

## Latin \**sisō* > *serō* and Related Rules<sup>1)</sup>

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The handbooks list three different rules for short vowels before eventual Latin *r*. Rule 1: *i* > *e* / -*sV* (initially and medially), i. e. \**sisō* > *serō*, \**kinis-es* > *cineris*. Rule 2: *ǃ* > *e* / -*sV* (medially only), i. e. \**gen-es-es* > *generis*. Rule 3: *ǃ* > *e* / -*rV* (medially only), i. e. \**pe-par-ai* > *peperi*. Some collapsing of rules is desirable. First, the medial portion of Rule 1 is best placed under Rule 2, while the initial portion can be combined with a rule where *u* > *o* / -*sV*, i. e. \**fu-se* > *fore*, for a new Rule 1' which lowers high vowels (*i*, *u*). Second, it is clear that Rules 2 and 3 (medial treatments) can be combined in a single Rule 2', that applies after Rhotacism. Third, 1' and 2' can be combined in a single rule of R-Lowering that applies initially and medially, after both Medial Weakening and Rhotacism. That is, Medial Weakening creates new *i*-vowels which are lowered before *r* in open syllables. Putative counterexamples, the epigraphical evidence, and the implications for the history of Medial Weakening are considered.

1. The history of the changes in short vowels before eventual Latin *r* is problematic and well illustrates the inadequacies in presenting diachronic information imposed on most linguistic handbooks by their format. In particular, the organization of sound changes with a phoneme by phoneme listing of the Latin outcome or the PIE ancestor, thought perhaps necessary, makes the process of capturing generalizations difficult and renders problems of rule-ordering opaque. Thus, while there is a great deal of implicit information to be found in these summaries of the sound changes, there are very few explicit statements about possible midstages between the preform and the observed surface form or about the interaction of the various similar changes that have been cataloged.

2. Thus the hand-books<sup>2)</sup> list three separate possible origins for the eventual Latin sequence *-er-*:

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<sup>2)</sup> The *communis opinio* is represented principally by Leumann 1977 and Buck 1933. Also Sommer-Pfister 1977, Meillet-Vendryes 1968. Much less valuable, and in the main derivative, are Kieckers 1930, Juret 1938, Kent 1945, Niedermann 1953, Monteil 1973, Pisani 1974, Maniet 1975. Lindsay 1894 is still useful. I do not claim to be exhaustive in the bibliography on positions taken.

**Rule 1:** in *initial* syllables, *i* becomes *e* before *r* arising from intervocalic *s*; so:

*is* / -*V* > (*iz* >) *er*,

e.g. \**si-sō* > *serō* 'I sow' (so Leumann 1977.51, Buck 1933.79, Meillet-Vendryes 1968.111-2). This is said not to occur before original *r* (Kent 1945.85; by implication Buck 1933.86, Leumann 1977.51, etc.), cf. *vir* < \**uiros* (Kent loc.cit.). That is, though not explicitly stated by any of the handbooks (except Kent), the *i* was lowered before *z*, and not at the stage where *z* had become *r*. The order of changes, therefore, was *is* / -*V* > *iz* > *ez* > *er*. This rule is said to apply also medially (Buck, Leumann, loc.cit.), e.g. \**kinis-em* (cf. *κόνις*) > *cinerem*; or in various pf. forms, e.g. \*(*ēg*)-*is-ā-m* > (*ēg*)-*eram*. Sommer-Pfister 1977.58 (repeating Sommer 1914.63 n.3) doubt this change occurred in initial position, and offer as counterexamples *virga*, and *viridis* / *vireō*. The first (correctly with Walde-Hofmann 1954.798 < \**uizga*, cf. Olce. *wisk* 'wisk, broom; wisp, bundle of straw') is not a counterexample, since the lowering is said to occur only in open syllables. *Viridis* lacks a cogent etymology. In any case, it is not, as Sommer claims, to be compared to OHG *wisa* 'meadow', with which it has no compelling semantic connection.<sup>3</sup>) Sommer-Pfister (loc.cit.) and Maniet (1975.128) are therefore forced to explain the vocalism of *serō* as analogical to (abstracted from) that of the compounds, *ad-serō*, *cōn-serō*, etc., where the *i* is in medial position, but this is unnecessary as well as unlikely. The compounds of *serō* are far less frequent than the simplex, and no other verb of the shape \**CŃr-* shows such a change, e.g. *pariō* does not have its vocalism influenced by *peperi* or *6com-*, *re-perio*.

3. **Rule 2:** in *medial* syllables, any short vowel becomes *e* before *r* arising from intervocalic *s*:

*Ńs* / *VC(C)-V* > *er*.

Clear examples for the various vowel are:

*a*: *dare*, but *reddere*;

*e*: \**gen-es-es* > *generis* (that is, *e* is said to remain unaltered before *r* < *sV*; so explicitly, Leumann 1977.81, Buck 1933.100);

*i*: *cinis*, *cineris*; \**Falis-inos* (cf. *Falis-cus*) > \**Falerinos* > *Falernus*.

*o*: No good examples. The numerous exceptions are due to para-

<sup>3</sup>) The other Gmc. cognates, Olce *vīsir* 'shoot', etc., are closer, but connection with Lith. *veisiū*, *veīsti* 'multiply' and *veislē* 'brood' < \**u(e)is-* (so Pokorny 1959.1133) ignores the phonological difficulty of *i* / *rV*.

digmatic leveling, thus *tempus, temporis*, with the *o*-grade of the nom. spread to the oblique (after this rule has ceased to apply), cf. the paradigmatically isolated adv. *temperī*, with the original *e*-grade (Leumann 1977.83, Buck 1933.191, Sommer-Pfister 1977.87–8).

*u*: There are several apparent exceptions to *-us-* > *-er-*, and Sommer-Pfister (1977.81) doubt that it occurred at all.<sup>4)</sup> They offer as counterexamples *satura, augurium, luxuria, lemures*; and others can be found: *fulguris, sulphuris, cicuris, gutturis*.<sup>5)</sup> However, all these are either too easily analogical to a nominative in *-ur*, comparable to the spread of vocalism in *tempus, temporis*, as is the case in *satur, augur, cicur, guttur* (cf. Leumann 1977.81), or else a *u* in the root syllable has preserved by assimilation the timbre of the following vowel (cf. the assimilations of *anatis, alacer, calamitas*), as in *fulgur, fulguris*<sup>6)</sup>; *sulphur, sulphuris; luxuria*, with additional pressure perhaps from *luxus, -ūs*. Rather, to see whether medial *u*, along with the other short vowels, also became *e* before *r* from intervocalic *s*, we should look for forms more isolated and less subject to analogy. An excellent example is *peiierāre* 'forswear, swear falsely' (Plaut. *Truc.* 30) from \**ped-ius-ā-se*,<sup>7)</sup> with the \**ped-* of \**ped-ios* > *peius* and the zero-grade of the stem seen in *iūs, iūris* < \**iou-os, iou-es-es* (with

<sup>4)</sup> Also apparently Kent 1945.102.

<sup>5)</sup> These last three are of uncertain formation, and may be originally *r*-stems (Leumann 1977.83, 379; Benveniste 1935.37 and 39), and so belong under Rule 3.

