Griepentrog concludes, then, that “[v]om lautlichen

¹ Very likely also Myc. *wi-ri-za*, despite uncertainty about its precise meaning; see Aura Jorro 1993: 435. However one wishes to interpret the details surrounding the much-discussed use of <βρ> in literary Lesbian, Aeol. βρίζα at least supports the initial ** μ r-* (as opposed to **sr-*), see e.g. Bowie 1981: 80ff. (“the beta appears not to be added to any word which certainly did *not* have an original initial digamma”, Bowie 1981: 82).

² Another such attempt is that of Huld 1978/9: 298 (not mentioned by Griepentrog), according to whom ῥίζα displays the zero-grade “*i*-reflex for **/H/*” sometimes claimed for Greek, as in δολιχός, π(τ)όλις etc., cf. also (Huld loc. cit. and 1983/4: 118) κοίλος ‘hollow’ (= Alb. *thellë*), i.e. **κοφιλο-*, allegedly < ** κ ο μ H-lo-*. But there are various problems with this approach (which

Standpunkt wäre die Erklärung, daß $\rho\acute{\iota}\zeta\alpha$ etc. auf einer semantisch gleichbedeutenden Parallelwurzel $\sqrt{\mu}rei(-)d$ basiert, m. E. wesentlich einfacher“, with reference to enlarged root variants “mit ähnlicher Bedeutung” $^*\mu rei\acute{k}$ - ‘drehen, umwickeln, binden’, $^*\mu rei\acute{p}$ - ‘drehen’, and $^*\mu rei\acute{t}$ - ‘drehen’ (IEW 1158ff.); thus, in his view, “[d]ie Annahme einer weiteren Variante $\sqrt{\mu}rei(-)d$, von der die schwundstufige Form in urgriech. $^*\mu rid$ - fortgesetzt wäre, wäre daher nicht problematisch“.

1.2. Griepentrog’s monograph attempted, with some success, to take account of bibliography that became available later than the original version of his dissertation. He did not, however, consider P. Schrijver’s book (1991) on the reflexes of the Indo-European laryngeals in Latin. Here (1991: 183), in a discussion of Lat. $r\acute{a}dix < ^*\mu r(e)h_2d$ -, Schrijver observed that “[t]he root *urh_2d - must be distinguished from $^*\mu rid$ - in Gr. $\rho\acute{\iota}\zeta\alpha$, Lesb. $\beta\rho\acute{\iota}\sigma\delta\alpha$ and in W. $gwrysg$ ‘branch’ $< ^*\mu rid$ -sko-, OIr. $fr\acute{e}n$ ‘root’ $< ^*\mu rid$ -no-“. Schrijver takes the same position in his more recent work on British Celtic phonology, where he asserts (1995: 174) that “OIr. $fr\acute{e}n$... and W $gwrysg$... cannot reflect this root [scil. $^*\mu r(e)h_2d$ - — add. BV] but rather go back to PCI. $^*\mu rid$ -nā, $^*\mu rid$ -skV- $<$ Pre-Cl. $^*\mu rd$ -nā, $^*\mu rd$ -sk- or $^*\mu rid$ -nā, $^*\mu rid$ -skV-, respectively”, and that “[i]f $^*\mu rid$ - is the correct reconstruction, it may be compared with Gr. $\rho\acute{\iota}\zeta\alpha$ “, noting finally that “a hypothetical $^*\mu rig$ - would account for these forms just as well“.

1.3. As recalcitrant as the *i*-vocalism of $\rho\acute{\iota}\zeta\alpha$ (and W. $gwrysg$, etc.) may be, the solution independently arrived at by Griepentrog and Schrijver must be regarded with the utmost suspicion.³ To begin with, it is far from clear that a series of enlarged root-variants $^*\mu rei\acute{k}$ -, $^*\mu rei\acute{p}$ -, $^*\mu rei\acute{t}$ - (of rather ill-defined

therefore need not be pursued at great length here): to begin with, the zero-grade “i-reflex for $^*/H/$ ” in Greek has been claimed only for $^*(R)h_1$ (*h_1 is possible, but not demonstrable, for $\rho\acute{\iota}\zeta\alpha$), and in any case the expected result would be /oRi/, in which case the development $^*\mu orid\acute{i}a > ^*\mu rid\acute{i}a$ remains unexplained. As for $\kappa\omicron\lambda\omicron\varsigma$: an *o*-grade $^*\kappa\omicron\mu H$ -lo- would be expected to undergo H-loss by “Saussure’s Law” ($\tau\omicron\lambda\mu\alpha$, $\omicron\upsilon\theta\alpha\rho$ etc.), nor is Gk. -ιλο- morphologically problematic in any case.

³ A similar account is already found in Joseph 1980: 206, adding Toch. B $witsako$ ‘root’ to $\rho\acute{\iota}\zeta\alpha$ as a possible reflex of an original $^*\mu rid$ -; the Tocharian form, however, is best taken otherwise (see now Isebaert 1991: 141 and Ringe 1996: 146, both with further references).

meaning (variously ‘drehen, winden, binden’ etc.) afford a legitimate semantic comparison with a nominal prime meaning ‘root’ (as clearly, at any rate, in $\acute{r}\acute{o}\zeta\grave{a}$). Morphologically, $\acute{r}\acute{o}\zeta\grave{a}$ (descriptively $*\mu r\acute{i}d\grave{i}\grave{a}$) is clearly a devī-formation,⁴ and as such is a good candidate for derivation based on a root noun, this being attested at least indirectly in Gmc. **wurt-* (Go. *waurts* etc.) < $*\mu r\grave{h}_2d-$ (if not also in **wrōt-* [Oic. *rót*] < $*\mu r\acute{o}h_2d-$, cf. Griepentrog 1995: 458ff.). Under these circumstances, the gambit of setting up an otherwise unattested enlarged stem “ $*\mu r\acute{e}i\grave{d}-$ ” (beside $*\mu r\acute{e}i\grave{k}-$ ‘drehen’ etc.) as a way of “explaining” the difficult vocalism of $\acute{r}\acute{o}\zeta\grave{a}$ and certain Celtic forms is deeply unsatisfying, and, what is more, methodologically suspect, unless all other possible solutions for explaining these vocalisms secondarily on the basis of the IE ‘root’ word can be definitively excluded. This does not, in fact, appear to be the case.

The Celtic material from which Schrijver prefers to separate W. *gwrysg* and OIr. *frén* principally includes MidW. *gwreid*, W. *gwraidd* ‘roots’ and OCo. *grueiten* gl. *radix*, the phonological interpretation of which Schrijver has examined at some length (1995: 173ff.), in the context of an extended investigation into the problem of the treatment of PIE CRHC in Celtic. Abstracting away from

