

PIE. *RHC*- in Greek and Other Languages

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1. The Problem

In recent years agreement has been reached about the basic points of the laryngeal theory. PIE. had three laryngeals; no pertinent evidence has been found for more of them. The basic developments in the separate languages have been established. However, as to the details very much still has to be settled. For Greek, Peters (Untersuchungen 1980) discussed a large number of questions for which no final answer can be given; in my review (Kratylos 1981, p. 113 ff.) I put together ten points which he discussed.

This may be the right time, then, to suggest a change in detail of one of the well established laws. It concerns the development of the 'long resonants', i.e. the sequences of vocalic resonant plus laryngeal when before consonant (*RHC*). On its development there is general agreement. When not preceded by a vowel the resonant in this sequence is now automatically indicated as syllabic (*RHC*). Within the framework of the laryngeal theory it has not been observed, as far as I know that this sequence gives a different development in word initial position, at least in some languages. It seems that here the laryngeal was vocalized rather than the resonant. For this reason, and because syllabicity was automatic, i.e. non-phonemic, in PIE., I shall not indicate syllabicity. Pre-laryngeal handbooks noted *rə*- etc. in this case. (We shall return to this in section 9, and in section 10 to what happened phonetically.)

I came upon the matter on the basis of Greek material, but it seems that other languages have the same difference. I assume the following developments (the older notations in brackets):

	Iir.	Gr.	It.-Kl.	Gm.	BS.
<i>CIHC</i> (<i>CīC</i>)	<i>īr, ūr</i>	λη, λᾱ, λω	<i>lā</i>	<i>ul</i>	<i>il, ul</i>
<i>CmHC</i> (<i>Cm̃C</i>)	<i>ā</i>	μη, μᾱ, μω	<i>mā</i>	<i>um</i>	<i>im, um</i>
<i>CiHC</i> (<i>CīC</i>)	<i>ī</i>	<i>ī</i>	<i>ī</i>	<i>ī</i>	<i>ī</i>
<i>IHC</i> - (<i>l̥C</i>)	?	λε, λᾱ, λο	<i>lǎ</i>	<i>lǎ</i>	?
<i>mHC</i> - (<i>m̥C</i>)	<i>mi?</i>	με, μᾱ, μο	<i>mǎ</i>	<i>mǎ</i>	?
<i>iHC</i> (<i>i̥C</i> -)	?	*ye, *yᾱ, *yo	<i>yǎ</i>	<i>jǎ</i>	?

Forms with *n* are parallel to those with *m*, those with *u* to those with *i*. The case with *r*, however, is different, because *r*- in absolute initial position apparently did not occur in PIE.: forms that seem to have *r*- in fact had *Hr*- (cf. Lehmann, Lg. 27, 1951, p. 13-17). We shall discuss these forms below.

In Balto-Slavic a laryngeal was never vocalized. The material I collected does not allow to decide what the development in initial position was. I am not certain either about Indo-Iranian: I return to it below. It should be noted that in Tocharian the laryngeal was always vocalized, so our problem does not exist there. I have no opinion on Hittite: perhaps there was no difference here either.

I shall now first give the Greek forms that convinced me of this deviant development. After that I shall give the relevant material from Greek, which is meant to be exhaustive. Then I will give material for the other languages, on the basis of Pokorny. This is, of course, not sufficient, but I cannot undertake a large scale research for the other languages at the moment.

The problem is bound up with the question whether PIE. had a phoneme **a*. I think this is not the case, and I start from that conception.¹ Nevertheless the argument does not depend on

¹ In an article in KZ. 98 (1985) p. 1-10 Lubotsky shows that the word for 'dry', Gr. αῦρος etc., did not have PIE. **a*. The article shows nicely how difficult it is to find the right solution. I am therefore not convinced by the much used argument that "there is no other solution". See now his contribution to the VIIth Int. Conf. for Hist. Lingu., Pavia 1985.

that conception. On the contrary, it provides independent evidence that in a number of cases where this is often done, we must not posit **a*.

2. Greek

The evidence is not very large; otherwise the development would have been recognized long ago. (In fact, as we shall see, the development was recognized long ago.) I give first the three words which convinced me of the development, after that the full material of Greek.

2a. Examples

ἄστυ. Its connection with Skt. *vāstu* is generally recognized. It is further connected with the root of Skt. *vāsati*, Goth. *wisan* 'to be', Gr. ἄεσα. This presents a difficulty for the Greek *a-* of ἄστυ; for the absence of prothetic vowel in this word (**a(w)astu*); and for the long vowel of Sanskrit. (These problems even invited scholars to believe that the word was non-IE., e.g. E.J. Furnée, *Vorgriech.*, 46.) Such a situation mostly means that (part of) the interpretation is incorrect. The connection with **h₂ues-* 'to dwell' is attractive but not compelling. If we dismiss it, the interpretation is clear: Sanskrit has full grade (not lengthened grade), Greek zero grade. *vāstu* must represent PII. **uaHstu*, and Greek ἄστυ represents **uHstu*.

The analysis is supported by Tocharian, if we follow Kortlandt's view of the development of the PIE. long vowels in this language (a short survey is given in my *Origins*, p. 208). A *wašt*, B *ost* go back to PToch. **wost*, which has *-o-* from older *-ō-*. This fits in with *vāstu* as **uoh₂stu*, with *o*-vocalism frequently found in neuter *u*-stems. In fact, Kortlandt's analysis first convinced me of the development *uh₂C- > waC-* in Greek. Note, however, that the interpretation of Tocharian is not essential to the argument.

ἄγνος, ἄγνός can only be explained by assuming **ih₂ǵ- > *yag-*. This seemed impossible because of the evident connection with Skt. *yájati*. Now recently Lubotsky has shown (MSS. 40, 1981, p. 135), starting from Sanskrit problems, that

yaj- derives from a root with a laryngeal: in **ieh₂ǵ-* the laryngeal and the glottal element preceding the PIE. 'voiced' consonant merged when another consonant followed, resulting in a short vowel and a voiced stop. Thus the forms are explained without recourse to a PIE. phoneme **a* (or a reduced vowel *ə*).

The third word is *μακρός*. Here we must consider the internal Greek evidence before comparing possibly related forms. The word clearly belongs with *μῆχος* and *μήκιστος*. The noun and the superlative normally have full grade, whereas adjectives in *-ró-* had zero grade of the root. This gives a root **meh₂k-*, and **mh₂krós* > *μακρός*. Those who postulate PIE. **a* and **ā* for this root have to assume a lengthened grade in the noun and the superlative, and a full grade in the adjective, all three of which are in contradiction with normal morphology. The assumption here of PIE. **a*, for which in general very little evidence can be adduced, is therefore both phonologically and morphologically improbable. It is quite impossible to assume that the long *ā* was an innovation of Greek (for which I see no basis). It is not impossible to assume a secondary zero grade *a* in *μακρός* (still with *μῆχος* as **meh₂kos*), but I don't think that such an innovation is probable. Forms like *σαθρός* - *σήθω*, *σαπρός* - *σήπομαι* (Chantraine, *Formation* p.224) are hardly strong enough to function as a model to change ***μηκρός*.