<sup>6)</sup> The development of *fulgur* is somewhat more complicated. If we begin with a regular neut. *s*-stem paradigm: \**fulg-os, \*fulg-es-es*, we would expect a phonologically regular *fulgus* (attested by Fest.), *fulgeris*. The first step is that the *o*-grade of the nom. was extended here as in other *s*-stems, so \**fulgos, \*fulgoris* parallel to \**tempos, temporis*. It is this analogical *o* that is assimilated to the *u* of the root, so *fulgus* (by regular sound change), *fulguris*. Finally, the *r* of the oblique was transferred to the nom., parallel to the change in nouns in *-ōs* (*honōs, honōris* --> *honor, honōris*), so *fulgur, fulguris*. Traces of the old *e*-grade are found in FVLGERATOR (CIL VI.377), and of the regular outcome of medial weakening in the MSS *fulgeris*. See Leumann 1977.83.

<sup>7)</sup> Not with Leumann 1977.546 from the comp. *peius*, and then later given a folk-etymology to *iūs*. This idea was first proposed by Brugmann *IF*12 (1901) 396. If so, as Leumann himself points out, the meaning would have to be factative 'make worse', which to 'swear falsely' (the only attested meaning) is not an impossible change, nor, however, a likely one. Further, these denominatives are made by replacing the thematic vowel with the factative suffix *-eh<sub>2</sub>-* (the type Hitt. *newahh-*, Lat. *novā-re*), and in the cases apparently from comparatives: *ampliāre, breviāre, satiāre* (so Leumann loc.cit.), the *-ā-* replaces the *os* of the comparative *-ios*. Thus, we would expect a \**ped-iāse* > \*\**peijāre*, and not *peiierāre*. For other suggestions rightly rejected, see Walde-Hofmann 1954.274–5.

syncope of *\*-om̄V̄-* > *\*-om̄-*; cf. IOVESTOD of the Forum Inscription: CIL 1<sup>2</sup>.1) and *iūrāre* < *\*iōmes-ā-se* (with the denominative formant *-ā-*, cf. IOVESAT of the Duenos Inscription: CIL 1<sup>2</sup>.4); *periūrāre* is a later formation built to *iūs*, *iūris*. The evidence for *us* > *er* is unmistakable, and even Sommer-Pfister (loc. cit.) are forced to state “doch *peierō* ‘schwöre falsch’ mit *dēierō* ‘versichere’ und *ēierō* ‘schwöre ab’ sind von *iūrō* bzw. einer schwächeren Ablautstufe *\*iusō* kaum zu trennen.<sup>8)</sup>” Equally good evidence is *vetus*, *veteris* with *veternus*, etc., which is (pace Sommer-Pfister loc. cit., Leumann 1977.374) a stem in *-us-*. Balto-Slavic shows a clear thematized form: Lith. *vėtušas*, OCS *vetŭxŭ* > *\*uetus-o*<sup>9)</sup>. We have therefore an exact parallel in the development between

*\*Falis-inos* > *\*Falerinos* > *Falernus* (by syncope) and *\*uetus-inos* > *\*ueterinos* > *veternus*.

4. Rule 3: in open medial syllables, any short vowel becomes *e* before original *r* also:

$\check{V} > e / V(C)(C)-rV$ .

In the previous two rules, the syllables have been of necessity open, since the rules have specified *r* from intervocalic *s*. Examples of Rule 3 for the various vowels are:

*a*: *pariō*, *peperi*

*e*: *liber*, *liberī* (again *e* is said simply to remain unaltered, see § 3)

*i*: *lēge-rumpa* (cf. *lēg-is*, *lēgi-fer*)

*o*: compounds in *-fer* < *\*-foros* (cf. *o*-grade in Grk comp. in *-φόρος*), e. g. *\*(armo)-foros* > *(armi)-fer*, etc.<sup>10)</sup>

*u*: gen. *\*suekur-ī* (cf. *ἐκυρός*) > *socerī*.

<sup>8)</sup> See W.-H. for earlier suggestions. The connection with a zero-grade of *iūrāre* seems first to have been proposed by Curtius 1879.77.

<sup>9)</sup> This adj. is “vielbehandelt(e)” (Leumann 1977.374), but a methodological rigidity must be maintained in separating the nominal forms, which are neut. *s*-stems meaning ‘year’ from the adjectival forms, which are *-us*-stems meaning ‘old’. Leumann (1977.269) notes that “Ein Wandel Subst.--> Adj. ist ganz selten und untypisch” and suggests that *vetus* is abstracted from *vetustās*. This is untenable, since Leumann cannot explain why there is a *u* in *vetustās* in the first place. A reintroduction of the nominative *-o-*, if it were an *s*-stem, is conceivable, but no other form shows this, and indeed this points to a *-us*-stem, since *s*-stems (as well as stems in *-jos* and *-ōs*) form *-tās* nouns and *-tus* adj. with the *e*-grade of the stem (*tempes-tās*, *hones-tās*, *maies-tās*).

<sup>10)</sup> The type remained moderately productive as a deverbative, and on the basis of the type *vendō* : *nugi-vendus* :: *ferō* : *X* = *\*(armo)-feros* (with *e*, not *o*, in the root syllable) > *armifer* could be created. This is clearly the case with *(armi)-ger* (< *\*ges-*), etc. However, the exact cognates *lūcifer* (Varro RR 3.5.17) and *λευκο-φόρος*, *bi-fer* (ibid. 1.7.7) and *δι-φόρος* seem to indicate an inherited formation.

Sommer-Pfister (1977.81) and Kent (1945.102) prefer to ascribe the *e* of the oblique cases of *socer* to analogy to the nom., and that nom. to analogy to other kinship terms, in particular *gener* 'son-in-law', whatever it in turn may be. For their doubts about *u* > *e* before secondary *r* < *z*, see above. This rule is said not to apply in initial syllables (at least for *a* and *o*; *e* would remain in any case): *dare*, *arō*, *carō*; *ferō*; *forō* (*o*-grade).

5. To recapitulate, we have three rules:

**Rule 1:** *is* / -*V* > (*ez*) > *er* (initially and medially)

**Rule 2:** *ŷs* / -*V* > (*ez*) > *er* (medially)

**Rule 3:** *ŷr* / -*V* > *er* (medially)

Clearly some collapsing of these rules, if possible, would be both desirable and necessary. Generalizations are being missed and the principle of economy is being violated.

6. First, the medial portion of **Rule 1** could easily go under **Rule 2**, whose structural description it meets, and of which it is a subset or particular case. Indeed, there is good reason to separate the medial treatment from the initial, since parallel to the lowering of *is* > (*ez*) > *er* in initial syllables there is a rule whereby *us* > (*oz*) > *or* in initial syllables (vs. the medial treatment of *-us-* > *-er-*). Examples are:

inf. \**fu-se* (cf. *fu-ī*, Osc. *fusíd*) > *fore*

\**snusā*<sup>11</sup>) (cf. Skt. *snuṣā*, OCS *snŭxa*, Grk. *vvός*) > *nora* 'daughter-in-law'. Sommer-Pfister (1977.62), who doubt the lowering of *i* in initial position, naturally also doubt the lowering of *u* and offer *nurus*<sup>12</sup>) as a counterexample, along with *furvus* (not in an open syllable in any case). However, *nora* is doubtless the lautgesetzlich form of the inherited thematic. Latin innovates by assimilating the word to the *u*-stem of *socrus*, *-ūs* 'mother-in-law'. This real *-u-* preserved the preceding *u* of \**snus-u-s* > *nurus*, *-ūs*; so Leumann 1977.51, Ernout-Meillet 1959-452; so first Sommer *IF*11 (1900) 32, but see above §3.<sup>13</sup>) Sommer-Pfister are forced to explain the *o* of

<sup>11</sup>) Contra Szemerényi 1964.318, who posits an original PIE *u*-stem.

