The fate of PIE final *-r in Vedic and Latin

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Instead of regarding the formal difference between the desinence of the r/n-heteroclites Gk. $-\alpha \rho < *-r$ ($o\tilde{v}\theta\alpha\rho$ 'udder') vs. Ved. -ar < *-er (or *or) (udder 'id.') as morphologically based, i.e. zero-grade vs. full-grade, Ved. -ar is considered the regular outcome of unaccented *-r, thus matching the Greek evidence, which conclusively points to the zero-grade *-r. The Latin r/n-heteroclites ending in -er (udder, udder, udder,

O Unlike other old IE languages, Vedic still preserves a sonantic liquid *r in medial and word-initial position. Other languages show different developments involving epenthetic vowels; thus Av. -ara-, Germ. *-ur-, Gk. -op-/-ρo- or -αρ-/-ρα- (depending on the dialect). It is a point of interest that Vedic -r is barred from absolute final position. Instead there seem to be two possible outcomes of PIE final *-r: Ved. -ar and -ur. In the relevant handbooks (AiGr. I 23; Renou 1952: 77), the latter is regarded as the normal outcome while -ar is taken as the continuation not of PIE *-r, but of an original PIE full-grade *-r. Kümmel (2000: 43–47), having thoroughly investigated the possible instances of PIE final *-r, reaches the same conclusion. Schindler (1975: 8), in his article on the morphology of IE r/n-heteroclites, considers -r the regular outcome. Only Pinault (1989) takes both, -r and -r as regular representations of PIE *-r, being found in a dialectal distribution (see discussion in 4.2.).

In the following, I will try to re-investigate the fate of sonantic *-r in final position in Vedic. In this context, it will also be necessary to investigate the fate of PIE final *-r in Latin (see 3.2.3–3.2.5.)

- There are different positions where one would expect a sonantic final *-r on comparative and/or structural grounds:
 - a zero-grade agentive root nouns with root-final *-r.
 - b 3rd sg. of the OInd. periphrastic future with ntr. subject, and nom.-acc.sg. ntr. -tar-agentives.
 - c 3rd pl. act. perfect ending Ved. $-úr < PIE * -\acute{r}$.
 - d n.-acc.sg. of neuter *r/n*-heteroclites (namely Ved. *áhar*, *ū́dhar*).

Instances (a) and (b), however, do not contribute to the discussion of PIE * - $_7$, because formal transfigurations and gender restrictions prevent a sonantic liquid in the auslaut, as will be shown in 2. Instances (c) and (d) will each contribute complementarily to a sound law that predicts the outcome of PIE * - $_7$ in Vedic, as will be shown in the detailed discussion in 3.

- 2 Zero-grade root nouns in -r and neuter -tar-nouns
- **2.1** Zero-grade root nouns ending in root-final -r actually never show the plain final sonantic liquid. They always exhibit a t-enlargement in Vedic. This enlargement is, however, not only added to zero-grade roots ending in -r (e.g. $-k\acute{r}$ -t- 'making, doing', $-dh\acute{r}$ -t- 'straightening up', $-v\acute{r}$ -t- 'covering'), but also to those ending in any other short vowel (e.g. $-g\acute{a}$ -t- 'going', $-k\acute{s}\acute{t}$ -t- 'dwelling', $-h\acute{u}$ -t- 'libating').

Latin displays the same phonological restriction as Vedic, i. e. the *t*-enlargement is restricted to root-final short vowels (Lat. *ped-i-t-* 'foot soldier (< going afoot)', *com-i-t-* 'companion (< going with)', *anti-sti-t-* / *super-sti-t-* literally 'standing before / over sth.').