This word was compared with Av. *mas-*, OP. *maθ-* 'big'. This comparison gives a problem for the vocalism, as one would expect *H* > *i* in Indo-Iranian. It is good method, however, to observe that the comparison of a perfectly understandable set of Greek forms with a group of Iranian words presents a problem, which means that the comparison is probably wrong. It should also be noted that Av. *masah-* n. and *masišta-* do not have a long vowel as do the Greek forms. Note further that parallel to *mas-*, *masan-*, *masah-*, *masyah-* there is the same series with *-z-* from *maz-*, Gr. *μέγας*.

The root of *μακρός* could be the same as that of OIr. *már* < **moh₂-ro-*.

2b. Survey

I shall now present the Greek material, in the order λ-, μ-, ν-, *w-, *y- and ρ-, and a remark on forms that had *sR-. I checked the words in Frisk and discuss all forms of which I think they could have *RVC-* < *RHC-*. For *w and *y I checked all words with α-, ε-, ό-, η-, ώ- and ζ-; I add a separate category where *w or *y- or *s is possible. I give the final results in advance:

probable	possible/doubtful	unreliable/irrelevant
λ λανθάνω, λαθ-	λαγαίω, λάγνος λακίς λάμπω λαπαρός λαχαίνω λιλαίομαι, λασ-	λάκκος λάσθη λάσκω, λακ- λάτρον λάφυρα λέπας λόβος
μ μαδάω μακρός	μανθάνω, μαθ- μάσσω μέτρον ἄμοτον	μαίομαι, μασ- μάκαρ μακεδνός μαπέειν μασάομαι (ματέ(ύ)ω) μάχαιρα μάχομαι μάψ μέδω μακεῖν (μηκάομαι) μόλις νάκη νόσφι ἄναξ ἔκηλος
ν ναίω, νασ-		
w ἄγνυμι ἄστυ *ῥαχ-		
y ἄγιος	ε-	ἄβρός
w-/y-/s-		all unreliable
sR- λαγαίω λαμβάνω ἀδεῖν	λαπαρός	ἔθος

2c. λ-

λαγαίω, λάγνος 'geil, wollüstig' has been connected with OIc. *slakr* etc., Toch. A *slākkār* „sad“, Lat. *laxus*, Skt. *ślakṣṇā-* (explained by Lubotsky, MSS.40, 1981, p.133 from **sleh₂g-*). Greek may have had an *s*-less form (**lh₂g-*), but the other languages have *slag-* from *slh₂g-*. (λήγω seems to have had *-ē-*, but a connection is semantically not evident.) λαγγάζω, Lat. *languēo* can have **lh₂-n-g-*.

λακίς „Riss, Fetzen, Lumpen“ is connected with Lat. *lacerāre* 'zerfetzen'. Russ. *laxón* 'Lappen, Fetzen', from **lāks-*, would confirm the laryngeal.

λάκκος 'Wasserloch' etc. is connected as **lakuo-* with Lat. *lacus*, OIr. *loch*, OS. *lagu*, and OCS. *loky*. The word might have had **lh₂k-* except for Slavic. Pok. p.653 posits Venet.-illyr. **lokuā* for South-East French *loye* and adds: "unklares *o* auch im gall. ON *Penne.locōs* (gen. *-ous*).“ The last two words are of course less reliable, but they could show that Slav. *o* represents *o*; could we posit **lh₂ok-*? (cf. section 8).

λαμβάνω. The basis was **slag^w-*, which must have been **slh₂g^w-*. λήψομαι, εἴληφα may show old full grade **sleh₂g^w-* (with restored vocalism in the perfect). See on 2j.

λάμπω. **le/oh₂p-* in Lith. *lópė* etc., **lh₂p-* in Hittite *lapzi*, *lap-nuzi*, OIr. *lassaim*? λαμπ- from **lh₂mp-*?

λανθάνω. The old forms in Greek are λήθω, λάθω and (λε)λαθεῖν, λάθρᾱ, λαθι-: **leh₂dh-/lh₂dh-*. (The verbal forms could be supposed to have secondary reduced grade *a*, but rather seem old; and the nouns with λάθ- would have retained long *ā* if that was the regular phonetic development.) Lat. *lateo* may continue **lh₂-t-*

λαπαρός 'schlaff'. Neither Frisk nor Chantraine mention the forms given by Pok. p.655 s.v. *lēb-*, *lōb-*, *lāb-*, *l_εb-* (sic; also with *s-*). Several languages point to **(s)lab/p-*. **lh₂p-* seems quite possible. Cf. 2j.

λάσθη 'Lästerung'. The forms compared with *las-* (Lat. *lascīvus* etc.) are rightly rejected on semantic grounds by Chantraine. Remains Goth. *lai-lo-un* 'ἐλοιδόρησαν', which would point to a root **leH-*. Thus **lh₂(s-; -dh-?)* is possible.

λάσκω 'krachen, schreien'. Old are λακεῖν, λέληκα. No etymology, except the root **lā-* 'to cry' in Lat. *lāmentum*, Lith. *lōti*, Pok. p. 580.

λάτρον 'Bezahlung' cannot have the root **lē-*, Pok. p. 665. Perhaps the word is non-IE.

λάφῦρα pl. 'Beutestücke'. Neither the connection with εἴληφα nor that with ἀμφι-λαφής 'qui s'étend, vaste' (first used from trees, later in general) is compelling. One compares Skt. *lābhate*, *r-* 'take hold of, grasp' and Lith. *lōbis* 'großer Besitz', *lābas* 'gut'. Semantically the last two groups cannot be equated: 'riches' may come from 'that which is taken', but *lābas* shows that the starting point was 'good(s)'. (Note further that the Lithuanian root had no laryngeal, both because of *lābas* and because of the accent of *lōbis*; the root can therefore not have been **lābh-* as Frisk and Chantraine say.) The Baltic group, then, must be dissociated from both the Greek words and from Skt. *lābhate*. Greek and Sanskrit could be identified as having **l̥mbh-*; the equation is of course much too unreliable to posit a PIE. phoneme *a*.

λαχαίνω 'graben'. If the connection with MIr. *láige* (**lāghiā*) 'Spaten' is correct, we could have **lh₂gh-*.

λέπας 'kahler Fels' is compared with Lat. *lapis*. Both forms could have **lh₁p-*, but such a reconstruction is of course very uncertain. The words could be non-IE.

λιλαίομαι 'heftig begehren', λάσται etc. are based on **las-*, which is found in other languages, e.g. Lat. *lascīvus*; Pok. p. 654. Skt. *laṣati*, where both *ṣ* and *a* present problems, must be separated; Kuiper thinks it is a Munda word, see Mayrhofer s.v. Thus **lh₂s-* is possible.

λόβος 'Lappen'. Connection with λεβηρίς 'abgezogene Schlangenhaut' is far from certain. Connection with Germanic, e.g. NHG. *Lappen* may point to **lob-*. If Lat. *lābāre* '(sch)wanken' is connected, **lh₃b-* is possible for the three languages, but the Latin word must not be cognate, and there is another explanation for its *ā*, see section 4.

2d. μ -

$\mu\alpha\delta\acute{\alpha}\omega$ 'von Nässe triefen' must contain $*mh_2d$ -. The same development is found in Lat. *madeo* and OIr. *maidid*. Skt. *mádati* has been explained by Lubotsky, MSS.40, from $*meh_2d$ -.