<sup>12</sup>) Giving as the preform \*(*s*)*nusus*, with no explanation of why Latin shows a *u*-stem, when all the quoted cognates are thematic.

<sup>13</sup>) Or Alan Nussbaum has suggested to me that perhaps after the change of \**snus-o-* > \**noros* (lowering of *u* > *o*) and the remodeling to *norus* (*u*-stem), there was a regressive assimilation of *o...u* to *u...u* (rather than a preservation of the original *u* vowel). This would be parallel to the assimilation of *e...i* to *i...i* seen in *cinis*.

*nora* as analogical to *socer*, *soror*, and not inherited, while *fore* is supposed to show a vowel weakening of  $u > o$  in unaccented, i. e. enclitic position, an arbitrary assumption which is apparently supported by no other example<sup>14</sup>). This is impossible, since not only does unaccented  $u$  before  $r$  become  $e$ , but even according to Sommer-Pfister themselves, unaccented  $u$  should simply remain (see § 4). That  $*sis\bar{o} > ser\bar{o}$  and  $*fuse > fore$  are parallel (i. e. are a single rule) is pointed out by Buck (1933.79 and 80), Meillet-Vendryes (1968.111 and 112), Kent (1945.86), but not the other handbooks nor by Leumann (1977.50 and 51) who describes the rules sequentially but draws no overt attention to their structural similarity. We can, therefore, split up our Rule 1 into a new Rule 1' which lowers the high vowels  $i$  and  $u$  before  $z$  in initial syllables:

[+high] > [-high] / \*(C)(C)(C)-z,  
and can allow the *medial* treatment in *cineris*, (*fu*)-*eram*, etc. to proceed under the more general Rule 2.

7. Secondly, it is obvious that we can combine Rule 2 and 3 (the medial treatments) in a single rule which applies after rhotacism, that is: a short vowel becomes  $e$  in a medial open syllable before  $r$  of whatever origin. This is what seems to have been implicitly assumed, judging from the use of both original  $r$  and  $r_2$  from  $z$  in their examples, at least in part by Sommer-Pfister (1977.84, giving examples for  $a$  and  $e$ <sup>15</sup>), Leumann (1977.81 for  $a$ ,  $e$ ,  $o$ <sup>16</sup>), Buck (1933.100 for  $a$

<sup>14</sup>) For verbs in enclitic position (no example for *fore*), see Szantyr 1972,404-5.

<sup>15</sup>) For the other vowels:  $u$  is doubted, 83;  $i$  is assumed to become  $e$  only medially before  $r$  from  $z$  (no statement about its behavior before original  $r$ ), 82; for  $o$ : "Vor einfachem Konsonant wird  $o$  wie  $a$ ,  $e$  behandelt", 85; but examples before  $r$  are given only for secondary  $o$ , *temporis*, etc., 86. Secondary  $o$  normally becomes  $u$ , so *repudiāre*, *tripudium*, to  $*pod$ - 'foot', or *Troiū-gena*, *Graiū-gena* (with  $-o-$  as composition vowel after the Grk. compounds, vs. older comp. *terri-gena*, *indigena*), so Leumann 1977.83, Sommer-Pfister 1977.86. The latter claim that the  $o$  failed to become  $u$  because of the following  $r$  (i. e. apparently that  $r$  phonologically prevents a raising: see § 4). However, this ignores the fact of paradigmatic leveling, which inserted the  $o$  into the oblique cases of  $s$ -stems in the first place and keeps it there, and to which the other examples cited were not subject.

<sup>16</sup>) Where  $i > e$  by Rule 1 (the medial component of  $sis\bar{o} > ser\bar{o}$ ), 80, 51;  $u > e$  in *socer*,  $-erī$ : "Lautentwicklung vielleicht  $ur > or > er$ ," though further parallel examples are not given and this lowering of  $u > o$  is not referred to that in *fore*.

and *e*<sup>17</sup>), Niedermann (1953.29, “jeder kurze Vokal”, but examples only for *i*, *e*, *a*<sup>18</sup>), Kent (1945.99 for *a*<sup>19</sup>), and others<sup>20</sup>), but is in fact explicitly stated by no one. Thus, we would have:

**Rule 1'**: {*i*, *u*} / \**C*<sup>0</sup><sub>3</sub>-*zV* > {*e*, *o*} (initial; ordered before rhotacism)

**Rule 2'**: *ǃ* > *e* / *VC*<sup>1</sup><sub>3</sub>-*rV* (medial; ordered after rhotacism).

8. Thirdly, I believe it can be argued that **Rule 1'** and **Rule 2'** are in fact a single rule that applied everywhere, both initially and medially, after both Rhotacism and Medial Weakening. That is, vowel weakening in medial syllables generates new *-i-* vowels, which feed “**R-Lowering**”, a rule that lowers high vowels before *r* in any open syllable. This runs counter to the usual view that *r* prevented raising in the normal course of Medial Weakening. So Leumann (1977.81): “Vor *r* führt die Schwächung bei anderen [not *i*] Vokalen nicht zu *i*, sondern nur bis zu *e*” and Buck (1933.100): “The retention of *e* in *peperi*, contrasted with *cecidī*, as of orig. *e* in *congerō*, contrasted with *adsidēō*, is due to the fact that *r* often tends to lower a vowel or, as here, to prevent its raising.” This new rule, however, has several advantages. One, it captures the structural similarities of **Rule 1'** and **Rule 2'** by combining them to give a simpler rule of **R-Lowering**:

[+vocalic, +high] > [-high] / -*rV*.

Secondly, it neatly explains the anomaly that *i* becomes *e* and *u* becomes *o* in initial position, but any vowel (including *u*) becomes *e* in medial position, since in open syllables all vowels (including *u*) have become *i* by Medial Weakening and then can be lowered to *e* before *r*. That *i* is the unconditioned reflex of *u* in medial open syl-

<sup>17</sup>) No example given for *o*; medial *i* is elsewhere (79) placed under the rubric of **Rule 1**; no examples for medial *u*.

<sup>18</sup>) No mention is made of the lowering in initial syllables (*serō*, *fore*).

<sup>19</sup>) *e* retained, *i* by medial component of **Rule 1** (85). No mention of *o* or *u*.