⁴ Thus also perhaps Lat. *rādx*, although the form is phonologically ambiguous between full grade $*\mu r\acute{e}h_2d-ih_2-(k-)$ and zero grade $*\mu r\grave{h}_2d-ih_2-(k-)$ (Schrijver 1991: 183, Griepentrog 1995: 461, Sihler 1995: 179); here also perhaps Arm. *armat* (g. *armatoy*) ‘root’, if Pisani’s analysis (1966: 235) is correct (< $*mr\acute{a}t-$ < $*\mu r\acute{a}t-$ < $*\mu r\acute{a}d-$). Andrew Sihler (p.c.) points out to me that the devī-status of Lat. *rādx* may be suspect, since this appears to be one of the only forms in *-ik-* that does not refer specifically to female beings or relate to female sexuality more or less explicitly (cf. *iūnix* ‘heifer’, *mātrix* ‘womb; breeding-animal; progenitress’, *genetrix* ‘one who brings forth; mother’, *nūtrix* ‘nurse’); but the spread of *-ik-* is itself a Latin innovation in any case (see e.g. Schrijver 1991: 152 on Etr. *uni* and Lat. *iūnix*, and the $*nūtrī$ underlying *nūtrire*), and so it does not seem impossible that Lat. *rādx* (which is not, in fact, totally isolated in this respect: cf. *ceruix* ‘(nape of the) neck’, possibly a devī-form itself, along with a whole series of body-part terms in *-ic-*, on which see Nussbaum 1986: 4f.) could continue an old devī-form that is essentially extraneous to a later semantic specialization that would have begun with one or more accidentally-preserved forms like *genetrix* (: Ved. *jānitri*) — cf. the series of body-part terms noted above, as well as a series of bird names (*cornix* ‘crow’, *coturnix* ‘quail’, etc.). On Gk. $\acute{r}\acute{\alpha}\delta\acute{\iota}\xi$ ‘branch, frond’ [Nic., D.S.] as a probable loan from Latin, see Griepentrog 1995: 460n28.

certain complexities involving British *i*-affection, it emerges that the British forms are probably best taken to continue a Proto-Celtic **urad-jo-*. Indeed, although he regards this particular example as less than certain (due in part to ambiguities arising from the *i*-affection complications), Schrijver does go on to suggest, on the basis of his analysis of a series of other less ambiguous forms, that the phonologically regular result of CRHC in Celtic is to be interpreted as follows: CRHT > CR \check{a} T (T = **t* and possibly **s*) and CRHR > CR \bar{a} R (R = nasals, esp. **n*). Thus, according to Schrijver's system, MidW. *gwreid* etc. < **urad-jo-* (barring certain ambiguities) would be phonologically regular, just as in OIr. *srath* 'valley, meadow, etc.', W. *ystrad* 'vale' < Proto-Celt. **strāto-* < **str_h3-to-* (ultimately with OIr. *sernaid* 'arrays'), or OIr. *rath* 'grace, property', W. *rhad* 'id.' < Proto-Celt. **φrāto-* < **pr_h3-to-* (1995: 178f.). It is surely significant, however, that at least some such forms are found beside what may be called "neo-aniṭ" variants⁵: thus beside OIr. *srath*, the verb *sernaid* itself makes a descriptively aniṭ verbal noun/past ptcple. (-)sr \acute{e} th (as if from aniṭ **str_o-to-*), cf. -mleth (as if from aniṭ **ml_o-to-*) beside *melid* 'grinds' (root **mel_h2-*). Phonologically, "neo-aniṭ" (-)sr \acute{e} th beside *srath* (whether the latter is the phonologically regular reflex of a CRHC form [Schrijver] or is analogical [McCone and others]) recovers exactly the pattern OIr. *frén* (Proto-Celt. **urid-nā*), W. *gwrysg* (Proto-Celt. **urid-skV-*) beside MidW. *gwreid* (Proto-Celt. **urad-jo-*). To be sure, the development of "neo-aniṭ" forms like (-)sr \acute{e} th and -mleth is relatively easy to understand in the context of echt-aniṭ participles and *t*-preterites,⁶ whereas derivational links among forms like MidW. *gwreid*, OIr. *frén*, and (in the case of *frén*) hypothetical zero-grade forms in **-no-* are much more difficult to substantiate. Nevertheless, once the existence of the pattern (-)sr \acute{e} th : *srath* is acknowledged, and given the possibility of zero grades in **-no-* and **-skV-* (at least some of which may have had the form **-R_od-no-*, **-R_od-skV-*), we cannot so easily exclude the possible development of "neo-aniṭ" (Proto-Celt.) **urid-* (beside **urad-*), even if the details must remain elusive. We are at least justified in exploring methods of explaining Gk. $\acute{\rho}\acute{\iota}\zeta\alpha$ without recourse

⁵ Cf. McCone 1991: 106f., though with different assumptions about the regular treatment of CRHC.

⁶ See McCone 1991: 106 for the process.

to a root-variant **ureid-*, an implausible construct in itself, and not demonstrably necessary even for Celtic.

2. Gk. *ῥίζα* and “schwa secundum”

2.0. We must begin by briefly reviewing certain facts about the phonological and morphological context of *ῥίζα*, beginning with the latter.

2.1. As already noted (1.3.), Gk. *ῥίζα* (< Pr.-Gk. **uridiā*) is generally agreed to be a devī-formation (most likely built to a root noun), comparable to Lat. *rādix*. Although Greek has generally given up the ablaut otherwise to be expected in devī-formations (a proterokinetic type, in IE terms), distinct and well-known traces survive: it suffices here to recall the opposition between Att. *γλωττα*/Ion. *γλωσσα* and Ion. *γλάσσα* ‘tongue’, beside the root noun preserved in *γλωχες* ‘beards (of corn), awns’ (Hes.⁷ Sc. 398, cf. Schindler 1972: 80).⁸ Thus the difficult vocalism of *ῥίζα* (barring an appeal to a different root altogether, cf. 1.3.) is likely to find its explanation in the context of devī-alternations, and specifically in zero grades of the general type Ion. *γλάσσα*.

2.2. The above considerations suggest, then, that Greek could have inherited a proterokinetic paradigm with the following alternation:

nom. **uréh₂d-ih₂*
gen. **urh₂d-íéh₂-s* etc.⁹

If, as is shown by alternations like *γλωσσα/γλάσσα*, the devī-ablaut in this form was maintained into the Proto-Greek period, the above paradigm would have

⁷ Not “Hesych.” (Griepentrog 1995: 461).

⁸ Additional traces involving accentual alternations are somewhat more controversial: thus Rix 1976: 130 on *ἄγνια*/dat.sg. *ἀγνιᾶ* ‘street’, similarly Schwyzer 1939: 381 on Ion. *ὄργνια*/gen.sg. *ὄργνιας* ‘length of the outstretched arms’ (assuming **-ih₂-/*-íéh₂-*), vs. the inner-Greek conception of Kuryłowicz 1958: 119ff., apparently followed by Lindeman 1990: 169 = 1996: 186 (but see Kuryłowicz 1968: 94f.).

⁹ Even if Melchert (1994: 241f., following Wackernagel and others) is correct in his tentative suggestion that the **-ih₂-/*-íéh₂-* devī-ablaut is in some way a secondary development from an original non-ablauting **-ih₂-* formation, an ablauting proterokinetic paradigm is surely, as Melchert admits, a “permitted” reconstruction of the data for at least some stage of IE. (I am grateful to Joshua Katz for reminding me of Melchert’s suggestion.)

faced the serious inconvenience (noted explicitly by Griepentrog¹⁰) that both ** $\text{ur}e\text{h}_2d$ -* and ** $\text{ur}h_2d$ -* would yield Pr.-Gk. / $\text{ur}\bar{a}d$ -/. It might be assumed, at first glance, that the simplest response would have been to eliminate the ablaut and generalize / $\text{ur}\bar{a}d$ -/. But even if devī-ablaut has ended up being almost completely eliminated in Greek, we have no reason to expect that this word should have belonged to the vanguard of this process, and Greek did not end up with $\text{X}\rho\bar{\alpha}\zeta$ - in any case. It is thus necessary to assume, rather, that in the first instance, a non-alternating / $\text{ur}\bar{a}d$ -/ at the time devī-ablaut was still being maintained would have developed a new alternant, most likely occupying the zero-grade slot. Only later, with the general loss of devī-ablaut, would one of these alternants have been eliminated.