In Avestan, too, the -t- is mostly found after short vowel (- $k \partial r \partial - t$ - 'doing' = Ved. - $k \dot{r}$ -t-, -f r u-t- 'flying' = Ved. - $p r \dot{u}$ -t-, - $b \partial r \partial - t$ - 'carrying, bearing' = Ved. - $b h \dot{r}$ -t-, - $\dot{s} i$ -t- 'dwelling' = Ved. - $k \dot{s} \dot{i}$ -t-, - $\dot{s} u$ -t- 'moving' = Ved. - $c y \dot{u}$ -t-), but sometimes also after long vowel, i.e. reflecting an original full-grade of the root (YAv. $\partial r a o t \bar{o}$ - $s t \bar{a}$ -t- 'being situated in the streams', YAv. $d \bar{a} m i$ - $d \bar{a}$ -t- 'creating the creation').

In Greek, we encounter a similar, yet different, phonological distribution. The t-enlargement is found especially after a long vowel reflecting a sequence of sonantic liquid + laryngeal (e.g. $\dot{\alpha}$ - $\gamma\nu\omega$ - τ - 'not knowing', $\dot{\alpha}$ - $\kappa\mu\eta$ - τ - 'not fatiguing'); exceptions are rare: $\delta\alpha\mu$ - $\alpha\rho$ - τ - f. 'the administrator of the house' < * $d\eta$ - h_2r -t-, $\dot{\alpha}$ - $\pi\tau\omega\tau$ - 'not falling' << PIE * η - $pth_{1/2}$ -t- (probably remodeled after formations containing roots in liquid + laryngeal).

The fact that the phonologically restrictive environments in which the *t*-enlargement is found differ from each other within the individual languages shows that this cannot reflect an old PIE situation. Most probably, the origin of the *t*-enlargement is morphological¹ with the phonological restrictions being secondary and *einzelsprachlich*.

Therefore, the additional -t- cannot be regarded as the regular outcome of final sonantic *-r (via a sound law: *-r# > Ved. -rt). It is thus not relevant to the discussion of the fate of PIE final *-r in Vedic.

Vijūnas (2009: 189–204 with further literature) traces this *t*-enlargement back to a derivational suffix -t- forming verbal nouns. It is noteworthy that the restriction of the t-enlargement within Greek is not only a phonological but also a morphological one. All t-enlarged stems have as a basis an aorist root, i.e. a root from which root-agrists are formed: $\delta\alpha\mu$ - $\alpha\rho\tau$ - f. 'administrator of the house' < PIE * $d\eta - h_2 r - t$ - 'administrating the house' (* $h_2 e r$ - 'to put together' \rightarrow root-aorist Ved. aranta 'fit themselves', Gk. ἄρμενος 'suitable, fitting'), ά-γνωτ-'not knowing' < PIE * η - $\hat{g}\eta h_3$ -t- (* $\hat{g}neh_3$ - 'to know, to recognize' \rightarrow root-aor. Gk. ἔγνων), ἀ-κμητ- 'not fatiguing' < PIE *n- $\hat{k}mh_2$ -t- (* $\hat{k}emh_2$ - 'to fatigue' → rootaor. Ved. aśamīt, Gk. ἔκαμον), δασ-πλητ- beside δασ-πλῆτις 'epithet of the Erinyes' < PIE *dms- plh_2 -t- 'approaching the house' (* $pleh_2$ - 'to approach' \rightarrow rootaor. Gk. $\pi\lambda\tilde{\eta}\tau o$), $\dot{\alpha}$ - $\pi\tau\omega\tau$ - 'not falling' << PIE * η - $pth_{1/2}$ -t- (remodeled after formations including roots in liquid + laryngeal; *peth_{1/2}- 'to fly, to fall' \rightarrow rootaor. Gk. Aiol. $\ddot{\epsilon}\pi\epsilon\tau\sigma\nu$ (with root-final h_1) and $\ddot{\epsilon}\pi\tau\alpha\tau\sigma$ (with h_2)), $\dot{\alpha}\nu\delta\rho\sigma$ - $\beta\rho\omega\tau$ -'man-eating' < PIE * $h_2 nro-g^w rh_3$ -t- (* $g^w erh_3$ - 'devour' \rightarrow root-aor. ἔ $\beta \rho \omega \varsigma$ 'you devoured', OCS po-žrětŭ 'devoured', Arm. eker 'ate'), έτερο-γνητ- 'being of different ancestry' < PIE *suetero- $\hat{g}_n h_1$ -t- (* $\hat{g}enh_1$ - 'come into being' \rightarrow root-aor. Ved. ajani 'am born', Gk. ἐγένετο). I am not sure, how to interpret this fact. As there seems to be no explanation for the situation in Greek to be secondary, it is reasonable to consider it an element of PIE heritage. Then Lat. ped-i-t- and com-i-t- with PIE * h_1 ei-, a present-root (cf. Ved. éti, yánti 'he goes, they go', Gk. εἶμι), must be secondary or of different origin.