<sup>20</sup>) Among the French, Juret (1938.77; still frequently cited as an authority), who operates with a highly idiosyncratic system, notes that *a*, *e*, *i* become *e* before *r* and “les groupes explosifs [i.e. “syllable initial”, following de Saussure 1959.51 f., though never defined] suivants *br*, *pr*, *tr*, *gr*, *cr*,” a result he seems to think is different from general medial weakening in closed syllables, and offers no examples for *i*, which might demonstrate the point. Short *o* and *u* are said to be retained regularly. Maniet, who closely follows Juret, writes (1975.126): “Les voyelles brèves intérieures en syllable ouverte et non précédées de *i* ou de *e* sont devenues ... *e* devant *r*, sauf sans doute *o* et peut-être *u*.” Examples include *r<sub>1</sub>* and *r* < *z*; for his objections to *o*, see § 3 and n. 15 above.

lables, is shown clearly by *caput*, gen. *capitis*<sup>21</sup>). Other examples of *u* > *i* in medial open syllables (abl. pl. of *u*-stems *cornibus*; *corniger*, etc.) might be due to the generalization of *-ibus*, the spread of *-i-* as the union vowel, but *capitis* is quite secure. Cases of medial *u* in open syllables not in labial environments (see below) are due in the main to analogy, so: *coniugem* to *coniu(n)x*, *iungō*, etc.; *tutudī* to *tundō*; and so on (Leumann loc. cit.), or else vowel harmony (*fulguris*, etc.; see § 3 and n.6).

9. One reason, I believe, that this view of the various changes in vowels preceding *r* has not been put forward before, is that **Rule 1** has always been formulated to specify *r* only from intervocalic *s*. **R-Lowering**, on the other hand, predicts that initial *i* and *u* should become *e* and *o* before original *r* as well, to which there are several apparent counter-examples. The only one I have seen given, that is the only explicit argument why lowering in initial syllables should specify *r* < *z* only, is *vir* < *\*viros* (so Kent 1945.85). But *vir* is clearly not a counter-example, since synchronically in its surface form the *i*, before a word final *-r\**, is not in an open syllable, and diachronically we need only order the lowering of high vowels / *-rV* after the syncope of *-rǃ-*<sup>22</sup>), which was as we know, fairly early in the history of Latin. It has already taken place by the time of the Scipio Barbatus epitaph (CIL 1<sup>2</sup>.7: VIR, c.230)<sup>23</sup>), but after the time of the Forum Inscription (CIL 1<sup>2</sup>.1: SAKROS, c.500). In addition, since *-rǃs* with original *r* is syncopated (*\*uiros* > *vir*, *\*suekuros* > *socer*, etc.), but *-eros* < *\*-ǃs-os* is kept (*numerus*, *umerus*, etc.), this syncope occurs only with original *r* and so precedes (counter-feeds) the change of Rhotacism (*z* > *r* / *V-V*), which, I am arguing, precedes (feeds) **R-Lowering**. Analogical to the nom. *vir* are the oblique forms *vir-ī*, etc., and its compounds and derivatives: *virāgō*, *semivir*, *ūnivira*, *ēvirō*, etc. While *virtūs* may be analogical to *vir*, it is more likely to show that the syncope of *-rǃ-* in medial syllables also bild **R-Lowering**: *\*viro-tūt-s* > *virtūs*.

<sup>21</sup>) So Leumann 1977.80, Sommer-Pfister 1977.82, Meillet-Vendryes 1968.113, Maniet 1975.126, Niedermann 1953.26. Buck 1933.100f. and Brugmann 1897.220f. have no mention of *u* in medial syllables. Kent (1945.100) mentions *u* only under the heading of the interchange of *i* and *u* before labials (for which see § 18), and offers *surrupuī* (Plaut. Capt. 760) ≈ *surripuī* as an example.

<sup>22</sup>) This syncope seems regular in final syllables, including monosyllables *\*tris* > *tr̥s* > *terr* (Plaut. *Bacch.* 1127) > *ter*, with *merus*, *ferus*, etc. presumably back-formations from the oblique. Cf. Leumann 1977.96-8, 142-4.

<sup>23</sup>) For a full discussion of this inscription and its date, see Gordon 1977.81.



10. There are a number of additional exceptions to R-Lowering, which show *i* before *r* in initial open syllable: \*C(C)(C)*irV*-. I believe the list to be complete.<sup>24</sup>) I do not propose to discuss them in any detail, but simply note that the majority lack any good etymology and refer the reader to the standard dictionaries. The change of *rr* > *r* (and so not originally an open syllable), by the Mamilla Gesetz<sup>25</sup>) is a possibility in several cases. Of the others, many are clearly analogical, a number are loan words, and several are postclassical. None in any case is an adequate counterexample to R-Lowering.

*bi-rēmis*, *-rotus*: analogical

*dir-*(*imō*): by analogy to *dis-C*<sup>26</sup>)

*hirūdō* 'leech' < ?

*hirundō* 'swallow' < ?

*pirus* 'pear': "Mittelmeerlehnwort" (Leumann 1977.51; see W.-H., E.-M. s. v.)

*Quirītēs*, *Quirīnus* < ? (Mamilla?)

*quirītō* 'wail' < ? (Varro *Ling.* 6.68; onomatopoeic?; connected with *quirritō* 'grunt' *Auct. Carm. Philom.*?, Mamilla?; see E.-M. s. v.)

*sciropaectēs* 'juggler with dice': *Not. Tir.*

*siremps(e)* 'similar' < (*i/i*?) ; see E. M., W.-H.)

*sirus* 'silo' < *σιρός*, *σειρός* (*i/i*?) ; Colum. 1.6.15)

*tri-rēmis*: analogical

*vireō/viridis* < ? (see § 2)

*viriae* 'armband': Celtic loanword (Pliny *N.H.* 33.40; see E.-M., W.-H.)

*viriculum* 'burin': Iberian loanword? (*i/i*?)

11. R-Lowering also predicts that there will be no *u* in initial open syllables before *r*. Again, there are a number of words beginning \*C(C)-*urV*-, and again they are without etymology, loan-words, post-classical,

<sup>24</sup>) Excepting foreign proper names and words called foreign in our texts. Words appearing in glossaries or only in prose authors where there are no data about the length of the *i* or *u* have been included for completeness.

<sup>25</sup>) Simplification of geminates in a syllable before the historical Latin trisyllabic accent, and therefore a relatively late change; certainly later than these under discussion, which depend on the initial accent. See Leumann 1977.184.

<sup>26</sup>) A weak argument could be made on this basis in favor of the proposed chronology of R-Lowering: that \**dis-V* > \**diz-V* > *dir-V*, which is then kept by analogy to *dis-C*, is more likely than \**dis-V* > \**diz-V* > *dez-V* (Rule 1) > \**der-V*, which is then changed to *dir-*, by analogical to *dis-C*.

or otherwise do not provide cogent counterexamples to R-Lowering. *furō*, *furiōsus*<sup>27</sup>), etc. < ?

*muraena* < *μύραινα*

*muria* 'pickle, brine', *muriaticum* 'pickled fish' < ?

*muriola* 'wine made from the lees' < *muria*? (Varro frg. 551.25)

*spurius*: Etr. loanword? cf. *spurcus*

*sur-*(*empsit*): analogical to *su(b)s-C*<sup>28</sup>)

*surēna* 'a type of fish' < ? (*ū/u*?; Varro *Ling.* 5.77: presumably a loanword)

*suriō* 'be in heat' < ? (*ū/u*?; Apul., Fest)

*suriscula* 'kind of drinking glass' (*Vitae Patr.*; loanword; see W.-H.)

*surus* 'stake' < ? (*ū* if the text at Enn. *Ann.* 484 is correct; back formation from *surculum*?)

*turiō* 'shoot' (*ū/u*?; Apic. 8.1; Col. 12.50.5)

*urium* 'a type of earth found in mines': Iberian loanword? (*ū/u*?; Pliny, *N.H.* 33.75).