2.3. The nub of the problem, then, can be framed in these terms: given a paradigm with proterokinetic accent but lacking concomitant vocalic differentiation in the stem, i.e.

nom. / $\text{ur}\bar{a}d\bar{i}a$ /

gen. / $\text{ur}\bar{a}d\bar{i}\bar{a}s$ / etc.

how could a new weak stem be devised, with the general shape / $\text{ur}Vd\bar{i}\bar{a}s$ / (for $V \neq /a/$)? We have, in other words, a classic situation involving so-called “morphological zero grade”, of a sort popularized by Kuryłowicz (see in general Joseph 1980, 1982), and which continues to be regarded with suspicion (recently e.g. Schrijver 1995: 168ff., 189ff.). Nevertheless, the environment / $\text{ur}Vd\bar{i}\bar{a}s$ / can be assessed in almost purely phonological terms. Assuming (as one must, given the morphological context) that a syllabification / $\text{ur}V$ -/ (and not / $\text{ur}V$ -/ or / $\text{ur}\text{(r)}V$ -/) is a necessary starting point, an actual zero-grade sequence / $\text{ur}\$d\bar{i}\bar{a}s$ / would correspond almost perfectly to the phonetic environment seen in such forms as / $\text{p}\$t\bar{n}\bar{a}$ -/ > $\pi\acute{\iota}\tau\nu\eta\mu\iota$ ‘spread out’, / $\text{sk}\$d\bar{n}\bar{a}$ -/ > $\sigma\kappa\acute{\iota}\delta\nu\alpha\mu\alpha\iota$ ‘be scattered’, / $\text{s}\$d\bar{r}\bar{u}$ -/ > $\acute{\iota}\delta\rho\acute{\upsilon}\omega$ ‘seat’, / $\text{k}^w\$t\bar{u}\text{or}$ -/ > (Hom.) $\pi\acute{\iota}\sigma\upsilon\rho\epsilon\varsigma$ ‘four’,¹¹ with a widely-acknowledged treatment calling for an epenthetic vowel (corresponding to an

¹⁰ Similarly already Joseph 1980: 207.

¹¹ Perhaps also (with secondary rounding of /i/ between labiovelars) collective ** $k^wkw\text{l}(H)\acute{e}h_2$* > $\kappa\acute{\upsilon}\kappa\lambda\alpha$ ‘wheels’ (Eichner 1985: 134ff., esp. 139n31, and apud Mayrhofer 1986: 176n334; cf. also Oettinger 1993: 212). Despite Meier-Brügger (1990), Gk. $\kappa\upsilon\lambda\lambda\acute{o}\varsigma$ ‘crooked, crippled’ is not likely to be a case of this general type, as I discuss elsewhere (1999: §3.3.3.).

entity traditionally referred to as “schwa secundum”) that appears in Greek as /i/ in forms derived from obstruent clusters of this type (i.e. *(s)T\$TRV- or *s\$TRV-).¹² Under the assumption that /ṽr̥d̥iã̃s/ would be treated in the same way as /p\$tnā-/ etc., the predicted result would be /ṽridiã̃s/, and the subsequent generalization of this stem /ṽridĩ-/ would account directly for Gk. ῥίζα.

2.4. It remains to comment briefly on several loose ends this analysis may appear to leave.

2.4.1. The objection that a sequence /ṽrdiã̃s/ should in principle have been vocalized as /ṽrdiã̃s/ has already been answered (2.3.): with strong forms of the shape /ṽrād-/ , paradigmatic pressure would surely have maintained the same syllable-onset (thus /ṽr̥d̥-/) in the weak forms. A potentially more serious objection concerns the specification of the phonetic environment for the epenthesis process in question. It has generally been assumed (cf. the notations “*(s)T\$TRV-/*s\$TRV-” above, with the references in n. 10) that the epenthetic vowel arises between (non-sonorant) obstruents, of which the first may be /s/ (cf. /p\$tnā-/ etc., cited above); but in /ṽrdiã̃s/, the leftmost portion of the consonantal conditioning consists of a sonorant cluster /ṽr-/ . In principle, this may simply indicate that the phonetic conditioning of the rule as generally conceived is excessively restrictive, especially since additional material with sequences similar to that in /ṽrdiã̃s/ can be found in Greek (i) and (as is in fact widely assumed) elsewhere (ii):¹³

(i) Within Greek, the adverb ῥίμφα [Hom.+] ‘lightly, swiftly’ has been plausibly compared with Lith. (*i-*)rangùs ‘nimble, supple’ (among other Baltic material) and OHG (*ge*)ringi ‘leicht, rasch’ (see Schwyzler 1939: 302 and IEW 1155). Schwyzler’s preform *ῥέγγα, however, assumes an original full grade, with

¹² Cf. Schindler 1977: 31, Peters 1980: 98f. (*iδρῶ*), Mayrhofer 1986: 175ff., Ruijgh 1995; the question of the phonetic environment is treated in more detail in 2.4.1., directly following. Note, incidentally, that the tonic accent in some of the forms in question (*πίτνημι*, *σκιδναμαι*, *πίσυρες*, *κύκλα*) is in all cases susceptible of being explained as secondary.

secondary $\epsilon > \iota$ conditioned by the following nasal (1939: 275, similarly Ehrlich 1910: 16, followed by Güntert 1916: 25, both with earlier references). But this account is problematic: to begin with, by Schwyzer's own admission (275), "Nasalwirkungen sind nur in einzelnen Wörtern und Formen einzelner Dialekte kenntlich oder erhalten"; thus, apart from forms of the type Arc. (ptcple.) *-μινος*, and a small number of isolated gloss words, there is scarcely another Homeric form of this type quotable (let alone an adverb in *-a* possibly related to an old *u*-stem, of the familiar type — and in the same semantic field as — Hom. *τάχα* [ταχύς], *ῶκα* [ὠκύς], both 'swiftly'). There is, moreover, the morphological fact that the bulk of such adverbs in Homer show zero grade of the root (Hom. *κάρτα*, *λίγα*, *λίπα*, *πύκα*, *σάφα* etc.), which is a systematic and probably archaic feature, as Ruijgh has discussed in some detail (1980, cf. more recently Tremblay 1996: 57n96 [*κάρτα* and a number of other adverbial types with zero grade]). It is evidently preferable on both counts to consider *ρίμφα* a zero grade, which would thus derive (in Proto-Greek terms) from a / $\text{ur}\$nkh\text{u}a/$ or / $\text{ur}\$nk^{wh}a/$, with precisely the same onset (and with the same epenthetic treatment) as / $\text{ur}\$d\text{i}\ddot{a}s/$.¹⁴

(ii) Outside Greek, the epenthetic vowel sometimes referred to as "schwa secundum" surfaces with different vowel quality, thus typically /a/ in Italic and Celtic (for Italic, cf. Lat. *quadru-* '4-' beside Hom. *πίσυρες*, 2.3.). It is often considered that, beside the **meġ-h₂-* of Gk. *μέγας* 'great' etc., Lat. *magnus* 'id.' (with material elsewhere in Italic: O. *mais* 'maius' etc.) and corresponding Celtic

¹³ Interestingly, Schindler himself already noted (loc. cit., n. 10 above) that in connection with the process "PPRV --> PVPRV" (in his informal notation), "[t]he exact contexts for this rule ... are ... not completely understood at present".