$\mu\alpha\acute{\iota}\omicron\mu\alpha\iota$ 'tasten, berühren' and 'streben, trachten' is based on $\mu\alpha\sigma$ -, which may be $*mh_2s$ -, but connection with Lith. *móju*, *móti* 'winken' is uncertain.

$\mu\acute{\alpha}\chi\alpha\alpha\rho$ has no etymology.

$\mu\alpha\kappa\epsilon\delta\nu\acute{o}\varsigma$ idem.

$\mu\alpha\kappa\rho\acute{o}\varsigma$ was discussed in 2a.

$\mu\alpha\nu\theta\acute{\alpha}\nu\omega$ may be based on the aorist $\mu\alpha\theta\epsilon\acute{\iota}\nu$. Connection with $\mu\alpha\theta\eta\theta\acute{\eta}\varsigma$ (Dor. $\bar{\alpha}$) is unproblematic. A root $*mendh$ - is also considered because of some glosses, $\mu\epsilon\nu\theta\acute{\eta}\rho\alpha\iota\varsigma$ $\mu\epsilon\rho\acute{\iota}\mu\nu\alpha\iota\varsigma$. Forms outside Greek "sont assez loin pour le sens", Chantraine s. v.

$\mu\alpha\pi\acute{\epsilon}\epsilon\iota\nu$ (with $\acute{\epsilon}\mu\mu\alpha\pi\acute{\epsilon}\omega\varsigma$?) could have $*mh_2p/k^w$ -, though a root $*menp$ -, $*menk^w$ - is also possible.

$\mu\alpha\sigma\acute{\alpha}\omicron\mu\alpha\iota$ 'kauen, beißen' is supposed to be based on the root of $\mu\acute{\alpha}\theta\upsilon\alpha\iota$ $\gamma\nu\acute{\alpha}\theta\omicron\iota$. Comparison with Lat. *mando* would lead to a laryngeal. "Les autres rapprochements ... sont douteux ou impossibles", Chantraine s. v.

$\mu\acute{\alpha}\sigma\sigma\omega$ 'kneten'. If the connection with $\mu\acute{\alpha}\zeta\alpha$ is correct (as is generally assumed), and if its long \bar{a} is old (I don't understand why the etymological dictionaries see it as a special problem), the root had a laryngeal. However, I consider the connection as far from certain. Still derivation from a root $*m(e)h_2\acute{g}/\acute{k}$ - is most probable (NHG. *machen*; OCS. *mažō*, *mazati* (with $-eh_2$ -); W. *maeddu*; Latv. *mācu*, *mākt*; Lat. *māceria*); that with NHG. *mengen*, Lith. *minkyti* seems to me less probable.

$\mu\alpha\tau\acute{\epsilon}(\acute{\upsilon})\omega$ 'suchen' is supposed to have the same root as $\mu\alpha\acute{\iota}\omicron\mu\alpha\iota$, from $*\mu\alpha\tau(o)$ - < $*mh_2-t(o)$ -?

$\mu\acute{\alpha}\chi\alpha\iota\alpha\iota\alpha$ has no etymology. It can be of non-IE. origin.

$\mu\acute{\alpha}\chi\omicron\mu\alpha\iota$. Chantraine rejects all proposed connections, also that with $\mu\eta\chi\alpha\nu\acute{\eta}$, which would prove a laryngeal. Still a zero grade is probable (Frisk thinks that it is an old thematic aorist), and thus $*mh_2gh$ -.

$\mu\acute{\alpha}\psi$. No etymology.

μέδω 'herrschen, walten', μέδομαι 'für etwas sorgen'. The latter form is often connected with μῆδομαι 'to consider, to prepare (a plan)'. Frisk rejects old lengthened grade (i.e. he assumes in laryngeal terms **meh₁d-*) and suggests that the two verbs be separated. Chantraine, however, remarks (s.v. μέδω) "Μῆδομαι appartient certainement à la même racine." He suggests an ablaut **mēd-/med-* (what is now called an (akro-)static paradigm). The relevance here is that one might assume **meh₁d-* with **mh₁d-* in μέδομαι. However, when the situation within Greek gives no certainty, we must see whether the cognate languages give decisive evidence. For μέδω, -ομαι the other languages give many verbs from a root **med-* (Lat. *meditari*, *medeor*, *modus*; OIr. *mess*; Goth. *mitan*) with perhaps a basic meaning 'to measure'. Thus there is no reason to assume a laryngeal in this form. For μῆδομαι the most striking cognate is Arm. (pl.) *mitk'*, with *i* from *ē*, with the same meaning as μῆδεα, 'plans'. The word is mostly plural, but may have been an *s*-stem, just like μῆδος. The long vowel of the Armenian noun makes it almost certain that we have a root **meh₁d-*. Against Chantraine's ablaut must be objected that lengthened grade (*mēd-*) could not have arisen if the middle paradigm of the two Greek verbs is old. (The active μέδω does exactly *not* have lengthened grade. This argument is based on the assumption that the lengthened grade in these inflections arose in monosyllabic forms, which are not found in middle paradigms.) The full grade of μῆδομαι, however, may be due to a static inflection. I would further connect μῆτις with this root, on the basis of the meaning (as does Frisk), but for the same reason I would not immediately connect these forms with the root **meh₁-* (and **med-*) 'to measure' (see under μέτρον). Thus I have:

**meh₁-*, **meh₁d-* 'to plan'
**meh₁-*, **med-* 'to measure'

The last form, **med-*, could be an enlarged form of **meh₁-*, i.e. **mh₁ed-* (see section 8), but this must remain a guess. That ultimately the two sets are one, with a basic meaning 'to measure', is quite possible, but should not be assumed too easily.

μέτρον. It is certain that this word contains the root **meh₁-* (as **med-* would have given **mestron*); Brugmann assumed **mh₁-e-trom*, and the possibility of such a formation cannot be denied. The development of such forms is discussed in section 8. Of course, now the possibility of **mh₁trom* arises, and this is the easier solution.

μηκάομαι 'meckern'. Old are μέμηκα, aor. μακεῖν; the latter could represent **mh₂k-*. But as the word is probably of onomatopoeic origin, the form will be analogic.

μόλις 'kaum' has been connected (as 'mit Mühe') with μῶλος 'Kampf, -getümmel' (cognate with Lith. *prisimuolėti*, Russ. *máju*, OHG. *muoan* 'mühen'?). If so, it could be **mh₃l-*. I think it improbable that μόλις is **μωλις* with *-o-* after μόγις; cf. χωρίς. Quite possible seems to me the explanation of ἄμοτον as **mh₃to-* from the root **mō-* 'sich mühen', Pok. p. 746.

2e. v-

ναίω 'wohnen', from **νασ-yw*, can hardly be anything else but **nh₂s-*, though there is no etymology. Reduced grade from **nes-* in νέομαι 'to return' is semantically improbable and formally impossible.

νάκη 'wolliges Fell' has been connected with OE. *næsc* if from **nak-sko-*, and OPr. *nognan* supposed to be from **nāsk-no-*. This would make **nh₂k-* possible, but the whole is very uncertain. The word must not be IE.