12. We can set up a chart illustrating the ordering of the rules, with an example of the various vowels initially and medially. The rules are 1) Medial Weakening, 2) syncope of *-rŷs* > *-rs*, 3) Rhotacism, and 4) R-Lowering.

### Chart I

	<i>*sisō</i>	<i>*μiros</i>	<i>*kinisem</i>	<i>*fuse</i>	<i>*pej̄iusō</i>	<i>*genesem</i>	<i>*forom</i>	<i>*peparisam</i>
1					<i>*pej̄isō</i>	<i>*genisem</i>		<i>*pepirisam</i>
2		<i>*μirs</i>						
3	<i>*sirō</i>		<i>*kinirem</i>	<i>*fure</i>	<i>*pej̄irō</i>	<i>*genirem</i>		<i>*pepiriram</i>
4	<i>serō</i>	<i>vir</i>	<i>cinerem</i>	<i>fore</i>	<i>peierō</i>	<i>generem</i>	<i>forum</i>	<i>pepereram</i>

13. I can see only two problems with the ordering as it has been described so far. One, it incorrectly predicts the nom. of *socer*. The rules as they are now formulated and ordered would produce: *\*socuros* > *\*sociros* (Medial Weakening) > *\*socirs* (sync. and so no

<sup>27</sup>) W.-H. note the difficulties with deriving it from a *\*dhūs-* (cf. *θυῖα*, *θυστάδες*; *Βάκχαι* Hes.), while the other set of proposed cognates, OIr. *būrithir* 'bellow (of animals, oxen)', *būr* 'angry', Latv. *baūruōt* 'bellow' show *ū* or *au* and are semantically distant; the Slav. forms with *ŷ* are of very doubtful semantic connection: OCS *burja* 'storm', Russ. *burít* 'throw'.

<sup>28</sup>) *\*sups-emō* > *supsmō* (sync.) > *susmō* > *suzmō*; *sur-*, then is completely analogical to *sus-*, with rhotacism.

longer subject to **R-Lowering**) > \*\**socir*. Here it is easy to say that the nom. is analogic to the oblique *socerī*. It might be objected that in *vir*, *virī* the analogy has worked the other way around, but this is no real problem, as many examples can be found of paradigmatic leveling in two directions within a single morphological type<sup>29</sup>). There is, however, a chronological solution which accords well with other established (or establishable) facts of Latin phonology and also provides a solution to the second form incorrectly predicted by the current form of the rules.

14. For compounds in *-fer* the rules as they are currently ordered would give a nom. \*(*armo*)-*foros* > \*(*armi*)-*firos* (Medial Weakening) > \*(*armi*)-*firs* (sync. and so no longer subject to **R-Lowering**) > \*\*(*armi*)-*fir*. In this case also, an analogical solution is possible (see n. 10), but the answer lies not in what concerns this paper most, the proper form and ordering of **R-Lowering**, but rather in the mid-stages of Medial Weakening, which we have been treating thus far for the sake of convenience, as a unitary phenomenon.

It is clear that Medial Weakening had changed *o* only to *e* when *-rV̄s* syncope closed the final syllable and so blocked the raising of *e* to *i*, the final phase of Medial Weakening. That is, the sequence was: \**armo-foros* > \**armeferos* (part of Medial Weakening) > \**armefers* (*-rV̄s* sync.) > *armifer* (*e* > *i*). That *-rV̄s* sync. occurred before the final phase of weakening is shown not just by *armifer*, but also by forms where the original *-e-* is preserved: so \**dexiteros* > *dexter*, \**pueros* > *puer* (i. e. not \**deksiteros* > \**deks(i)tiros* > \*\**dextir*. Before continuing, the series of rules that have been gathered under Medial Weakening need to be expanded. I will not argue closely the stages here proposed except where they effect forms under discussion in this paper<sup>30</sup>). They are in general well-known<sup>31</sup>).

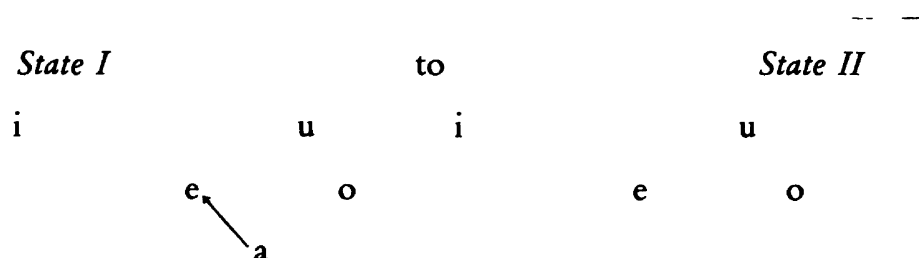
15. The first stage in Medial Weakening was manifestly a raising of unstressed (i. e. medial) *a* to *e* in all syllables (so Leumann, Buck

<sup>29</sup>) E. g. the creation of two categories, with semantic specialization from \**dei-ynos* > \**dēynos* > *deus* --> new gen *dei*: gen. \**dēiui* > \**dēui* > *dīvī* --> new nom. *dīvus*.

<sup>30</sup>) I have done so in Chapter 8 (pp. 209–254) of my 1986 Yale University dissertation.

<sup>31</sup>) Though not uncontroversial, and again for the most part only implicit in the handbooks. Of the standard reference works only Buck (1933.100), Leumann (1977.85–5), and Sommer-Pfister (1977.83) contain any chronological observations. For other views see Godel 1961 = 1973 and Pisani 1940, which I have criticised elsewhere (see n. 30 above).

loc. cit.). If the syllable is closed the *e* remains, subject to no further changes<sup>32</sup>), otherwise the *e* is raised to *i* in an open syllable. That is, the first step in Medial Weakening is the transformation of the vowel triangle in all medial syllables, open or closed, from:



16. Chronologically, the next stage was a change of *o* > *e* in open syllables only. This *e* then, together with original *e* and the *e* from *a* (§ 15) and the *e* from *i* and *u* in open syllables (§ 17), becomes *i* (§ 18). There is excellent inscriptional evidence of the *o* > *e* stage: APOLENEI (CIL 1<sup>2</sup>.368, c.200), ESQELINO (CIL 1<sup>2</sup>.416, c.220), HEC (from *\*hoc* by proclitic weakening, CIL 1<sup>2</sup>.9). An important case for the understanding of Medial Weakening is *hospes*. We can begin with the preform *\*hosti-potis* > *\*hos(t)petis* (with *o* weakened to *e*) > *hospets* (with sync. of *-tis* creating a closed syllable and so blocking the raising of *e* > *i*) > *hospes*, but gen. *\*hosti-pot-es* > *\*hos(t)petes* (*o* > *e*) > *hospitis*<sup>33</sup>) (so Buck 1933.101; Cowgill 1982). Here the syncope of *-tis* > *-ts* (only with original *i*, as the gen. shows) has “caught” the *e*-midstage, since it occurred after *o* > *e*, but before the final stage of *e* > *i*, showing the same *e*-stage preserved before *-CC\**, as in the examples with *a* > *e*: *\*anti-stat-s* > *antistes*, *\*arti-fak-s* > *artifex*, and original *e*: *\*aui-spek-s* > *auspex*, *\*prai-pet-s* > *praepes*, etc.