¹⁴ The maintenance of the onset / ur- / could be attributed either to a parallel *u*-stem adjective (if this was of the type *ῆδύς* 'sweet', with full grade, cf. Lith. (*i-*)*rangùs*), or to a parallel *s*-stem abstract with full grade (of the type *βένθος* 'depth' : *βαθύς* 'deep'); under the assumption of an original **uréngh-es-*, the latter would in any case not be expected to survive the *homonymie fâcheuse* created by *ῥέγχος* n. 'snoring', a variant of *ῥέγκος* [Aesch.+] attested as early as the Hippocratic Corpus, and conceivably much older. Ruijgh's own attempt to explain the vocalism of *ρίμφα* (1980: 192n19) is clearly a counsel of despair ("une déformation expressive de la racine de *ῥίπτω* 'jeter avec vivacité'").

material (OIr. *mál* ‘prince, chief’ etc.) derive from zero-grade contexts comparable to those seen in /p\$tnā-/ > πίτννημι etc.,¹⁵ except that the leftmost consonant is a resonant (thus *magnus*, OIr. *mál* < /m\$gno-/ , /m\$glo-/).¹⁶ Similar examples include Lat. *labia* and *labra* ‘lips’ (/l\$bjō-/ , /l\$bro-/) beside the clear *e*-grade in Gmc. (Eng. *lip* etc.) and Anatolian (Hitt. *lilip-*, *lip-* ‘lick’);¹⁷ and Lat. *nassa* ‘wicker basket’, OIr. *nascid* ‘bind’ (among other Celtic material) beside *o*-grade forms in Gmc. (Eng. *net* < Gmc. **nati-*, etc.) and a lengthened *ō*-grade in Lat. *nōdus* ‘knot’ (cf. OIc. *nót* ‘large net’), with *nassa* and OIr. *nascid* ultimately rooted in prototypical zero-grade contexts (/n\$dtā/ < *tó*-ptcple. **nd-tó-*, □n\$nsk-/ < *sk*-present **nd-ské/ó-*). Detailed discussion of these and similar forms is provided by Schrijver (1991: 477-485, see also Rix 1996: 160f., Meiser 1998: 65), who arrives at an extremely similar conception in terms of “the rise of an Italo-Celtic *-a-*” according to a process statable as “**R̥D* > **RaD* / __ C”.

2.4.2. One might further object that given strong forms /*urād-*/ (cf. 2.3.), a new “morphological zero grade” might be expected to have developed weak-stem forms /*urād-*/ (2.2.) — cf. *γλάσσα* itself, as well as the widespread (and largely secondary) ablaut pattern CāC : CăC (in Proto-Greek terms). To this may be offered the following points:

¹⁵ So Maryhofer 1986: 176, following Joseph 1982: 32.

¹⁶ Sihler (1995: 99n1) prefers to regard Italic and Celtic **mag-* as unrelated to the **meǵ-(e/o)h₂-* of Indo-Iranian, Greek, Anatolian, and Germanic. But the objections there registered are mitigated to some extent by the more complex morphological conception indicated by the notation **meǵ-(e/o)h₂-* (vs. Sihler’s “**meǵH₂-*”) (see Mayrhofer 1994: II.338, with rich bibliography), as well as the conception of **meǵ-(e/o)h₂-* as demonstrating secondary “Caland system” alternations (see Pinault 1979). Here note also the possible **meǵh₂-néǵ-* in Hitt. *maknu-* ‘groß machen’ (Neu 1996: 172n152, following Oettinger 1979: 98); similarly Hamp 1998: 325 on possible **mag-* forms in Phrygian and Tocharian.

¹⁷ Schrijver (1991: 479), citing Latin and Germanic material, observes that “[g]iven the limited distribution, the etymon may not be of IE. origin”, but he appears unaware of the Anatolian data (which now include Luv. *lapan(a)-* ‘salt-lick’ and its derivatives, Melchert 1993: 125 s.v. and Watkins 1997; the Hitt. spelling *lipp-* is an error [see Watkins 1997: 33] and does not compromise the IE **-b-*.) On the morphology of the Gmc. forms (perhaps ultimately involving an *s*-stem **léb-es-*) see now Wagner 1997, Hamp 1998: 337-8.

(i) The initial dilemma raised by non-alternating / $\text{ur}\bar{\text{a}}\text{d-}/$ could in principle have elicited more than one attempted solution (e.g. dialectally, or at different chronological strata), such as / $\text{urid-}/$ (by the phonologically regular treatment of a zero grade / $\text{ur}\$di\bar{\text{a}}\text{s}/$, as described above), or / $\text{ur}\bar{\text{a}}\text{d-}/$ (via shortening of full grade / $\text{ur}\bar{\text{a}}\text{d-}/$). Even if the former was generalized in such a way as to become the “standard” form for ‘root’, the latter could be vestigially attested in forms of the sort $\acute{\rho}\acute{\alpha}\delta\alpha\mu\nu\omicron\varsigma/\acute{\rho}\acute{\alpha}\delta\alpha\mu\omicron\varsigma$ [LXX, Suid., Hsch.] ‘bough, branch’, $\acute{\rho}\acute{\alpha}\delta\alpha\mu\epsilon\hat{\iota}\beta\lambda\alpha\sigma\tau\acute{\alpha}\nu\epsilon\iota$ [Hsch.]. While it is true that the vocalism and stem-formation of parallel forms like $\acute{\rho}\acute{\omicron}\delta\alpha\mu\nu\omicron\varsigma$ [Hsch.], $\acute{\omicron}\acute{\rho}\acute{\omicron}\delta\alpha\mu\nu\omicron\varsigma$ [AP, Thphr., Call., Nic.] may point to the involvement of non-IE (or at least non-Greek) material (thus e.g. Schrijver 1991: 183, 1995: 174), it is not excluded that the shape $\acute{\rho}\acute{\alpha}\delta\text{-}$ itself arises from contamination of $(\acute{\omicron})\rho\acute{\omicron}\delta\text{-}$ with a / $\text{ur}\bar{\text{a}}\text{d-}/$ ultimately derived from a remodeled / $\text{ur}\bar{\text{a}}\text{d-}/$.