The Old Indic periphrastic future as a case where one would expect 2.2 the outcome of PIE final *-r, is merely hypothetical. The periphrastic future is a construction using a -tar-agent noun in nominal agreement with the subject and a form of the auxiliary verb as- 'to be' or bhū- 'to be(come)' in verbal agreement with the subject. In the 3rd sg. the auxiliary is left out. In case of a neuter subject, the 3rd sg. form of the -tar-agent noun would expectedly show the endingless zero-grade form of the -tar-suffix ending in -r. But neuter subjects of periphrastical future constructions are rarely attested altogether. Furthermore, the periphrastic future is not present in the older Vedic language² (see Delbrück 1968: 295 with reference). Only in the prose of the Brahmanas, where the periphrastic future becomes more frequent, some rare examples of neuter subjects occur. Despite the neuter gender of the subject, the -tar-agent noun is most often inflected as a masculine, though (see examples in Oertel 1926: 171, Renou 1937: 127 and, in general, Whitney 1896: 336). Given the lateness of its appearance in Old Indic and the gender restriction, the periphrastic future is not apt to contribute to the discussion here.

Outside of the periphrastic future construction, *-tar*-agent nouns are also rarely used as attributes or pronominally. Cases with neuter reference do not appear until TB (AiGr. III 204), and where they do appear, they are certainly not continuations of old formations (" [...] weil keine Überlieferung bestand", AiGr. l.c.), but rather purely artificial³. These innovative, artificial neuter *-tar*-nouns end in a plain sonantic liquid: $bhart\acute{r}$, $janayit\acute{r}$ (see examples in Whitney 1896: 140), following the pattern of other stemclasses, namely i- and u-stems. These relatively late, innovative formations cannot be regarded as showing the actual development of final PIE *-r in Vedic.

There is only one old form of a -tar-noun in the RV (3×) that must be analysed syntactically as a nom.-acc.sg. neuter: $sth\bar{a}$ - $t\acute{u}r^*$ ($sth\bar{a}t\acute{u}\acute{s}$ c°) 'the stable (immobile)'. This problematic form has been much discussed in the past, giving rise to several different explanations (see AiGr. III 202, 204, 210, where the author argues for a u-stem). I think, however, that this RV

The periphrastic future during Vedic times seems to be in an embryonic stage only; cf. the sole example in RV given by MacDonnell 1910: 387.

This is also supported by the fact that only grammarians feature whole neuter paradigms for those *-tar-*stems (see Whitney 1896: 140).

form simply shows the regular outcome of PIE *-r (similarly Renou 1952: 203); see the discussion in 4.

I will now come back to the instances which I think can shed light upon our issue: the 3rd pl. act. ending of the perfect and the r/n-heteroclites. A detailed discussion on this issue can be found in Kümmel (2000: 43–47) – with a different conclusion from the one that will be presented here, however.

The Vedic 3rd pl. act. ending of the perfect is -úr (e.g. ca-kr-úr 'they did'). It always bears the accent. The desinence of the nom.-acc.sg. of the r/n-heteroclites, on the other hand, is always unaccented as seen in $\acute{a}har$ 'day', $\acute{u}dhar$ 'udder'.