17. Two objections might be raised to this analysis. Perhaps the sequence was *\*hos(t)potis* > *\*hospots* and then the change of *\*-ots* > *-es(s)* could be taken as regular in final position, as seems to be shown by *\*ekyot-s* > *eques*. However, it is clear that *o* in closed syllables, medial or final, was preserved, and only raised to *u* by a late change, well into the historical period: so *\*medi-tolliom* > *medi-*

<sup>32</sup>) Except those independent of stress: *e*: > *i* / *-ŋ*: *\*attangō* > *\*attengō* (Medial Weakening) > *attingō*; *e* > *o* / *-t*: *\*ex-saltō* > *\*exseltō* (MW) > *\*exsoltō* (> *exsultō*). These changes are in themselves evidence of the *e* midstage.

<sup>33</sup>) Note that *hospes* cannot be a back formation from the oblique, since this would give *\*hospit-s* > *\*\*hospis*.

*tullium*<sup>34</sup>), the 3. pl. *-ont* (freq. attested: CIL 12.9: CONSENTIONT, etc.) > *-unt*. Further, since *-oC\** shows no change until the late raising of *o* > *u* in closed syllables, where *-VC\** counts as a closed syllable (so nom. sg. *-os*, etc.), then *-VCC\** is a closed syllable a fortiore. In the cases of *in-ops*, *prae-cox*, *con-cors*, etc., the *o* is preserved and the final raising to *u* has been prevented by analogy to the simplex. The second objection is that the nom. of *hospes* might be analogical to the type *\*mīlets* > *mīless* (Plaut. *Aul.* 528) > *mīles* (so Leumann 1977. 94, Sommer-Pfister 1977. 116), similar to the analogical spread of the *-ex* ending (*\*iōu-dik-s* > *\*iūdix--> iūdex*, *iūdicis* by analogy to *artifex*, *artificis*, etc.) This is clearly the case with *\*ekyot-s* (cf. *ἰπλότ-ης*)--> *eques* (instead of the expected *\*equots* > *\*equos(s)* > *\*\*equus*, bzw. *\*\*ecus*<sup>35</sup>), *\*com-i-t-s--> comes* (not *\*\*comis*), and *ped-i-t-s--> pedes*.<sup>36</sup>) However, a gen. in *-itis* does not necessarily produce a nom. in *-es*, so *capitis/caput*, and Leumann and Sommer-Pfister favor an analogical formation because they derive *hospes* from an immediate preform *\*hós(ti)pots*, assuming (but not demonstrating) that the syncope of *-tis* must have preceded Medial Weakening. Since *a* will weaken to *e* in closed syllable also (*antistes*), the only evidence to whether or not any weakening preceded *-tis* syncope will be provided exactly by cases of an original *\*otis*; forms with *-e-* retained (*antistes*, etc.) show that the final stage of raising in open syllables (*e* > *i*) in any case had not yet occurred<sup>37</sup>). The military terms *eques*, *pedes* and *comes* are easily influenced by the close semantic connection with *miles*<sup>38</sup>), but it is unnecessary to propose analogical remodeling for the more distant

<sup>34</sup>) Showing the lautgesetzlich change in medial syllables, as opposed to later or analogical forms, such as *ex-torreō*, etc.

<sup>35</sup>) A desire to avoid homophony in the nom. may have contributed to the change. However, *eques*, *equitis* (as if 'horse-goer') could be built directly to *equus*, following the model *pes*, *ped-is* : *ped-it-is* (Leumann 1977. 372, who rejects the morphological comparison with the Greek).

<sup>36</sup>) Leumann 1977. 372, holds that the original model for all these words was *pedes*, but fails to explain how the nominative in *-es* could have arisen (cf. *ibid.* 94).

<sup>37</sup>) I.e. not *\*antistatis* > *\*antistetis* > *\*antistitis* (Medial Weakening complete) > *\*\*antistis*.

<sup>38</sup>) So too perhaps certain rarer words, usually found in the pl., of uncertain etymology and formation: *vēles* 'skirmisher' (perhaps from *vēlōx*, as if 'swift goer'), *satelles* 'companion' (Etruscan?); see W.-H. s.v. The ending *itēs* becomes productive for a few terms to signify 'soldiers employing X': *arquitēs* 'archers', *armitēs* 'hoplites'.

non-military *hospes*, *hostitis*, when it simply reflects the lautgesetzlich outcome. Therefore, in *\*hosti-potis* > *\*hospetis* > *\*hospets* > *hospes(s)*, as in *\*armo-foros* > *\*armeferos* > *\*armefers* > *armifer*, a syncope has occurred after *o* > *e*, but before the final stage of *e* > *i*. Thus we have a change from:

<i>Stage II</i>	to	<i>Stage III</i>
i            u		i            u
e ← o		e

We can now expand the Medial Weakening rule of our Chart I, and can set up the order:

### *Chart II*

- 1) *a* > *e* (all syllables)
  - 2) *o* > *e* (open syllables only)
  - 3) *-rV-* syncope, *-tis* syncope
  - 4) *e* > *i* (open syllables)
- after which we still order
- 5) rhotacism
  - 6) **R-Lowering**

18. The third change in Medial Weakening was the reduction of the high vowels to *e* (or else to some neutral *ə*, though no descriptive advantage is gained thereby<sup>39</sup>). There is some inscriptional verification for this (HEC<sup>40</sup>) and TEMPESTATEBUS in the Lucius Scipio epitaph, CIL 12.9, c.260), but the best evidence for this midstage is the interchange of *u* and *i* in labial environments,<sup>41</sup>) where original *i* appears as both *i* and *u*, and original *u* appears as both *i* and *u*. So for *i*: *vitiperō* and *vituperō*, *pontufex* and *pontifex*, *testimonium* and

<sup>39</sup>) See Leumann 1964.90. The reduction product acts no differently than *e*, and though the distance from *u* to *ə* is shorter than to *e* there is nothing that indicates *ə* over *e*. Indeed, the fact that the regular weakening product is *i*, while *u* is a conditioned reflex in labial environments, can be explained mostly easily by the shorter phonological distance from *e* to *i* than from *e* to *u*.

<sup>40</sup>) Presumably by enclitic weakening, though also HIC.

<sup>41</sup>) Principally before a labial, though a labial or round vowel in the preceding syllable seems to have aided the process. Conditions are impossible to formulate completely because of the heavy morphological shuffling (see Leumann loc. cit.). The rule, with this caveat, will be referred to as taken place simply // [+labial].

*testunonium*; for *u*: *Cornificius* and *Cornuficius*, *lacrima* and *lacruma*, *inclitus* and *inclutus*. That *o* (and of course *a*) had already become *e* before the raising of this neutral *e* to *i* and *u*, is shown by the fact that they also share this behavior. So in thematic compounds: *aurifex* and *aurufex*, *carnifex* and *carnufex*, etc. Analogy and paradigmatic leveling have had a major part to play, primarily in generalizing *-i-* as the reduction vowel<sup>42</sup>), but such an alternation can only be reasonably explained by a midstage where both high vowels had collapsed to a single vowel *e*, which then is raised to *i*, or in labial environments to *u*. This seems also the best way to explain the fact that *u* becomes *i* in *capitis*: \**caputis* > *capetis* > *capitis*. Unless *u* had first been reduced to the general weakening product *e*, it is difficult to see why it should not have stayed unaffected<sup>43</sup>). The only other possibility is to imagine a swap across the top of the vowel triangle with *i* --> *u* in labial environments and *i* <-- *u* in nonlabial environments.<sup>44</sup>) Thus the penultimate stage of Medial Weakening was a change from:

<sup>42</sup>) See Leumann 1977.87–90, for a full review of the data.