(ii) Nevertheless, one may question the premise that a shortened / $\text{ur}\bar{\text{a}}\text{d-}/$ might be expected in the first place. The pattern $\text{C}\bar{\text{a}}\text{C} : \text{C}\check{\text{a}}\text{C}$, however widespread it may be, is mainly attested in verbal derivation ($\lambda\acute{\epsilon}\lambda\eta\theta\alpha : (\lambda\epsilon)\lambda\alpha\theta\epsilon\hat{\iota}\nu$, $\lambda\alpha\nu\theta\acute{\alpha}\nu\omega$ etc., see e.g. Kimball 1988), and it is unclear that sufficient motivation could be found for an analogically shortened / $\text{ur}\bar{\text{a}}\text{d-}/$, given the paucity of $\text{C}\bar{\text{a}}\text{C} : \text{C}\check{\text{a}}\text{C}$ forms in relevant nominal categories. Thus among root nouns, there is virtually no evidence for such alternations, apart from the isolated $\pi\tau\alpha\kappa\text{-}$ ‘hare’ (acc. $\pi\tau\acute{\alpha}\kappa\alpha$, Aesch. Ag. 137) beside the equally isolated $\pi\tau\bar{\alpha}\kappa\text{-}$ (Aesch. Eu. 326 codd. $\pi\tau\acute{\alpha}\kappa\alpha$, with $\pi\tau\hat{\omega}\kappa\alpha$ normally printed, cf. $\pi\tau\acute{\omega}\xi$ ‘hare’ [Il.+]).¹⁸

(iii) The superficial comparison with the vocalism of $\gamma\lambda\acute{\alpha}\sigma\sigma\alpha$ is equally questionable, and does not in fact support the creation of a / $\text{ur}\bar{\text{a}}\text{d-}/$. The central fact is that the ablaut pattern in $\gamma\lambda\hat{\omega}\sigma\sigma\alpha/\gamma\lambda\acute{\alpha}\sigma\sigma\alpha$ (cf. $\gamma\lambda\hat{\omega}\chi\epsilon\varsigma$ [2.1.], and $\gamma\lambda\omega\chi\bar{\iota}\nu\text{-}$ ‘point’) is not directly comparable to that assumed above for the ablauting pre-forms of $\acute{\rho}\acute{\iota}\zeta\alpha$. Given the comparison of $\gamma\lambda\hat{\omega}\sigma\sigma\alpha/\gamma\lambda\acute{\alpha}\sigma\sigma\alpha$ with Late Common Slavic $*glog\ddot{u}$ (pan-Slavic, generally ‘hawthorn’ in North Slavic languages, locally also other trees with red haws; details in Trubačev 1979: 136), the length in $\gamma\lambda\hat{\omega}\sigma\sigma\alpha$ is best interpreted in terms of lengthened grade, as opposed to laryngeal lengthening in a sequence $*gleh_3gh\text{-}$ or $*g\grave{l}h_3gh\text{-}$ (in these terms e.g. Huld 1997: 79 with n. 11). This is because, while Slav. $*glog\ddot{u}$ could in principle reflect a $*glh_3gh\text{-}$

¹⁸ Details in Schindler 1972: 95, cf. Hackstein 1992: 141n10 on $\kappa\alpha\tau\alpha\pi\tau\alpha\kappa\acute{\omicron}\nu$ (Aesch. Eum. 352).

with vocalized laryngeal, showing the treatment seen in initial syllables with cluster onset (as in, say, Late Com. Slav. **sporŭ* ‘abundant’ < **sph₁-ro-/*sp^h₁-ro-* or **sph₂-ro-*),¹⁹ this would only be conceivable if the expected zero grade **g^l₃gh-* were resyllabified with onset /gl-/ , presumably after a related full-grade form, for which there is no evidence in Slavic.²⁰ Thus **glogŭ* should continue a plain *o*-grade **glogh-o-*, while *γλάσσα* reflects the regular result of zero grade (devī) **g^l₃gh-*i*éh₂-s-* etc., and the vocalism of *γλωσσα* (replacing an “ideal” devī nom. **glégh-ih₂* > ***γλέσσα*) is analogical to the lengthened grade of the root noun (*γλωχες*, cf. 2.1.), which likewise appears in the derivative stem *γλωχίλν-*. There is, then, little reason to expect a weak stem-form /*urād-*/ on the basis of *γλάσσα*.²¹

2.4.3. Finally, as to the question of why the weak stem-form /*urid-*/ (as opposed to strong /*urād-*/) ended up being generalized in Greek: the details of such a process are clearly beyond recovery. It can be noted, however, that a paradigm (Pr.-Gk.) **urād-/*urid-*, with such a highly marked vocalic alternation, would almost inevitably have generalized one or the other alternant; as for the choice between the two, this could have been related to factors such as the relative frequency or prominence of various case usages, where weak case forms are in this instance equally likely, if not more likely, to have played a role: thus gen. sg., dat. sg., dat. pl. account for five of the eight Homeric attestations of *ρίζα*, including the fixed phrase ‘from the roots’ (= Eng. ‘[pull up/out, etc.] by the roots’, ‘from the roots up’), Φ 243 ἦ δ’ ἐκ ριζέων ἐριποῦσα, ψ 196 ἐκ ριζῆς προταμών.

3. “Schwa secundum indogermanicum” vs. “schwa secundum (prae)graecum” (“... (prae)latinum”, etc.)

3.0. Without undertaking a full-scale *apologia pro schwa secundo*, we may nevertheless comment briefly on the continuing resistance to this idea, as well as

¹⁹ On the possible reconstruction with **h₂* for this root (as opposed to the traditional **h₁*, still e.g. LIV 532), see Jasanoff 1994: n. 19 (based on a suggestion of A. Nussbaum).

²⁰ Similarly already Schindler (1972: 80), arguing against **gleh₃gh-*: “für *Rə* statt *Rh* kenne ich sonst keine slavischen Beispiele”.

on a potentially interesting corollary to the analysis of $\acute{\rho}\acute{\iota}\zeta\acute{\alpha}$ (and, for that matter, $\acute{\rho}\acute{\iota}\mu\phi\acute{\alpha}$) just proposed.

3.1. For this purpose, it is convenient to refer to A. Sihler's admirably explicit remarks,²² in his recent handbook of Greek, Latin and Indo-European comparative grammar:

(i) [Sihler 1995: 128f., §124] "One serious reproach, which has never been squarely faced by proponents of reduced grades, is that once one starts subdividing the distinction between PRESENCE and ABSENCE (in other words, full vs. zero grade), it is in principle possible to insert as many intermediate degrees as one wishes. That is, the number and kind of such intermediate vowels is open-ended and unconstrained, which is a serious demerit from the standpoint of methodology and theory. A different and possibly even graver objection is that no generalization can be made in regard to their distribution, in terms of either phonology or morphology. In this regard the theory is unlike ablaut."

(ii) [Sihler 1995: 527, §473b, with reference to $-v\bar{a}-/-v\check{a}$ -presents, and specifically forms of the type $\acute{\pi}\acute{\iota}\tau\nu\eta\mu\iota$, $\sigma\acute{\kappa}\acute{\iota}\delta\nu\alpha\mu\alpha\iota$] "The $-i-$ that seems to take the place of normal $-\epsilon-$ in many of these roots ... has no satisfactory explanation. ... Since n -infix formations take the zero grade of the root, the original forms of these roots would have been $*s\acute{k}d-ne-H_2-$, $*pt-ne-H_2-$, and the like and some scholars have proposed a reduced grade (schwa secundum) in such stems. Such clusters might be the ideal spot to find syllabics which are intermediate between a full vowel and no vowel at all; but apart from the usual objections to that concept (124) roots of the shape $*s\acute{k}edH_2-$ and $*petH_2-$ would not be typical shapes for n -infix stems in PIE (though there are some similar ones, 453): most n -infix stems are made to roots with a potentially syllabic consonant before the infix. And such an explanatory strategy actually creates problems for $\acute{\kappa}\acute{\iota}\rho\nu\eta\mu\iota$ and $\acute{\pi}\acute{\iota}\lambda\nu\alpha\mu\alpha\iota$, because there is no reason for a reduced vowel in a shape like $*\acute{k}r-ne-H_2-$."

(iii) [Sihler 1995: 111, §112a] "'Reduced grades' ... merely restate the raw facts, and therefore lack any predictive or explanatory power."

²¹ I am indebted to my colleague Henning Andersen for discussion of the Slavic material in this section.