νόσφι has been analysed as **νοτ-σ-*, with the root of νῶτον; if so, it could be **nh₃t-*.

2f. w-

ἄγνυμι 'to break', pf. ἔαγε points to a root **ueh₂g-* with **uh₂g-* > *ɸαγ-*. The vocalism of the perfect is secondary (Kortlandt, *Lingua Posn.* 23, 1980, p. 127, thinks that *restored h₂* coloured *o* to *a*, which means that the development is not simply phonetical), but the length will be old. If ἰωγή < **ɸ₁ɸωγ-η* is from the same root, the *o*-vocalism is the one expected in an *ā*-stem and the length is explained by the laryngeal (**uoh₂g-* > *ɸωγ-* confirming that the phonetic development was *ō*); however, it is

not certain that the word contains this root. Even more uncertain is the connection with Lat. *vāgīna*.

ἄναξ. If the word is IE., it is rather *unH-* (*unH-ek-*).

ἄστυ was discussed in 2 a.

**Ḟax-* in *ιάχω* 'aufschreien' from **Ḟ₁Ḟax-* is connected with ἡχή, Dor. ἄχά, which will be **ueh₂gh-*. It is possible that -*Ḟax-* originated in the reduplicated **uiuh₂gh-*, where *h₂ > a* is normal, but ἀμφιαχυῖα and the aorist **Ḟaxε* supposed behind ἱαχε suggest that the form does not originate from the present only. Secondary ablaut cannot be excluded, but there is little reason to prefer that.

ἔκηλος, Dor. -ᾶλος with *Ḟεκ-* has not been explained.

2 g. *y-*

ἄβρός is often taken with ἥβη. However, Dor. ἥβ- points to *e*-vocalism, and **ih₁g^w-* would have given *ἔβρος (ἥβη is mostly connected with Lith. *jėgà*, which confirms the *e*-vocalism.) ἄβρός could be **ih₂g^w-*.

ἄγιος, ἄγνός see above, 2 a.

ἄκος. No certain etymology. If OIr. *hícc*, W. *iach* derive from **ieh₁k-* **ih₁k-*, the Greek word cannot be cognate. Ruijgh, *Études* p. 54 n 40, and 65, suggests that Myc. *a₂-/ja-/a-ke-te-re* represents /*yaktēres*/ 'réparateurs'. The word could represent **ih₂kos*, but there is no evidence. Pisani's connection with Skt. *yásas-* (Frisk 3, p. 24) seems to me quite improbable. If there is a connection with Hitt. *saktaizzi* (Szemerényi, *Gnomon* 42, 1971, p. 652) the word does not concern us here.

ἐ- in forms with the root of ἵημι (ἐνετή, ἐσμός, ἐφέται, συνετός etc.) may represent **ih₁-C-*. Peters, *Sprache* 22 (1976) p. 157-61, reconstructs **Hieh₁*. As **Hih₁C-* would have given *ḱ-*, ἐ- would have to be analogical.

2 h. *w-*, *y-* or *s-*

For the following words a form *uHC-* or *iHC-* is possible, but there is no evidence. Words with spiritus asper could also continue *sHC-*.

ἄπτω. Quite uncertain. See Szemerényi, *Gnomon* 42 (1971) p. 656.

ἄττομαι from **ih₂t-* with ἥτριον from *ieh₂t-*?

ἐλεῖν. Connection with Goth. *saljan* 'darbringen, opfern' etc. is far from evident. OIr. *selb* 'possession' from **selmā* fits much better, but we expect a zero grade in the thematic aorist, so one might think of a form **i/uh₁l-*.

ἐτά (n.pl.)· ἀληθῆ, ἀγαθά Hes. (Frisk s.v. ἐτάζω) cannot be from **s-e-to-s*, i.e. **h₁s-eto-*.

ἐτός in vain' probably had *w-*. Connection with αὖτως is impossible (**h₂uet-* would have given **aetos*), nor with εὖνις (Pok. p.345; **h₁eu*, **h₁uet-* > **e(w)etos*). If Alb. *hut* 'vergeblich, leer, eitel' represents **h₂uto-* (M.E.Huld, Alb. Etym. p. 151), it cannot be cognate. It may simply be **uetos* but, if it contains old accented *-tós* (which is far from certain), one could expect zero grade, i.e. **uh₁tós*.

ὄσιος has no etymology. **ih₃ti-* is a mere possibility.

2i. ῥ-

As PIE. probably did not have words with initial *r-*, there are no words with *rVC-* < *rHC-*. Words that had *Hr-* got *ê-*, *â-* or *ô-* in Greek and do not concern us here. For Greek words with ῥ- there is mostly evidence for preceding *u-* or *s-*. Some of these present ῥα- for which *ura-* (ῥάχις) or *urə-* is assumed (ῥάδαμνος < **urəd-* beside ῥάδιξ < **urād-*). These forms present a problem, but they are not our subject. (Many of these words look non-IE.: ῥάδαμνος, ῥαθάμιγξ, ῥάφανος.) Only for ῥέζω 'färben' no initial *u-* or *s-* is posited; however that may be, there is no reason to assume that the *-e-* here resulted from a laryngeal.

2j. sR-

λαγαίω, discussed in 2c, might have λαγ- < **slh₂g-*.

λαμβάνω points to λαβ- < **slh₂g^w-*; see 2c.

λαπαρός may have **lh₂p-* as well as **slh₂p-*; see 2c.

ἀδεῖν could be derived from **suh₁d-*.

ἔθος, ἥθος, εἴωθα are generally considered as cognate. The reduplication proves **su-*. The long vowel of ἥθος and εἴωθα suppose **sueh₁dh-*, **se-suoh₁dh-*. ἔθος could then represent *suh₁dh-*, but it is remarkable that two ablaut grades of this noun

would have been preserved. I don't think this is the right explanation. First we find **suedh-* in Lat. *sodalis* (*suodales* on the inscription of Satricum; Walde-Hofmann s.v. give the best treatment of the whole problem). Then, the meanings of ἥθος 'dwelling-place, abode, haunts; habits; character' are also found in Skt. *svadhā*, where it is still clear that it is a compound of **sue* 'self, own' and **dheh₁-*. The fact that the Sanskrit noun seems a recent formation whereas the other languages have an unanalysable **suedh-*, does not mean that this root does not have the same origin: that is asking too much of chance. Thus, we must assume *suedh-* from **sue-dhh₁-*. The long *ē*, however, remains a problem. We find it in Goth. *swes*, OIc. *swáss* etc. and in Lat. *suēscō*, *suēvi*, *suētus*, so it must be old. One might think of a root noun, but I don't think that is the solution. Given Lith. *svėčias* < **suetios*, Av. *xvaētū-*, *xvaētāt-* with **sue/oi-*, and OCS. *svatъ* 'relative', I am rather inclined to assume a parallel **suē(-)dh-*, perhaps **sueh₁-dh-*, beside *sue(-)dh-*, with ablaut *suō-* or *suoh₁-*.

Thus there is some evidence for the same development in *sRHC-*, but I hesitate to consider it as certain.