Therefore, I simply assume the following sound law: PIE unaccented final *-r yields Ved. -ar, whereas PIE accented final *-r yields Ved. -r. In the following, I will try to show that a zero-grade sonantic *-r is indeed the source for accented -r and unaccented -r, respectively.

3.1 The Ved. perfect active ending $-\dot{u}r$

- 3.1.1 This ending is also found in the 3rd pl.opt.act. of the prs./aor. (e.g. adyúr 'they may eat', aśyur 'they may attain') and pf. (e.g. jagamyur 'they may have been gone'). It is formally identical to the desinence of the g.sg. of the r-stems (e.g. g.sg. pit-úr 'of the father'). All these forms end in -úr. For the g.sg. ending, however, a preform containing the genitival -s must be assumed, probably Pre-IIr. *-r-s with a subsequent development to -ur. The question is, whether the preform of the perfect ending also contained a final -s and underwent the same phonological development as did the g.sg. In other words: Do we also have to reconstruct a preform *-rs for the 3rd pl. perf. act. rather than *-r?
- 3.1.2 The closest relative of Vedic, Avestan, exhibits a 3rd pl. perf. act. ending $-ar^{\vartheta}$ without final -s: GAv. $\bar{a}dar^{\vartheta}$ (= Ved. $\bar{a}hur$ 'spoke'), YAv. $d\bar{a}\delta ar^{\vartheta}$ (= Ved. $dad\acute{u}r$ 'gave'). Final -s would not be dropped after -r, as the Avestan g.sg. of r-stems shows: GAv. $nar^{\vartheta}\check{s}$ and YAv. $nar\check{s}$ 'of the man'. Thus, we can conclude that the preform of 3rd pl. perf. act. in Avestan did not have an ending in -s. However, in the Avestan optative of the present and aorist system we encounter a 3rd pl. act. ending $-\bar{a}r^{\vartheta}\check{s}$, which must continue

*-rs with final -s, the long -a- being the analogically introduced full-grade of the optative suffix (PIE *- $rieh_1$ - > PIIr. *-ria-) as found in the sg. (GAv. -riiam, -riia, -riia) as found in the sg. (GAv. -riiam, -riia, -riia) as found in the sg. (GAv. -riiam, -riia, -riia). The ending -riiam stands beside the secondary ending -riiam without any known functional difference; e.g. YAv. riiam signal (~ Ved. riiam) beside riiam signal signal for the difference; e.g. Yav. riiam signal signal for the signal signal

3.1.3 There is, however, one alleged instance of such an s-ending in Gathic Avestan, namely cikōitər³š (Y. 32.11), traditionally regarded as a 3rd pl. ind. perf. act. form corresponding to a Vedic perf. cikitúr 'shone' (see Humbach 1991: 134, Kellens & Pirart 1988: I 121, Insler 1975: 47, Jasanoff 1997: 119–130 (pluperfect or perfect injunctive)). This interpretation, however, is not certain, even though it may find support⁵ in the Vedic quasi-parallel RV 1.186.9 mahinā cikitré ~ mazibīš cikōitər³š 'they appeared in grandeur' (Insler 1975: 206). Kellens & Pirart (1988: III 89) reckon with the possibility that cikōitər³š is the g.sg. of an r-stem *cikōitər¬, which seems a plausible alternative as it renders cikōitər³š morphologically parallel with numerous other -tar-nouns, whereas cikōitər³š as a 3rd pl. perf. act. would stand alone. The semantics of a presumed noun *cikōitar-, however, remain obscure.6

Vedic and Avestan differ regarding the desinence of the opt. prs./aor.: Avestan has generalised the strong full-grade form of the optative suffix in the entire plural ($-ii\bar{a}ma$, $-ii\bar{a}ta$, $-ii\bar{a}r^{3}\tilde{s}$) and thus went a step further than Vedic which has generalised the strong form of the optative suffix in the plural as well, except for the 3rd person, where it has preserved the weak zero-grade form ($-y\bar{a}ma$, $-y\bar{a}ta$, but $-y\acute{u}r < *-iH\acute{r}\check{s} < *-ih_{1}\acute{r}s$).