²² In contrast, e.g. Beekes (1995: 194): "The existence of a separate reduced grade ... has been generally abandoned", without further comment. I find no mention at all of such matters in Szemerényi 1996, apart from a reference (1996: 272n7) to Szemerényi 1986 = 1991/1992: III.1524ff. (on Gk. $\acute{\kappa}\acute{\iota}\rho\nu\eta\mu\iota$).

3.2. Ad 3.1.(i): These objections would be cogent if applied to wholly unconstrained versions of reduced-grade theory, or versions (like that of Güntert 1916) in which a relatively large number of schwa-secundum environments are posited more or less ad hoc²³; such objections cannot, however, be cogently applied to the explicit reduced-grade theory adduced above in connection with $\acute{\rho}\acute{\iota}\zeta\tilde{a}$. Here, there is no “subdivision” of the traditional distinction between PRESENCE and ABSENCE of a vowel (or full grade vs. zero grade), and consequently no danger of extending such a notion improperly to any number of unspecified “intermediate degrees”: the so-called “reduced grade” is simply taken to result, in a phonologically regular way, from a (traditional) zero grade. This last point implicitly addresses, as well, the “even graver objection”, namely that “no generalization can be made in regard to their distribution, in terms of either phonology or morphology”: the reduced-grade vocalism appearing in Greek as /i/ (in forms like $\acute{\pi}\acute{\iota}\tau\nu\eta\mu\iota$, $\acute{\pi}\acute{\iota}\sigma\nu\rho\epsilon\varsigma$, and, according to the present account, $\acute{\rho}\acute{\iota}\zeta\tilde{a}$) arises via a rule of epenthesis which is statable in purely phonological terms (2.3., with the references in note 10 and the relaxed consonantal conditioning suggested in 2.4.1.), and which comes into play under precise morphological circumstances, i.e. zero grade forms which meet the structural description of the phonological rule in question. It should be clear, then, that the term “reduced grade” is essentially a misnomer: Sihler is perfectly correct in observing that such vowels fall outside the regular system of ablaut, being merely substitutes for zero grades. Likewise, use of the term “schwa secundum” to refer to such vowels can be justified only as a traditional (and still convenient) short-hand designation, similar to terms like “long diphthong roots”, where (as a result of laryngeal theory) the phonological referent is no longer strictly accurate.²⁴

²³ Thus for Güntert (1916: 23), $\acute{\rho}\acute{\iota}\zeta\tilde{a}$ belongs with a series of words allegedly showing a development of his “schwa secundum” (reduced-grade vowel) to /i/ when /i/ or /ĩ/ appears in the following syllable, among various other developments of “schwa secundum” posited for still other environments in Greek and elsewhere.

3.3. Ad 3.1.(ii): Again, the present conception does not operate with “syllabics which are intermediate between a full vowel and no vowel at all”. Whatever its schwa-like properties may originally have been, the epenthetic vowel arising from the cluster environment in question has in Greek become sufficiently similar to /i/ from other sources to be identified with this phoneme in the earliest form of Greek we can reach. (Cf. the <i> resulting from Latin medial vowel reductions.) Sihler’s second point, consisting of a series of related observations, is more important. It is quite true, of course, that “roots of the shape **sked*H₂- and **pet*H₂- would not be typical shapes for *n*-infix stems in PIE” and that “most *n*-infix stems are made to roots with a potentially syllabic consonant before the infix”. Moreover, Sihler’s cross-reference (to 1995: 498, §453) points out that the nasal infix presents apparently built to roots like **ghrebh*H- ‘seize’ and **meth*₂- ‘stir vigorously’ “may well be secondary imitations of routine *n*-infix stems to disyllabic roots” like **dem*h₂- ‘tame’. There are, nevertheless, two counter-objections to be made here (quite apart from certain problems related to **meth*₂-²⁵). First, even if some ordinary ninth-class nasal present forms of the type *gr̥hnāti* to GRABH^I or *ámathnāt* to MATH^I (to which could be added e.g. RV *amuṣṇāt* to MOṢ/MOṢ^I ‘steal’, *astabhñāt* to STAMBH^I ‘prop up’, *ásrathnan* to ŚRATH^I ‘slacken’, *aśnāti* to AŚ^I ‘eat’) are Indic innovations, this is rather less clear for the residual zero-grade nasal type in -āyá- (thus *gr̥bhāyá-*, *mathāyá-*, *muṣāyá-*, *stabhāyá-*, *śrathāyá-*, among others), as discussed in detail by Jasanoff (1983).²⁶ Second, one must in any case account not only for Gk.

²⁴ Likewise Mayrhofer (1986: 176): “Der Terminus ‘Schwa secundum’ darf hier nur als wissenschaftsgeschichtlich bedingter Ausdruck für das vokalische Allophon der Nullstufe verstanden werden.”

²⁵ For **meth*₂- ‘stir vigorously’, Sihler cites 3sg.impf. Ved. *ámathnāt*; but this form (RV 1.93.6b) belongs with MATH^I ‘snatch away’, probably to be separated from MANTH^I ‘stir vigorously’ (see Mayrhofer 1993: II.298, 312).

²⁶ The details of Jasanoff’s analysis, to be sure, are partly based on concerns similar to those of Sihler about the relative rarity of roots of the structure T(R)E(R)TH-; D. Ringe, however, has discussed the exaggerated nature of these concerns (1991: 94f.), citing the equation RV 3sg.inj. *stámbhīt* : Proto-Toch. **ścama* (B *śama*, *ścāmā*-c/A *śām*; on this equation also Ringe 1996: 35, 115, 151 and Hackstein 1995: 238, 319), and noting further (in connection with anīṭ forms like Ved.

πίτνημι and σκίδναμαι, but also for the apparently cognate nasal present formations in Lat. *pandō* ‘spread out’, O. **patensíns** ‘aperirent’ (beside πίτνημι), however the differences between the Latin and Oscan forms are to be explained,²⁷ and Toch. B *katnaṃ*, A *knāṣ* ‘strew’ (beside σκίδναμαι).²⁸ Note specifically that no claim need be made as to the IE status of a “reduced vowel” resulting from zero-grade sequences like **pt-néh₂-* or **skd-nh₂-* (although this is theoretically possible, and has generally been assumed by proponents of schwa-secundum theory²⁹); one need only assume that (a) Greek, Latin and Tocharian inherited such zero-grade sequences, and that (b) Greek, for its part, shows reflexes of the type /pitnā-/ and /skidna-/ that can be interpreted in terms of a regular epenthesis. That this epenthesis may in fact be later than the IE period is suggested by ῥίζα (if the above analysis is correct), since here *the requisite phonological environment is only conceivable in Proto-Greek (and not IE) terms*. This may suggest, indeed, that “schwa secundum” forms of the type πίτνημι, σκίδναμαι etc. (as well as Lat. *pandō*, O. **patensíns** and Toch. B *katnaṃ*/A *knāṣ*; in addition, also πίσυρες : Lat. *quadru-*, etc., not to mention isolated forms of the type ἰδρύω [2.3.], ῥίμφα [2.4.1.(i)]) are best conceived of as having resulted from einzelsprachlich responses to inherited zero grades still intact in the pre-Greek (pre-Lat., pre-Toch., etc.) periods.³⁰

ptcple. *stabdhá-*) that “the final laryngeal of such roots could have become lost by various analogical processes and hence could become unreconstructable”. For extensive discussion of such “Aniṭisierung” processes in Tocharian, see now Hackstein 1995.