3. Other languages

We shall now look at the evidence from the other languages. I considered the roots *RŪ-* in Pokorny, which is not an enjoyable task because of the great number of uncertainties. The present review is not, therefore meant as an exhaustive treatment, which would take much more time and space.

The result is that I find *no* certain evidence for the interconsonantal treatment (*R_hH*), and much for the initial treatment (*Rə*), though this is often rather doubtful.

The material is presented here according to the reliability of the evidence for the initial treatment. I give evidence for *l-*, *m-* and *n-*; *r-* is discussed later, as it could not stand in initial position. The reader is referred to Pokorny; I cite only a few forms for the full grade, but give all the zero grade forms.

3 a. Survey

A survey of the results is given first. (Under 'unreliable' not all forms discussed have been given. In brackets Pokorny's lemma.)

	probable	possible/doubtful	unreliable
<i>l</i> -	Lat. <i>lateo</i> (<i>lā</i> - ²) Lat. <i>lascivus</i> , OIr. <i>lainn</i> (<i>las</i> -) Lat. <i>lassus</i> , Goth. <i>lats</i> (<i>lē(i)</i> - ³) Gutn. <i>lapigs</i> , OIr. <i>la(i)the</i> (<i>lēto</i> -)	OIr. <i>lassaim</i> (<i>lā(i)p</i> -) Lat. <i>lapsus</i> (<i>lēb</i> -)	Goth. <i>lapon</i> (<i>lē(i)</i> - ¹) Lat. <i>lacio</i> (<i>lēk</i> - ¹) Goth. <i>lasiws</i> (<i>lēs</i> -)
<i>m</i> -	Lat. <i>madeo</i> , OIr. <i>maidim</i> , Goth. <i>matjan</i> (<i>mad</i> -) Lat. <i>macer</i> , OIc. <i>magr</i> (<i>māk</i> -) Skt. <i>mitá</i> - (<i>mē</i> - ³) Goth. <i>mapl</i> (<i>mōd</i> -)?		OIr. <i>maith</i> (<i>mā</i> - ²)
<i>n</i> -	Lat. <i>natrix</i> , OIr. <i>nathir</i> , OIc. <i>nadr</i> (<i>nētr</i> -)	Lat. <i>natis</i> , - <i>es</i> (<i>nōt</i> -)	
<i>i</i> -	W. B. <i>iar</i> (<i>iēro</i> -)	Lat. <i>iacio</i> (<i>iē</i> -)	W. <i>iach</i> (<i>iēk</i> -) W. <i>ial</i> (<i>iēlo</i> -)
<i>u</i> -	Lat. <i>vadum</i> , OIc. <i>vada</i> (<i>uādh</i> -)		Lat. <i>vacāre</i> , Goth. <i>wans</i> (<i>*uāstos</i>) Lat. <i>vapor</i> (<i>uēp</i> -) Lat. <i>vagāri</i> (<i>uæg</i> -) Lat. <i>vacillo</i> , W. <i>gwaeth</i> (<i>uæk</i> -)
<i>Hr</i> -		Lat. <i>ratus</i> , Goth. <i>rapjo</i> (<i>rē</i> - ¹)	W. <i>rhathu</i> , OS. <i>ratta</i> (<i>rēd</i> -) OIC. <i>raptr</i> (<i>rēp</i> - ²) Lat. <i>ratis</i> (<i>rēt</i> -)
<i>HR</i> -		Goth. <i>namo</i>	
<i>sR</i> -	Lat. <i>natāre</i> (<i>snā</i> -)	OIc. <i>slakr</i> ; Lat. <i>laxus</i> ? (<i>(s)lēg</i> -)	Lat. <i>macula</i> (<i>smē</i> -) Dutch <i>slap</i> (<i>lēb</i> -)

 3 b. Probable evidence for *RVC*- < *RHC*-

lā-² 'verborgen sein'. See on λανθάνω above. Lat. *lateo* may have **lh₂t*-.

las- 'lasziv sein'. See on λιλαιόμαι above. Lith. *lokšnūs* 'zärtlich' < **lāksnus*; Russ. *lasyj* 'naschhaft'. Zero grade: Lat. *lascivus*; OIr. *lainn* < **lasni*-.

*lē(i)-*³, *lē(i)d-*, *lād-* 'nachlassen'. ληδεῖν; Goth. *letan*. Zero Goth. *lats* 'slow', Lat. *lassus* < **lh₁d-tós*.

lēto-, *lato-* 'warme Zeit: Tag, Sommer'. OCS., Russ. *lěto* 'year'; Swed. dial. *lāding* 'spring(time)' < **lēt-*. Zero Old Gutn. *lapigs* 'im Frühling', OIr. *la(i)the* 'day'.

mad- 'nass sein, triefen'. See on μαδάω. OE. *mōs*, OHG. *muos*, NHG. *Gemüse*. Zero Lat. *madeo*; OIR. *maidim* 'faire irruption'; Goth. *matjan* 'eat', OHG. *mast* 'fodder'?

māk-, *mək-* 'lang'. See on μακρός. Lat. *macer*; OIc. *magr*; Hitt. *maklantes*.

*mē-*³, (*met-*) 'messen'. See on μέτρον. Skt. *mimāti*, Lat. *mētiōr*. Zero Skt. *mitā-*, Skt. Av. *miti-*; Pkt. *metta-* from **mitram* may point to an old **mh₁trom*. On these forms see section 4. (The root *met-* of Lith. *mētas* 'time, year' cannot be directly related, unless it would represent PIE. **mh₁-et-*.)

mōd- or *mād*, *məd-* 'begegnen'. OE. *mót*, Goth. *gamotjan*. Zero Goth. *mapl*, OIc. *mál* (< **madlá-*) cannot continue simple *d*. Still **mHtlo-* is possible.

nētr-, *nətr-* 'Schlange, Natter'. OS. *nādra*. Zero OIc. *naðr*; Lat. *natrix*; OIr. *nathir*, W. *neidr*.

iēro-, *iōro-*, *iəro-* 'Jahr' (p.296). Goth. *jer*; ὄρα. Zero Welsh, Breton *iar* < **iərā* 'Henne'.

uādh-, *uədh-* 'gehen'. Lat. *vādō*. Zero Lat. *vādum* 'Furt'; OIc. *vaða*, OHG. *watan*.

3 c. Possible but doubtful evidence

lā(i)p- 'leuchten'. See on λάμπω. Lith. *lópė* 'light', OPr. *lopis* 'flame'. Zero OIr. *lassaim* 'flame', W. *lachar* < **laps-*; Hitt. *lāpzi* < *leh₂p-*, Oettinger, Stammbild, p.443.

lēb-, *lōb-*, *lāb-*, *l̥b-* 'schlaff herabhängen'. Lat. *lābor*. Zero *lapsus*; on *lābāre* see section 4.

nōt-, *nət-* 'Hinterbacke'. See on νόσφι. Zero Lat. *natis*, pl. *nates*.

iē-, *iə-* 'werfen' See on é- above. Zero Lat. *iacio*.

3 d. Unreliable evidence

lēgh-, *lēgh-*¹ 'Zweig, urspr. Haselstrauch'. Slav. **lěska* in Serb. *lijèska* 'Haselstaude'. Lith. *lazdà* 'Haselstrauch' cannot have *a* from a laryngeal.

lēgh-, *lēgh*⁻² 'niedrig'. OIc. *lágr* 'low', Latv. *lēzns*, Lith. *lėkštas* 'flat'. No evidence for *lēgh-*.