<sup>43</sup>) As is assumed by many linguists. Graur (1929.40–74) holds that *a* > *e* > *i* in the usual process of Medial Weakening, and that the final product *i* then becomes *u* before labials. However, he fails to deal with *o* and must explain all cases of *u*, which should have remained unaffected, becoming *i* as analogical (*stupeō* but *obstipui*). The arguments of Janson (1979.51–4) are especially weak. He assumes a reduction of the non-back vowels to “a sound spelled *i* rather than *e*. For this would tend to minimize the risk of confusion in perception. If the back vowels [o] and [u] remained intact, the front vowel which is least likely confused with them is [i]” (53). It is unclear what Janson imagines this vowel to have been phonetically, or how a spelling convention (if this is what he means) would have aided “perception” (presumably auditory).

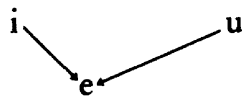
<sup>44</sup>) This is similar to the view, once fairly widely held, that the product of weakening was a midvowel [ü] in Classical Latin (though in fact a [ɨ] would seem to be more phonologically appropriate). See Persson 1910.62, Kent 1945.46–7; still to be found in Janson 1979.54, Allen 1965.56–9, Sommer-Pfister 1977.82; Safarewicz (1960 = 1974.177–81) makes this the first stage in the weakening of all vowels. This idea is based primarily on a slightly corrupt passage of Quintilian (1.4.8) and the evidence against it has been thoroughly discussed by Sturtevant 1940.120f. and Leumann 1977.89–90. Godel 1961 = 1973.72–89) argues for a three stage development: 1) *a* > *e*, 2) *e* and *o* > *i*, 3) an indeterminate vowel [ü] for *i* and *u*. Godel disbelieves the evidence for *o* > *e*, and holds to the Mittellaut, which develops after Medial Weakening is over. Buck’s conclusion (1933.101–2) is excellent: “It is more probable, though not the usual view, that we have to do with an ordinary *u* in the early *maxumus* (as obviously in the persistent *occupō*) and with an ordinary *i* in the later *maximus*, the alleged intermediate sound being imaginary, suggested by the fluctuation in spelling.”

236

Holt N. Parker

*Stage III*

to

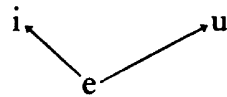
*Stage IV*

e

that is, the reduction of all vowels in medial open syllables to a uniform *e*-vowel and then the final stage, the raising of *e* > *i* (or *u* before labials):

*Stage IV*

to

*Stage V*

e

19. It is to this penultimate stage of Medial Weakening, that we can refer *socer*. Just as *o* had become *e* and been overtaken by syncope in *\*armoforos* > *\*armeferos* > *armifer*, and *\*hostipotis* > *\*hospetis* > *hospes*, so in *\*sokuros* the *u* had weakened to *e*: *\*sokeros* and then *r̥* syncope intervened, as in the previous cases, blocking the raising of *e* > *i*. As we know from *puer*, etc., *r̥* sync. preceded this final raising (§14). So, the only change from Chart II is the addition of Stage IV of Medial Weakening, after *o* > *e*, but before *r̥* and *-tis* syncopes, which are themselves before *e* > *i*.

### Chart III

- 1) *a* > *e*
- 2) *o* > *e*
- 3) *i, u* > *e*
- 4) *r̥* sync., *-tis* sync.
- 5) *e* > *i*
- 6) Rhotacism
- 7) **R-Lowering**

We can run a few of the forms under discussion through this sound mill, to show the sequence of development:



## Chart IV

	<i>caputes</i>	<i>socuros</i>	<i>armoforos</i>	<i>uiros</i>	<i>kinises</i>	<i>peijusō</i>	<i>fuse</i>	<i>peparisam</i>
1)								<i>peperisam</i>
2)			<i>armeferos</i>					
3)	<i>capetes</i>	<i>soceros</i>			<i>kineses</i>	<i>pejjesō</i>		<i>peperesam</i>
4)		<i>socers</i>	<i>armefers</i>	<i>uirs</i>				
5)	<i>capitis</i>		<i>armifer</i>		<i>kinisis</i>	<i>pejisō</i>		<i>pepisisam</i>
6)					<i>kiniris</i>	<i>pejirō</i>	<i>fure</i>	<i>pepiriram</i>
7)	<i>capitis</i>	<i>socer</i>	<i>armifer</i>	<i>vir</i>	<i>cineris</i>	<i>peierō</i>	<i>fore</i>	<i>pepereram</i>

20. We would like an additional example of syncope preserving *e* lowered from *u* or *i* by Medial Weakening. No other words with the shape \**-urV̄s*, \**-irV̄s*<sup>45)</sup>, are known to me. The situation in which there is only one example illustrating a series of changes, because of the sequence of phonemes necessary to establish an ordering, would not be an unfamiliar one in relative chronology (see Cowgill 1978.33). I believe, however, there is one further example of *e* < *u*, preserved by syncope. Plautus shows *ancipes* (*Rud.* 1158) and *prae-cipes* (*Rud.* 671), the earlier forms of the nom. *anceps* and *praeceps*, both earlier and later forms with gen. *-cipitis*.<sup>46)</sup> According to Leumann (1977.94), "ist das *u* von *-caput-s* zu *e* geschwächt. Ebenso *e* aus *a* in *antistes*." This is, however, unlikely since while *a* undergoes Medial Weakening to *e* in all noninitial syllables (\**anti-stat-s* >

<sup>45)</sup> In \**uiros* the *i* was initial and so not subject to weakening.

<sup>46)</sup> Also *bicipes*: Prisc.2.280.16. The nominatives *anceps*, *praeceps* are not attested until Cicero. They are clearly later analogical formations but their origin is obscure. The only explanation is that offered by Leumann (1977.451). In some examples third decl. nouns (principally in *-is* and *-ēs*) had certain cases of the oblique formed directly from the nom. So: *sanguis* (itself analogic; gen. *sanguinis*) is resegmented as new stem *sangu-* and the acc. *sangu-em* (*Act. Arv.*) is formed, or *hērēs* (gen. *hērēdis*) is recut as *hēr-* and a new *hērem* (Naev.) is created. It is also clear that the same thing could occur in the small class of nouns in *-ēs*. So inscriptional dat. *Superstī* (NSc 1920.40 nr.39) or the abl. *prae-cipe* (Enn.). If from such an oblique a new nom. were back formed, we would have *praeceps*, on the model *principe*: *praecipe* :: *princeps* : X *praeceps*. The problem with this view is that it requires a two step analogical change, for the first step of which (*praecipēs* --> new stem *praecip-*) there is no exact proportional model, since the class of nouns in *-ēs* is so small. This is not a great stumbling block, since it is clear that it did occur at least occasionally. However, this explanation also requires that two analogical changes both of which are intermittent have completely replaced the nom. in the standard literary language. Further, analogy from the abl. is odd, and the inherited gen. *prae-cipitis* remains undisturbed. Despite these difficulties, I can see no better explanation.