²⁷ For recent discussion, see Schrijver 1991: 498-504, Rix 1995: 405, Meiser 1998: 122, LIV 430-1.

²⁸ On the Tocharian forms see recently Pinault 1989: 143; Hackstein 1995: 309; Ringe 1996: 35, 65, 147, Hamp 1998: 336 (following Hilmarsson 1996: 108f.), LIV 497-8.

²⁹ Explicitly e.g. Kortlandt 1987: 222, similarly (for the *Ci-* of IE pres. reduplicating syllables) Ruijgh 1995: 350-1.

³⁰ The “einzelsprachlich” conception of πίτνημι, σκίδναμαι goes back to Ehrlich 1910: 19 (Güntert explicitly contra, 1916: 29f.). There is no space here to explore the question of the regular results of this epenthetic treatment in other languages (thus apparently /a/ in Latin, as possibly in *pandō*, *quadru-*, and a series of other forms interpretable in this way, as already noted — in addition to the forms in 2.4.1.(ii), also e.g. *canis* ‘dog’ < oblique forms of the type

As for the idea that “such an explanatory strategy actually creates problems for *κίρνημι* and *πίλναμαι*, because there is no reason for a reduced vowel in a shape like **k̂r-ne-H₂-*”: the theory of a “reduced vowel” (or rather an epenthetic vowel) that surfaces in specified phonological environments like **pt-néh₂-* or **skd-nh₂-* would clearly take forms like *κίρνημι* and *πίλναμαι* to be analogical,³¹ which poses no serious problems (thus *κίρνημι/κεράννυμι* beside *σκίδναμαι/σκεδάννυμι*, *πίτνημι/πετάννυμι*; *πίλναμαι/ἐπέλασα* beside *σκίδναμαι/ἐσκεδάσα*, *πίτνημι/ἐπέτασα*).³²

3.4. Ad 3.1.(iii): Reduced grades would “merely restate the raw facts” and “lack any predictive or explanatory power” only in the absence of explicit claims about the phonological and morphological environments in which the vowels in question are said to occur. This is not, however, the case, as I have tried to make clear above. If the analysis proposed for *ῥίζα* is accepted, or even deemed worthy of further discussion, this would serve to demonstrate the predictive/explanatory power of this version of the theory: in effect, what may be a plausible explanation of *ῥίζα* has been arrived at merely by interpreting the form according to a set of phonological and morphological predictions postulated by Schindler, Peters and others on the basis of forms like *πίτνημι*, *σκίδναμαι* etc. (with the interesting difference, as just discussed in 3.3., that *ῥίζα* may make explicit the post-IE nature of the phenomenon in question, at least for some forms).

4. Gk. *ἰπνός* ‘oven’

4.0. The predictive/explanatory power of the theory would be further enhanced if other recalcitrant forms yielded to similar analyses, or at least produced plausible or “diskutabel” alternatives to existing difficult or improbable

gen.sg. /kw\$nés/; different accounts for all such items in Schrijver 1991). For a recent survey of the Balto-Slavic evidence see Birnbaum 1995, and for discussion of possibilities for a reduced vowel /i/ in Hittite, see Ivanov 1997: 161.

³¹ Thus explicitly Ehrlich 1910: 19; more recently Hardarson 1993: 182n119, Ruijgh 1995: 351n23.

accounts. While most such work must be left for the future, we may conclude by briefly discussing a possible example of this kind.

4.1. Especially before the decipherment of Mycenaean (but even to some extent afterward), Gk. *ἰπυός* ‘oven’ has been routinely compared with one or more of a series of words with similar meaning, principally Go. *auhns* ‘id.’ (among other Gmc. material with velar, vs. OE *ofen* ‘id.’ and other forms with labial), Lat. *aulla* ‘pot’ (dimin. *auxilla*), Ved. *ukhā-* [RV+]/*ukhā-* [AV+] ‘cook-pot’, traditionally traced (e.g. IEW 88, Watkins 1985: 4) to a root **auk^w-* ‘cooking pot’. Even before Myc. *i-po-no* ‘(cooking) bowls, dutch ovens’ roiled these waters,³³ all was not clear with *ἰπυός* in formal terms (even if the semantic development of the term within Greek can be satisfactorily traced, on which see now Chadwick 1996: 161ff.): among other problems, it was necessary to operate with one or another irregular treatment of a zero-grade **uk^w-nó-* (itself not ideal for a root with *a*-vocalism), such as a dissimilation of **u-* to **i-* conditioned by the following labiovelar, or else a Güntertian schwa-secundum formulation in terms of a “**w_ək^w-nó-*” (Güntert 1916: 25, among forms allegedly displaying a development “*ə* [*ə* = “schwa secundum” — add. BV] zu gr. *ι* bei benachbartem *u, u̥*”, cf. n. 21 above). The vowel-dissimilation account founders on the likelihood that in sequences of this sort, the labiovelar would already have lost its labial element in IE times, as recently discussed by M. Weiss (1993: 153ff. = 1994: 137ff.). Weiss himself notes (1993: 155n18 = 1994: 138n18) that it might be tempting to try to explain the “strange case” of Go. *auhns* and Gk. *ἰπυός* by this rule; nevertheless, as he observes, Myc. *i-po-no* is generally (and with a high degree of probability) assumed to be the equivalent of first-millennium *ἰπυός*,³⁴ in which case “*ἰπυός* would seem not to have a labiovelar at all, and the whole family remains difficult to account for under any theory”.³⁵ C. Watkins (1982: 258n21 = 1994: I.283n21) raised the possibility that Hitt. *hūppar* ‘bowl’ derives from a **h₂óppr₂*, “which could

³² Similarly (as seen already by Ehrlich) *κρίμνημι* [Pi., Aesch.+] ‘hang’ beside *ἐκρέμασα* [Hom.+], Att. *κρεμάννυμι*.

³³ Among post-Aura Jorro material on *i-po-no*, see esp. Anderson 1994/5: 300f., 315f.

³⁴ See Aura Jorro 1985: 283

well belong with the difficult family of Eng. *oven*, Ger. *Ofen*, Lat. *aulla*, Skt. *ukhāh*, Gk. *ἰπνός* (Myc. *ipono*)". But this comparison, as interesting as it may be for the Gmc. material represented by Eng. *oven* and Ger. *Ofen*, does not in any way lessen the difficulties posed by the Greek form, which is quite incompatible with Hitt. *hūppar*. It is hardly surprising, under the circumstances, that Lehmann³⁶ resorts to a hypothesis operating with contamination at the IE level ("Possibly ... two competing words, influencing each other").

4.2. There is, however, yet another problem connected with Gk. *ἰπνός*, well known on the Greek side but generally neglected otherwise, namely evidence in favor of initial aspiration (thus e.g. Frisk "*ἰπνός*, viell. aus **ἰπνός*", I: 732 s.v. *ἰπνός*). Even if some of the traditional evidence pointing in this direction now appears suspect,³⁷ the Old Attic inscriptional spelling with <H-> at IG I² 4.15 (*ἡπνε[ύεσθαι]*, in a decree of 485/4), verified by Threatte from autopsy (see Threatte 1980: 503), is exceedingly difficult to explain away. The form, as Threatte makes clear, is thus comparable, in terms of chronology and attestation pattern, to Att. *αὔριον* 'next morning' (earlier also *αύριον*), where the initial aspiration in *αύριον* is clearly "etymological", so to speak (in this case by way of "aspirate anticipation", see e.g. Lejeune 1972: 95f., 121), but has been lost in standard Attic.³⁸ Note, in this connection, Chantraine's pointed remark (DELG s.v. *ἰπνός*) that by comparing forms like Eng. *oven*, "l'aspirée parfois attestée en grec n'est pas expliquée". If, indeed, this feature is taken seriously, it may serve to separate *ἰπνός* from such comparanda altogether, requiring a pre-form **hipnós* (in Proto-Greek terms), in principle still reflected in Myc. *i-po-no*.