Of no relevance, however, is the variant *cikōi· tar³* (Bb1, Geldner 1896: 117), which, indeed, has the shape of an ordinary perfect form in *-ar³*, but only shows that the copyist took *cikōitər³š* for such a form.

⁶ If *cikōitər³š* is interpreted as being a case form of a *-tar*-noun it can no longer be connected with Ved. *CIT*- 'shine', as the *-t*- then belongs to the suffix, not to

3.1.4 The Indo-Iranian evidence may be summarised in the following synoptic picture of the 3rd pl. endings:

	Ved.	Possible preform	Av.	Possible preform
Opt. Prs./Aor.	-yúr	*-ih-ŕ or *-ih- ŕš	-iiār³š	*-i̯ā-r̥š (analogical)
			-iiąn	*-iah-ant (or analog-
				ical *- <u>i</u> ā-ant-)
Opt. Perf.	-yúr	*-ihŕ or *-ihŕš	*-ī-n	*-iiən < *-ih-ant
Ind. Perf.	-úr	*- ŕ or *-ŕš	-ar ^ə	*-7
			[-ər³š	*-rš] ?

If the Vedic and Avestan forms had the same source – which I think most probable⁷ – the correct preforms would be the ones printed in boldface, i.e., for the 3rd pl. perf. ind. act. the ending would be *-r without -s; the optative would either have the secondary ending *-r or an ending *-r with final -s, whatever their original distribution; the opt. perf. could have had *-r or *-rs which is not determinable since Avestan only preserves a sole (emended) form *-rn, which probably exhibits the secondary ending of the prs./aor.-system.

3.1.3 Further – that is extra-Indo-Iranian – evidence for a PIE ending *-rs with final -s is extremely uncertain as it is only indirect. We find endings that have a long (possibly lengthened) vowel before -r: Lat. $-\bar{e}re^9 < *-\bar{e}r-i$ (Meiser 1998: 217), Av. $-\bar{a}^i re$ (Narten 1968: 10 n. 6 with further lit.), and Hittite - $\bar{e}r$. The original length of Hitt. $-\bar{e}r$, which could also be due to lengthening under accent, is confirmed by the Latin and Avestan evidence, forcing us to reconstruct a PIE ending *- $\bar{e}r$ – a doublet of PIE *-r. The preform of *- $\bar{e}r$ could be **-ers in which the presumed -s was dropped causing

the root. Furthermore a reduplicated form as the basis of a *-tar-*formation is morphologically unusual.

Jasanoff (1997: 119f.), however, seperates the perfect ending Av. $-ar^{\circ} < *-r$ from Ved. $-\acute{u}r < *-r \check{s}$ not reckoning with a development PIE $*-\acute{r} >$ Ved. $-\acute{u}r$ without following -s.

⁸ Cf. Jasanoff's (1991: 111–113) hypothesis.

⁹ OLat. -ēre is found beside its contemporary doublet -erunt < *-is-ont of aoristic origin. Both, however, survived into Classical Latin, where the standard ending -ērunt seems to be a contamination of -ēre and -erunt (Kümmel 2007: 90), although its exact genesis remains unclear.

compensatory lengthening according to Szemerényi's Law (thus Jasanoff 1994: 150, 1997: 120). But this development cannot be secured. According to Kloekhorst (2008: 244), PIE *- $\bar{e}r$ is a variant of *-r which was originally assigned to unreduplicated perfects, reflected by the Hittite hi-verbs, while reduplicated perfects had the ending *-r. Meiser (l.c.), however, traces the long - \bar{e} - in Latin - $\bar{e}re$ and Hittite - $\bar{e}r$ back to PIE *- eh_1 -. Whatever the correct explanation for the lenghtened grade of the 3rd pl. perf. act. ending might be, there is no immediate necessity to reconstruct an ending PIE *-ers, whose -s would be otherwise directly apparent only in the Avestan 3rd pl. opt. prs./aor. (not perfect!).