*antistes*), *u* in closed and final syllables remains unchanged: *manus* (and all *u*-stems), *adductus*, and *caput* itself. On purely phonological grounds then one might set up a *\*prae-caput-is*, which would then undergo Medial Weakening (*a, u > e*) to *\*praecepētis* and then syncope to *\*praecepets > praecipēs* (*e > i* in open syllable) parallel to *\*hostipotis > \*hospētis > hospēs*. Here again the possibility of analogy might be raised in creating a nom. *-es* to a gen. *-itis*, as is the case with *\*equot-s --> equēs*, *\*com-it-s --> comēs*, *\*ped-it-s --> pedēs* after *\*mīlet-s > mīlēs* (see § 17). However, this analogical nominative fails to be created precisely for *caput, capitis*. There are in addition good morphological grounds for believing that this proposed development was indeed the case. In this type of *bahuvrīhi*, composed of a preposition, a negative or numeral and a noun, Latin shows an *-is* as the compound suffix (Leumann 1977. 346, 397). The *-is* does not substitute only for thematics (though that is its original locus), but is used to form compound adjectives from *u*-stems (*bicornis*), *n*-stems (*cognōminis, exsanguis*) and, most interestingly from our point of view, from root nouns (*concors, concordis*). The fact that Latin regularly shows *i*-stems forms: neut. pl. *-ia*, g. pl. *-ium*, abl. sg. *-ī* for *ancipes, praecipēs* and *concors* is indicative that these words are simply *i*-stems. Leumann (1977. 438) disputes this, noting that beside the genetic *i*-stems (*cōnsors* to *sors, sortis*) similarly inflected are “ursprüngliche Kons.-Stämme mit nomin. nur *-s* (etwa *audāx fēlix ferōx, vehement-*), auch die Komposita mit Kons.-Stamm oder Wurzelnomen als Schlußglied, so *an-* und *praecipit-ī-ia-ium* (trotz *capite-a-um*) abl. *inopī* trotz *ope* (aber *inopum* Laber. wie *opum*), gen. plur. (subst.) *locuplētium* Cic. *rep.* 3, 16, *simplicium*.” There is considerable mixing of forms in the adjectives<sup>47)</sup> and the original situation is hard to determine. However, Leumann’s own examples show that the members of this class are various and the compounds with root nouns should be considered separately. The *i*-stem forms for other C-stems are irregularly attested (Ernout 1953.57: reg. *quadripedum, inopum*). For the *-īx, -āx* group and the compounds of *-plex* no satisfactory explanation has been given.<sup>48)</sup> The simplest explanation for the *i*-stem forms of *ancipes, praecipēs* and *concors* is that they

<sup>47)</sup> And in nouns, so: OPID (CIL 1<sup>2</sup>.2364).

<sup>48)</sup> But a base in a heavy syllable, as in the nouns, may influence the form (so *locuplētum* rare beside *locuplētium*). The participles may belong under the heavy bases rule, though there is a possibility that they were remade in Latin as *i*-stems. See Nussbaum 1973. 207–15.

are actual *i*-stems, built with a suffixal *-is* and Caecilius (109) seems to confirm this with a nom. *concordis*.<sup>49</sup>) There seems to me no other reasonable explanation for the nom. *-s*. Analogy to the other compound adjectives with an *-s* would produce *ops* : *in-ops* :: *caput* : X, X = \*\**prae-ciput*. Ernout-Meillet's statement (1959.98) that *ancipes* is "refait sur le génitif" seems unlikely since the simplex *caput*, *capitis* is not remade to \*\**capes*. It is more reasonable to assume that *ancipes* and *praecipes* resemble *hospes* and *superstes* not because they are analogic to these forms, but because they share their phonology. Therefore, *ancipes* and *praecipes* are supporting evidence for the lowering of *u* > *e* and subsequent syncope, which explains \**sokuros* > \**sokeros* > *socer*.

21. So far, we have been arguing for the placement of **R-Lowering** after Rhotacism and the completion of Medial Weakening on grounds of descriptive simplicity and accuracy. Besides these relative chronological arguments, are there any absolute chronological data to support this ordering? Firstly, we know that Rhotacism itself was a fairly late phenomenon in Latin. Cicero in a well-known passage (*ad fam.* 9.21.2) relates that Papirius Crassus (dictator 340) was the first to spell his name with an *r*. Pomponius (*dig.* 1.2.2.36) says that Appius Claudius (cens. 312) "first used" (*invenit*) the letter *r* to spell the names of the Valerii and the Furii. And for what it is worth, Martianus Capella (3.261) preserves a tradition that Appius Claudius "hated" (*detestatur*) the letter *z*.<sup>50</sup>) This gives us a terminus ante quem of the late fourth century. The earliest inscription showing rhotacism is the epitaph of L. Scipio (CIL 1<sup>2</sup>.9, after 260, prob. c. 200). We have a terminus post quem in the IOVESAT of the Duenos inscription (CIL 1<sup>2</sup>.2), probably also of the fourth cent. (however, the word division is uncertain; see Gordon 1983.77 f.). In addition there are the numerous words preserved by Varro (*Ling.* 7.27) and Festus with intervocalic *ʒ*, presumably spelling *z*.

18) Most importantly, we have the divine name *Numisios* preserved in two inscriptions (CIL 1<sup>2</sup>.32,33):

32) ]onius Q.f. | Numisio Martio | donom dedit | meretod.

33) [Nu]misio Mar[tio] | M.Terebonio C.1. | donum dat liben[s] | meritod.

<sup>49</sup>) The form *is*, however, too easily an analogical creation for metrical reasons on the model (gen.) *fortis* : (nom.) *fortis* :: *concordis* : X, X = *concordis* to be probative.

<sup>50</sup>) "quod dentes mortui, dum exprimitur, imitatur."

While the NUMASIOS of the Praenestine fibula (CIL 1<sup>2</sup>.3) on which the preform \**Numasios* used to rest is a forgery, the etymology which connects the name *Numerius* with *Numa* is very likely.<sup>51</sup>) These two inscriptions, on pedestal bases found in the Tiber at Rome, are undated but the language is close to that of the earlier Scipio epitaphs, and c.200 would be a reasonable estimate. While, like most early Latin inscriptions, they are more likely to be archaizing than archaic, they nevertheless show *a > e > i* completed<sup>52</sup>) before Rhotacism and R-Lowering have occurred. The *s* presumably spells *z*, and while it might be an archaizing substitution for a current *r*, to substitute *i* for a currently pronounced *e* is the opposite of what we expect and actually observe. *Numisios* appears then to be confirmation of the form and ordering of R-Lowering.

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<sup>51</sup>) W.-H. 2. 187, E.-M. 451, s. v. *numerus*; see Schulze 1904. 164, 197. Unfortunately Oscan has syncopated the vowel, which therefore must have been short in any case, in gen. *Niumsieís* (see von Planta 1892.590, Buck 1904.58). O. *Niumeriis* is a Latin borrowing.

<sup>52</sup>) The medial *e* of the frequent *mereto(d)* is due to the preceding *e*; cf. the similar vowel harmony in *anatis*, *alacer*, *calamitās*, *vegetus*, *segetis*, *tegetis*. Cf. Leumann 1977.100, Buck 1933.102.

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