*lē(i)*¹⁻, *lai-* 'wollen'. Connected with *λω*, *λην*, *λημα*? Zero Goth. *lapon* 'invite', **lh₁t-*?

lek⁻², *lak-* und *lēk-*, *lak-* 'biegen, Gliedmaßen'. *ληκᾶν*, Lith. *lėkti*. Zero *λάξ*, *λακτίζω*; Lat. *lacertus*. There are forms with *-e-* (Lith. *lekiù*) and the circumflex of Lith. *lėkti* shows that the root did not contain a laryngeal. Gr. *λακ-* could be **lk-*. But it is not certain that all forms belong together.

lēk⁻¹, *lak-* 'gedrehtes Reis'. OE. *læla* < **lāhil-*? Zero Lat. *lacio*, *laccio*. Quite unclear.

lēk⁻², *lak-* 'zerreißen'. See on *λακίς*.

lēp-, *lōp-*, *lap-* 'flach sein'. Goth. *lofa* 'flat of the hand'; Latv. *lēpa*, *lūopa*. Zero OHG. *laffa*. But OCS. *lopata*, Russ. *lopáta* 'Schaufel', if cognate, did not have a laryngeal, nor did Kurd. *lapk*.

(*lēs-*), *las-* 'schlaff'. Zero Goth. *lasiws*, OIc. *lasinn*. Lat. *sublestus*? But Slavic, Bulg. *loš* 'schlecht', if cognate, had no laryngeal.

mā⁻² 'gut, zu guter Zeit'. Lat. *mānus*, *mātūrus*. Zero OIr. *maith* 'good'.

magh-, *māgh-* 'können'. *μηχος*. Zero Goth. *magan*. But OCS. *mogo* shows that the latter word, an original perfect, had PIE. *-o-*.

mē⁻², *met-* 'mähen'. No evidence for zero grade.

mē⁻⁴, *mō-* 'groß'. OHG. *-mār*, Goth. *merjan*; Slav. *-měr*; OIr. *már*. Goth. *mais*, Osc. *mais*, however, are not **mə-is* but **meh₂-is*; cf. Cowgill in IE. and IEs. 1970, p. 149 n. 40. Note that **meh₂-* cannot be cognate with **meh₁/ moh₁-*.

iām- 'graben'. OCS. *jama*. Zero (δι-)αμάω; rather with OHG. *māen*, root **h₂meh₁-*.

iēk-, *iək-* 'heilen?'. See on *ἄκος* (2g). OIr. *hicc* < *iēkko-*. Zero W. *iach* < *iəkko-*; not reliable enough.

iēlo-, *iəlo-* 'unreif'. Latv. *jēls* 'unbearbeitet', Russ. *jalyj*. Zero W. *ial* 'Lichtung', *anial* 'Einöde'.

uā-, *uō-*, *uə-* 'schlagen'. *άάω*, *ούτάω*; Latv. *vāts*: completely obscure.

uāg-² 'schreien'. Lat. *vāgio*; Lith. *vógrauti*; Skt. *vag*- from **ueh₂g*- before consonant according to Lubotsky's rule (MSS. 40, p. 134); so there is no evidence for zero grade.

ual- 'stark sein'. Lat. *valeo*. This group is quite unclear to me. If we leave out Lith. *veldėti*, OCS. *vlado*, Goth. *waldan*, which may represent **ueld*-, *uold*-, there remain beside Lat. *valeo*, OIr. *flaith* < **ulā-ti*- and Toch. A *wäl*, B *walo* 'king', obl. *lānt*, *lānte* from **ulā-nt*- with the vocalization normal in Tocharian; W. *gwaladr* 'leader' points to **wala-tro*-. L. S. Joseph, *Ériu* 33 (1982) p. 42 assumes **uelH*- beside **ueld*- and thinks that **uela*- was assimilated to **uala*-, a development supported by the roots of the type **h₂erH*- > *aRa*-. But these roots were rare, and it is far from evident that *TeRa*- was influenced by *aRa*-. Lat. *valē*- < **uolē*- < **ulh₂-eh₁*-? Celt. *uala*- < **ulh₂-e*- and *ulā*- shortened from **ulā*- < **ulh₂*-?

uāgh- 'schreien'. See on **Fax*-. Goth. *gaswogjan* etc. has an initial *s*- and no laryngeal if Lith. *svagėti* belongs with it. This group can therefore better be kept apart.

uap-, *ūp*- 'rufen'. No evidence for *uap*-. Zero *up*-: Av. *ufyeimi*. Lat. *vāpulare* 'to be flogged' would give a root *uāp*-. There is no evidence for *ūp*-: on the Balto-Slavic words see Kortlandt, KZ. 91 (1977) p. 37-9.

uāstos, i.e. *uā*-, *uə*- Pokorny p. 345 'leer sein'. Lat. *vānus*, *vāstus*? Zero *vācāre*, but see on this type section 4; Goth. *wans* (**uə-no*- or **uH-ono*-); Skt. *ūná*-, Av. *ūna*-. It is not certain that these forms belong together. Pokorny groups them under *euə*-, which would mean *HeuH*-, but εὐνις is no decisive evidence for this root (it cannot have had a laryngeal after the *u*).

uē-, *uə*- Pokorny p. 82 'blasen' was in fact **h₂ueh₁*.

uēp-, *uəp*- 'blasen?'. Skt. *vāpayati* if from *uēp*-. Zero Lat. *vapor*.

uāg-, *uāg*- Pokorny p. 1120 'gebogen sein'. OIr. *fán* 'Abhang'. Zero Lat. *vagāri* 'schweife umher'. A connection is far from certain.

uāk-, (*uāk*-) Pokorny p. 1135 'gebogen sein'. No full grade. Zero Lat. *vacillo*; W. *gwaeth* 'worse' < **uākto*-.

Add. H. Nieuwenhuis studied the Gothic forms with *RaC*- (*waC*- not included; there are no forms with *jaC*- from *iHC*-),

and concluded that *rapjo*, *mats*, *lats nadrs* and *namo* will continue, and *mapl*, *lasiws* and *nati* may continue *RHC-*.