3.1.4 Summing up, I believe we can assume that the Vedic ending $-\acute{u}r$ probably goes back to PIE accented sonantic *- \acute{r} without -s. This ending was found beside an e-grade variant PIE *- $\bar{e}r$. An ending PIE *-rs or *-ers cannot be secured (despite Jasanoff 1994: 150).

3.2 The nom.-acc.sg.n. of r/n-heteroclites

3.2.1 Schindler (1975: 8) claims that the "développement régulier" of final PIE *-r in Ved. was -ar as in $\acute{a}har$, $\~{u}dhar$. The problem is that Ved. -ar, as in $\~{u}dhar$, can not only go back to the zero-grade of the suffix as seen in Gk. $o\~{v}\vartheta\alpha\rho$, but also to a full-grade form of the suffix as perhaps in Lat. $\~{u}ber$. Hence we may reconstruct either * $Huhd^h$ -r or * $Huhd^h$ -er.

3.2.2 There are, however, Vedic lexemes that, unlike r/n-heteroclites ending in -ar, show a sonantic liquid -r followed by a stem enlargement: $\dot{s}\dot{a}kr-t$ 'faeces', $\dot{y}\dot{a}kr-t$ 'liver' and $\dot{a}sr-g$ 'blood'. The latter two have extra-Vedic correspondences: Av. $y\bar{a}kar^3$, Gk. $\tilde{\eta}\pi\alpha\rho$ 'liver' (with lengthened-grade root-

¹⁰ For the rare ending Hitt. -ar which might continue PIE *-r see Neu 1989, who, however, reconstructs *-or. But cf. also Kloekhorst's (2008: 244f.) more plausible explanation for these forms: He argues for a simple replacement of -ie- by -ia- in Middle Hitt. times, since all certain attestations exhibit a desincence -iar.

Interestingly, the enlarged r/n-stems have a mobile accent (e.g. $y\acute{a}krt$, $y\acute{a}kn\acute{a}s$) while regular r/n-stems exhibit static accentuation ($\acute{a}har$, $\acute{a}hnas$). I have no explanation for that. The oxytone form $y\acute{a}k\acute{r}t$ as found in Sihler (1995: 300f.) and Pinault (1989: 45) seems to be an error.

syllable), Lat. *iecur* and Gk. $\check{\epsilon}\alpha\rho$, Hitt. $e\check{s}har$ 'blood'. They all exhibit the outcomes of a zero-grade suffix *-r. Whatever the origin of those enlargements¹² might be, it seems clear that not all r/n-heteroclites had them; only the enlarged ones preserved the sonantic liquid *-r, whilst all others were subject to a special auslaut-development ($\acute{a}har$, $\~udhar$).

3.2.3 The only evidence for a full-grade *-er in the paradigm of the heteroclites comes from Latin, where we find two different types of heteroclites, those ending in -ur (femur, feminis; iecur, iocineris) and those ending in -er (aser; iter, itineris; ūber, ūberis):