The Pr.-Gk. **h-* of **hip-nó-* could in theory derive from IE **ǵ-* (or **Hǵ-*, depending on one's views concerning the Greek "double **ǵ-* reflex" problem) or

³⁵ I share Weiss' judgment that Szemerényi's "multiple dissimilation and borrowing account" of *ἰπνός* (1960: 25f. = 1991/1992: IV.2236f.) fails to convince.

³⁶ In Lehmann-Feist 1986: 49, s.v. **auhns*, with many further references.

³⁷ Esp. "Ἐφιπνος· Ζεὺς ἐν Χίῳ Hsch. (cited by Frisk); see Latte 1966: 246 ad loc. ("vix sanum").

IE *s-. But while neither *(H)*iip-nó-* nor **sip-nó-* is immediately promising,³⁹ plausible etymological sense could be made of a **sp-nó-* syllabified as /s\$pnó-/ , which then undergoes the phonological treatment with *i*-epenthesis as in *πίτνημι* etc. (2.3.): the root would be the **sep-* of *ἔψω* ‘boil’ (the latter with enlarged stem **sep-s-*), this verb providing the parallel full grade that would help account for the maintenance of a syllabification /sVp-/ in an original zero-grade **sp-nó-* ‘boiler’ > ‘(cooking) bowl’/‘oven’ (in addition to the constraint against /spn-/ , a non-occurring initial cluster in Greek).⁴⁰ Given what was said above concerning possible implications of *ῥίζα* (3.3.), the same account could be applied, mutatis mutandis, at the Pr.-Gk. level, with a /h\$pnó-/ (beside /hépse-/ ‘boil’) adjusted to /hipnó-/ via the rule in question (cf. the same phonetic environment in *ιδρύω*, 2.3.). As a formation based directly on the unenlarged root, and clearly predating later *e*-grade remodelings of the type *σεμνός* ‘holy’ (: *σέβομαι* ‘worship’), *τερπνός* ‘pleasing; pleased’ (: *τέρπομαι* ‘be delighted’), etc. (Chantraine 1933: 193), such a **sp-nó-* would be a relatively old form. It should be noted, however, that unenlarged **sep-* ‘boil’ (or ‘cook’) might have been disfavored in Greek, in view of homonymic conflict with **sep-* ‘handle’ (including food preparation, see my remarks in 1988: 55f.), whence perhaps replacement with enlarged **sep-s-* at some point after the formation of **sp-nó-* (/s\$pnó-/) or **hp-nó-* (/h\$pnó-/). As for the actively-valued verbal adjective (thus here ‘boiling’ > substantivized ‘boiler’, not **‘boiled’ > **‘stew’, vel sim.): *-*nó-*, like *-*tó-*, was originally voice-indifferent, and actively-valued behavior for *-*nó-* is otherwise attested for

³⁸ On the probable post-Mycenaean age of Greek aspirate-anticipation, see now Nussbaum 1998: 138 with n. 136. This does not, of course, diminish the value of a form like *háριον* for the interpretation of the h- of *hιπνε[ύεσθαι]* as a potentially old feature.

³⁹ For the latter, Michael Weiss (p.c., March 1999) reminds me of the **seip-* ‘ausgießen etc.’ of IEW 894 (cf. *i-po-no* ‘boiler’), but this material is only marginally attested (essentially Germanic only) as a variant of **seib-* (LIV 472), and is not at bottom semantically comparable in any case (mainly ‘sieve/sift, seep, drip’ etc.).

⁴⁰ For the pattern **sép-s-e/o-* : **sp-nó-*, cf. **h₂lék-s-e/o-* (*ἀλέξω* ‘ward off’) : **h₂lk-éh₂* (*ἀλκή* ‘bulwark’). For present purposes, it is not necessary to enter into the controversy surrounding the medial consonant of Arm. *ep’em* ‘cook’, for which *-*ps-* is in any case a possible source (see recently Clackson 1994: 172f., Kortlandt 1994: 30, Elbourne 1998: 14f.).

Greek — cf. *τερπνός* above, and note esp. *θαλπνός* ‘warming’ [Pi. O. 1.6] (: *θάλλπω* ‘warm, heat’ [*Od.*+]), in the same semantic field as *ἰπνός*.⁴¹

To be sure, the above account of *ἰπνός* leaves more than one question unanswered. It remains unclear, for example, what led to the (relatively late) loss of initial aspiration, a process about which one can only speculate.⁴² The possible connection with **sep-(s-)* ‘boil’, nevertheless, has an obvious semantic appeal, and the (morpho)phonological framework developed above goes some distance toward rendering the formal side of the comparison at least worth discussing. Like the analysis of *ῥίμφα* suggested above (2.4.1.), the connection itself owes its existence to the “predictive power” of the particular version of “schwa secundum” theory (or better “Greek *i*-epenthesis theory”) applied above to *ῥίζα*. There is at least the possibility that — to use a well-known phrase — further examples may await us in the texts.^{43 44}

⁴¹ As an alternative to the above, one may wish to consider the comparison of Eng. *oven* etc. and Gk. *ἰπνός* with Hitt. *ḫappina* (direct.) ‘into the fire’ (Ivanov 1979); according to this conception of the root (i.e. **h₂/h₃ep-*), it seems possible that a zero-grade **h₂/h₃p-nó-* might have ended up as */ipnó-/* in Greek (see now Ruijgh 1995: 355 for similar claims about Gk. */íkwo-/* ‘horse’ [with post-Mycenaean initial aspiration] < **h₁k̑mó-*), but in that case the initial aspiration in Gk. *ἰπνν[ύεσθαι]* would be difficult to account for.

⁴² Here one may consider the possible influence of structurally similar words for ‘ash, ashes’ and the like, as in Cyren. *ἴκνυς* (SEG 9.72.28 = Buck 1955: 307, §6), cf. *ἴκνυον· κονίαν· σμῆμα* and *ἴπνια· τὰ καθάρματα τοῦ ἰπνοῦ* (both Hsch.).

⁴³ One such possibility was pointed out to me by Michael Weiss (p.c., April 1999): if *λικερτίζειω· πηδᾶν* Hsch. is Aeolic, it could go back to a **λικριτ(ο)-*, i.e. a **l_ɛk-ri-(to-)* with “schwa-secundum” treatment */likri-/*, based on the verbal root **lek-* ‘move the limbs’ (LIV 369); Lat. *lacertus* ‘(muscles of the) upper arm’, moreover, could derive from precisely the same form, with expected *a*-vocalism (cf. 2.4.1.(ii) above).

⁴⁴ It is a pleasant duty to express my sincere gratitude to Andrew Sihler (of the University of Wisconsin, Madison), who graciously read a draft of this paper and provided a number of detailed and thoughtful comments and criticisms. It hardly needs to be added that Sihler does not necessarily approve of either the substance or the details of the above analyses; if I have persisted in offering them, in some cases no doubt at my peril and against his better judgment, the

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