3 e. *Hr-*

rē⁻¹, *rə-* see Pokorny p. 59. Lat. *reor* with *rātus* < **(H)rH-tó-*? Goth. *rapjo*, *garapana*. Ibid. s.v. *rēdh-*, *rədh-* 'überlegen'. Skt. *rādhnóti*, Goth. *garedan*. OCS. *nerodъno* is no evidence for a laryngeal.

rē⁻² Pokorny p. 332f. 'locker, auseinandergehen'. Lat. *rārus* < *ṛaró-* (i.e. **HrH-ró-*) "ganz unsicher."

rē⁻⁴ 'ruhen' Pokorny p. 338. OHG. *rāwa*; ἐρωή. For OHG. *rasta* 'Rast' a form *ros-* is posited (**HrH-os-??*). It is uncertain, of course, that it is derived from this root. Here belongs Skt. *īrmā* < **HrH-m-* and *iláyati* < **HrH-ei-*.

rē⁻⁵ 'dunkel'. OIc. *rāma-legr*, Lat. *rāvus*, i.e. **HrH-uo-*?

rēd-, *rōd-*, *rəd-* 'schaben, nagen'. Here Lat. *rādō* and *rōdō* are taken together, as is usually done. The forms can be accounted for as *Hreh₂d-* and *Hroh₂d-*, or as *HrHd-* and *Hreh₃d-/HroHd-* if the first from resulted in *rād-* and not in *rad-*. However, I consider it as far from evident that 'to scrape, scratch', and 'to gnaw, bite' are cognate. The latter is what (some) animals do, with their teeth; the first is what men do, with an instrument, or animals, with their claws, which is something entirely different from gnawing. Further there is OHG. *rāzi* 'scharf (vom Geschmack), wild'. This word, which belongs to 'to bite', points to *ē*. If all forms go back to one form, this must have had *h₁*, i.e. *Hreh₁d-*, *Hroh₁d-* and *Hrh₁d-*. But as *o*-vocalism in *rōdō* is improbable, I would suggest **Hreh₃d-*. If *HrHC-* gave *raC-* in Latin, *rādō* must have had full grade with *h₂*. Note that the forms may also have differed in the initial laryngeal. – A zero grade is supposed in OS. *ratta* 'Ratte' (= Nager), though the geminate gives a difficulty. Further W. *rhathu* 'raspeln, glätten ebnen' is given, but here the *th* gives a difficulty.

rēp⁻², *rəp-* 'Pfahl'. OIc. *ráfr* beside *raptr*.

rēt-, *rōt-*, *rət-* 'Stange'. OHG *ruota*, Lat. *ratis* 'Floß'?

3 f. *HR-*

I did not systematically study forms with *HRHC-*, which cannot be found easily. I just mention one word, which I came across.

The word for 'name' is reconstructed by Kortlandt (Ann. Arm. Lingu. 5, 1984, p.42) as **h₃néh₃-mn*, gen. **h₃nh₃-mén-s*. If this is correct, Goth. *namo* etc. would continue **h₃nh₃m-*. It would show the same development as *HrHC-*, i.e. the same result as *RHC-* without initial laryngeal. (Note that I would expect **nam-* also in Celtic – and in Latin, if this would not have used the full grade –, and not **nām-*.)

3 g. *sR-*

(*s*)*lēg-*, (*s*)*læg-* 'schlaff sein'. Cf. on λαγαίω, 2 c. | OIc. *slakr*, perhaps Lat. *laxus*, *languéo*. But there are *s*-less forms, OIc. *lakr*. On Skt. *ślakṣṇá-* see on 2 c. Toch. *slākkār* has the normal treatment of Tocharian.

smē- 'schmieren'. Gr. σμῆν, σμῶδιξ. Lat. *macula* < **smh₁-tlā*? Quite uncertain.

(*s*)*mēlo-* 'kleineres Tier' (Pokorny p.724). Gr. μῆλον. Zero Goth. *smals* etc. W. *mal* 'small' (cf. Meid, Táin Bó Froích p.91).

snā-, *snə-t-* 'fließen'. Gr. νήχω. Lat. *nāitāre* < **snh₂t-*; but see section 4. W. *naid* 'Sprung'??

lēb-, *lōb-*, *lāb-*, *l_ɛb-* 'schlaff herabhängen'. See 3 b. Forms with *s-*: Dutch *slap*. Expressive words.

4. Conclusions

Evaluating the Greek evidence there is to my mind enough reliable evidence to regard the assumed development as certain. Compare section 7 on the absence of counter-evidence. It should be considered that some of the cases of the second category (poss./doubtful) will also be correct.

As to the other languages, there seems enough evidence for Latin and Germanic, though a more detailed study is necessary. Given the close relation of Italic and Celtic, which most probably had the development *CRHC* > *CRāC* in common, the same development may safely be attributed to Celtic.

Lat. *lābāre* etc. gives a problem. We must perhaps rather start from **lābāre* and assume shortening through the accent (*lābāre*, *vādāre* as against *lābī*, *vādere*), as assumed by Dybo (Vopr. Slav. jaz. 5, 1961, p.9-34; cf. Kortlandt, Ériu 32, 1981, p.1-22).

The case for Indo-Iranian is much less clear. The only positive evidence I found is *mi-* (s.v. *mē*⁻³). Here may be a factor that this root has a reduplicated present, e.g. *mimīte* (with secondary lengthening) < **mi-mH-*. Still, the forms with *mi-* seem to me regular phonetic developments. Also, I see no evidence for *NHC-* > Skt. *ā-* (*ātā* 'frame of a door' had *H-* if cognate with Lat. *antae*; *āī-*, if cognate with Lat. *anas* etc., will be from **HnHt-*; on *ādhrá-* see section 7). On the other hand *ūná-*, if from **uHnó-* (cognate with Lat. *vānus*), would show that the laryngeal was not vocalized.

5. *HrHC-*, *HRHC-*

Forms with Gr. *ῥε-*, *ῥα-*, *ῥο-* are not to be expected if it is true that PIE. did not have initial *r-*. In fact we saw that Greek forms of this type are rare and of uncertain etymology.

In the other languages too evidence for *r-* plus short vowel is rare. But Lat. *rātus* (*re*⁻¹) can hardly be analogical (*sero*, *serere* – *satus* is not a sufficient basis for *reor*, *rēri* – *ratus*), and in Germanic there are some forms showing this development. It seems that in Italo-Celtic and Germanic the development *RHC-* > *RaC-* may have occurred *after* the loss of the initial laryngeal. It must be noted that here there seems to be counter-evidence, in Lat. *rārus*, *rāvus*, *rādō*? These words might have full grade, of course.

I did not study systematically other forms of the type *HRHC-*, i.e. with other resonants than *r*, but I discussed the word for 'name'. Here Germanic, Goth. *namo*, probably has **nam-* < **HnHm-*.

If the two forms cited above (*ātā*, *āī-*) developed from **HnHC-*, Sanskrit shows another development (not **HnHC-* > **niC-*, but **HnHC-* > **(H)aHC-* > *āC-*). Also *HrHC-* here gave *īr-* as in *īrmá-*.

See the table at the end of section 6.

6. *sRHC-*

There are, of course, not many forms of this type. For Greek there are three or four forms that point to *sRHC-* > *sRVC-* (with short vowel). The development cannot be considered certain, but the evidence is in favour. I do not know of counter-evidence, i.e. *sRV̄C-* as result of this group.

For the other languages the evidence is even weaker, also because some forms had *s*-movable. Still there are some forms that point to the development in question, and I know of no counter-evidence.