The -e- in aser and iter is usually regarded as a real morphological fullgrade, which might be analogical, although the basis for such an analogy is quite small, because only the endingless locative certainly had e-grade (cf. Ved. áhan), while for the other cases this is not certain. Vedic definitely only possessed r/n-heteroclites and neuter n-stems with zero-grade suffix in the oblique case forms: áhnas (g.-abl.sg. of áhar), akṣnás (g.-abl.sg. of ákṣan- 'eye'). The Germanic evidence shows the full-grade suffix *-en- in neuter *n*-stems (e.g. Goth. fun-in-s g.sg. of fon 'fire') but also considerable reflexes of a zero-grade: Goth. namna (acc.pl.), namne (g.pl.), namnam, watnam (d.pl.), which can be directly compared to Vedic neuter n-stems such as nāmnas (g.-abl.sg.). The Latin -in-form of the suffix could continue a full-grade *-en- but perhaps it is also possible to regard its vowel as due to anaptyxis. Sommer (1914: 138f.) cites the potential evidence for such an anaptyxis: g.sg. vorāginis of vorāgō 'chasm, vortex' and albūginis of albūgō 'a white spot (in the eye)', where related lexemes, namely vorax, voracis 'insatiable, devouring' and $alb\bar{u}cum$ 'asphodel', show that the i of the suffix must be a relatively late anaptyctical vowel following the sound change -cn-> -gn-. Other examples for this kind of anaptyxis are Old Latin techina 'sly trick' borrowed from Gk. τέχνη,¹³ and the less certain *tamine* from *tam-ne*, which could also have been made after *sīcine* < **sīce-ne*.

¹² The origin of these stem enlargements is obscure. For a similar t-enlargement in root nouns see fn. 1, which is, however, not necessarily identical with the t-enlargement in heteroclites. The velar enlargement in $\acute{a}sr$ -g is unique.

¹³ But cf. also the deponens *contechnor** 'to hatch a plot' in *sīt contechnātus* (Plautus Pseudolus 1096 without varr.). In the same sphere of fairly old borrowings from Greek which exhibit this kind of phonological treatment belong OLat.+

Thus, it is questionable if the oblique cases of the r/n-heteroclites (except for the endingless locative) originally had an e-grade suffix, at all, and thus the analogical transferral of such an e-grade into the nom.-acc.sg. is equally doubtful.

Klingenschmitt (1992: 118 and 1994: 396 n. 140) offers another explanation for the -e- in *iter* and *aser*. He reconstructs a hysterodynamic collective *h_1i - $t\hat{e}r$, *h_1s - $h_2\hat{e}r$ (sic). Although it is semantically possible to reckon with collectives of 'way' ¹⁴ and 'blood', ¹⁵ it is not compelling at all. An advantage of Klingenschmitt's explanation, however, is that it also accounts for the zero-grade of the root in Lat. $\bar{u}ber$, ¹⁶ aser, iter vs. full-grade in femur and iecur. But note that Hitt. itar also exhibits a zero-grade root-syllable without having the form of the presumed collective suffix. Obviously, femur and iecur have simply generalised another ablaut-grade within the root-syllable than $\bar{u}ber$, aser and iter. Assuming a special, collective ablaut only for the Latin continuants would be an unnecessary additional assumption, even though this hysterodynamic ablaut-type might have been a PIE morphological means to form collectives. ¹⁸ The same holds

- mina 'mina (Greek unit of weight, and coin)' \leftarrow Gk. $\mu\nu\alpha$ 'id.', and $Pr\check{o}serpina$ 'goddess of the underworld' \leftarrow Gk. Π ερσεφόνη, the latter example via Etruscan mediation (Etr. φ erssipnai, Etr.-Lat. Prosepnai) as perhaps all three loanwords; but note that the anaptyxis is not due to the intermediate Etruscan treatment of the word, as it is absent in Etruscan.
- 14 Cf. the Tocharian forms A $yt\bar{a}r$, B $yt\bar{a}r(i)ye < \text{PIE } *h_1i-t\bar{o}r$, * $h_1i-t\bar{o}r-ih_2$ 'way' and A $ys\bar{a}r$, B $yasar^* < \text{PIE } *h_1\acute{e}sh_2\bar{o}r$, which probably continue another, amphidynamic, collective-type ending in *- $\bar{o}r$ with root-ablaut.
- On this lexeme see Balles (1999: 4), generally following Klingenschmitt (l.c.) in reconstructing a hysterodynamic collective *h_1s - $h_2\acute{e}r$.
- 16 A zero-grade as can certainly be seen in OE $\bar{u}der$, OHG $\bar{u}ter < {^*HuHd^{ho}}$ cannot be secured for Lat. $\bar{u}ber$, however. According to Schrijver (1991: 288) *HuHC yielded Lat. vaC-. He, therefore, cautiously argues for o-grade ${^*Ho\mu Hd^{ho}}$ (\sim Gk. $o\tilde{v}\theta\alpha\rho$) with Saussure-effect (laryngeal-loss in a sequence *oRHC).
- 17 Hitt. $e\check{s}har$ (< ${}^*h_1\acute{e}sh_2{}^-$) vs. Lat. aser (< ${}^*h_1sh_2{}^-$), and Hitt. itar with single lenis -t- (probably from full-grade diphthong in ${}^*h_1\acute{e}it$ -, cf. Rieken 1999: 374–377) show that both, full-grade and zero-grade, were originally present in the root-syllable within the paradigm.
- 18 Cf. examples in Oettinger (1995, 1999, and 2001); Nussbaum (1998: 536). But note that evidence for this derivational type is scarce, and in particular there is