The results of sections 5 and 6 may be presented as follows:

<i>HrH-C-</i>	Skt. <i>īr-</i>	Gr. <i>VrV</i>	It.-Kl. <i>ra-?</i>	Gm. <i>ra-?</i>
<i>HnH-C-</i>	<i>ā-</i>	<i>VnV-</i>	<i>na-?</i>	<i>na-?</i>
<i>sRH-C-</i>		<i>(*s)RV-(?)</i>	<i>sRa?</i>	<i>sRa-?</i>

7. Counter-evidence

As important as the positive evidence is the fact that there is, as far as I see, no counter evidence. In Greek, λῆνος had initial *u-* (in fact *Hu-*). νῆσσα is quite unclear; if cognate with lat. *anas*, it would have had initial laryngeal. An exception is formed by a group of forms, the negative adjectives with νη-, νᾱ-, νω-, where we have e.g. **ḡ-h₂leu-ēs* > νηλεής 'unavoidable'. Here, however, an explanation is easy: these are compounds of which the first element remained a separate syllable. One might say, therefore, that the nasal was (itself) syllabic (so that the laryngeal was not vocalized). (We shall return to the question of the 'syllabification' in section 10.)

In the other languages I found no exception either. Lat. *rārus*, *rāvus*, discussed in section 5, have initial *r-* and so are anyhow irrelevant.

Possible counter evidence of Sanskrit was discussed in section 4. Further *īrmá-* 'arm', *īrma-* 'wound' and *īrmā* 'quietly' all had *Hr-*. For Skt. *ādhra-*, if from **ḡ-h₃dhró-*, from which Gr. νωθρός may also derive, as well as for *āsat-* and *āyavasa-* (Forssman, FS. Hoenigswald) the same explanation holds as for the Greek adjectives.

8. *RHV-*

It may be pointed out that, if μέτρον derives from **mh₁-etrom*, the development is just as unexpected as μακ- < **mh₂k-*: one might expect **mh₁etrom* > ***emetron* or ***ame-tron*. One might assume that the initial vowel was removed, but I rather think that the development to forms of the type μέτρον was regular, exactly because it is parallel to the development *RHC-* > *RVC-* discussed here: the initial resonant before laryngeal was not vocalized.

I have not found more certain instances of this type. It should be realized that among the forms for which *RHC-* was given as possible, phonetically *RHVC-* is also possible. I can mention only two forms where this type was assumed. Flobert, Latomus 32 (1973) p.567-69, explained Lat. *mōs* from **mh₁-ōs*, from the root **mē-* 'to measure'. Kortlandt, Baltistica 21 (1985) p.119, explained the form **nas-* 'nose' found in several languages from **nh₂-o/es-*.²

Sanskrit has a few forms of the type *iraC-*, but these probably all had an initial laryngeal: *irajyāti* (cf. ἰορέγω); *iradhate*; *iras-yāti* (*īrśyati*, ἰρρή, Lith. *aršùs*); *iláyati* < **HrH-éi-*.

A problem is presented by Skt. *rátna-*, which is generally connected with *rā-* 'bestow' which is connected with Lat. *rēs* etc. A root *rē-* implies *Hreh₁-*, and **Hrh₁-etno-* must have given ***iratna-*. The analysis, therefore, must be given up; the connection is, after all, not necessary.

9. Older interpretations

It may be noted that the problem was not created by the laryngeal theory. It existed as well when one worked with a schwa. For a form **makros* was supposed to give μακρός, but *κματός* to

² Kortlandt assumed a proterodynamic paradigm, but I think that a hysterodynamic one is also possible, and preferable as the proterodynamic inflection is predominantly that of the neuters. We would get then:

nom. **neh₂-s*
acc. **nh₂-es-m*
gen. **nh₂-s-os*

The latter form can now explain *nas-* except in Indo-Iranian and Balto-Slavic, where it must come from the accusative.

give - $\kappa\mu\eta\tau\omicron\varsigma$. In the latter case the notation \bar{m} only concealed the problem. When Cuny (*Revue de phonét.* 2, 1912, p. 101 ff.) noted that the development of **planó-* implied that \bar{a} was less vocalic, or more consonantal, than the preceding resonant, the problem of **makros* was not solved.

Hirt's theory in fact had an explanation: it assumed $\mu\bar{a}$ for $\kappa\mu\bar{\alpha}\tau\omicron\varsigma$ (> - $\kappa\mu\eta\tau\omicron\varsigma$) and $m\bar{a}$ in **makros* (e.g. *Idg. Gr.* 2, p. 124 ff.). But the type $\mu\bar{a}$ was improbable in itself and need not be discussed again. And he did not explain why $\mu\bar{a}$ did not occur word-initially (though one might accept that). We cannot reproach him that he did not explain that there was no $m\bar{a}$ in inlaut, because he admitted it (*ibid.* p. 139 ff.; in forms like τέτλαμεν, στρατός, γνάθος etc., a heterogeneous lot of forms; but we must admit that some of them, like the last one, have not yet been explained).

10. Vocalization

The notation ** $\kappa\mu\eta_2\tau\omicron\varsigma$* is not a phonemic one; phonemic is / $\kappa\mu\eta_2\tau\omicron\varsigma$ /. And it is not adequate for PIE. as, e.g., Tocharian vocalized the laryngeal (one could assume PIE. $\kappa\mu\eta_2\tau\omicron\varsigma$ > PToch. $\kappa\mu\eta_2\tau\omicron\varsigma$, but that is uneconomical). Nor is $\kappa\mu\eta_2\tau\omicron\varsigma$ phonetically adequate, because the development "of \bar{m} " to m_e , m_a , ma in this position (in Greek e.g.) requires an additional rule (to \bar{m} > $a/C - C$), whereas another is necessary for ** $h_1ek\mu\eta_2om$* and still another for ** $m\eta_2kros$* .

In the case of $CmHC$ it is best to write Cm_eHC as the first phonetic development. For $mHC-$, where m_eHC- is clearly *not* what happened, one might assume mH_eC- .

Of course we would like to find a set of rules which determine where this prop vowel developed. It is clear that the rules are language-specific. I limit myself here to Greek. I admit that I can find no overall rule. I give here the forms you can get with *-mH-* and *-Hm-* followed or preceded by a stop (= C) and word end. (So I do not consider forms like *HnHC-* or *HnHn-*, the latter perhaps in *ἀνάγκη*).

mH :	Cm_eHC	VmH_eC	mH_eC-	$-Cm_eH?$
	$C_e\mu HV$	$V\mu HV$	$mHV-$	$-VmH_e$

<i>Hm</i> :	<i>CH_cmC</i>	<i>VHmC</i>	<i>H_cmC-</i>	<i>-CH_cm?</i>
	<i>CH_cmV</i>	<i>VHmV</i>	<i>H_cmV-</i>	<i>-VHm</i>

-Cm_cH is based on the 1 sg.med. ending *-(C)mH*, which probably gave *-Cmā*, later *-μāν*. It does not work, however, for *-CiH* > *-Cya*. It may have been *-C_cmH_c* (*-CmH_c* seems to me very unlikely). *-Cia* must then have been replaced by *-Cya* after the oblique cases; thus Ruijgh, *Mnemosyne* 36 (1983) p.376, who also uses a 'voyelle d'appui'.

H_cmC- is based on Rix's article *MSS.* 27 (1970) p.79-110 (e.g. < *h₁nun* > *enwa*; note that this is an instance of *HnRR*!). Rix assumed that the laryngeal was vocalized (p.80; but his words "im Anlaut vor *r*" as well as "Ersatz [of the laryngeals] durch 'prothetische' Vokale" are rather unclear).

Again, I can find no general rules, but it may be useful to put the problem in this way.

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