true for Sihler's (1995: 300f.) postulate of two different types of heteroclites, one ending in *-r, the other in *- $\acute{e}r$, whereas the latter is solely based on the Latin evidence, and on Old Indic forms in -ar ($\acute{u}dhar$ etc.). In order to explain the Latin forms, I would simply prefer a direct comparison with the Greek and Hittite cognates, which clearly show the outcome of a zero-grade suffix: Gk. $o\~v\vartheta\alpha\rho$, 'eap, Hitt. $e\~shar$, itar (hapax). That, however, leaves us with the question how to explain the double representation of PIE *-r in Latin.

3.2.4 I would like to propose a phonological solution for the problem of the $\bar{u}ber/aser/iter$ -type rather than a morphological one.

There is a neat distribution of -ur versus -er. Roots that end - or originally ended - in a labial take -ur while those ending in other consonants take -er. Thus, the following sound law can be formulated: PIE *-r remains, at first, as Italic *-r, then becomes Latin -ur after labials and -er elsewhere:

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PIE *-r > Lat. -ur | labial_ (cf. femur, iecur (< *iek^w r))
Lat. -er | elsewhere (iter, aser, \bar{u}ber (< *\bar{u}pr))
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This solution, however, bears four implications:

- (1) The treatment of PIE final sonantic *-r (> Lat. -ur or -er) differs from that of word-internal *-r- (> Lat. -or-), which is inconvenient, but cf. the case of Vedic (word-internal -r- vs. word-final -ar / -ur).
- (2) The Proto-Italic development of PIE *r into *or is no longer valid for final position. On the contrary, we have to assume that PIE sonantic $^*-r$ remained as such until the time of the individual Italic languages, yielding Lat. -ur or -er, on the one hand, and Sabellic $^*-or$, on the other.

However, there is – to my knowledge – no secure example of the treatment of PIE final *-r (or *-l) in the Italic dialects other than Latin.¹⁹ In

no unambiguous instance of a hysterodynamic r/n-stem with collective meaning to be found; cf. Widmer (2004: 66) with further references.

Numerous examples of word-internal *-r-> Proto-Italic *-or- can be found in Planta (1892: 314), Buck (1904: 63), Bottiglioni (1954: 62), Poultney (1959: 38), Sommer (1914: 43), Leumann (1977: 29 n. 3, 57f.). The only example of final *-r is no counter-example to the above suggested sound law, though, as it would simply show the regular outcome after labial: Umbr. **pur**-< PIE *pr- 'in front of, to the front' (cf. Goth. faur, Gk. $\pi \acute{\alpha} \rho$) e.g. in **purtuvitu**, purdinsust 'porricere, to offer' (Poultney 1959: 38; see also Untermann 2000: 613f.). Further-

- (3) The sound change *-r to -ur after labial must predate that of Proto-Italic *p to Lat. b after u and/or before r, in order to explain the form of $\bar{u}ber < \text{Proto-Italic }^*\bar{u}pr$. But this in itself rather unproblematic assumption is not necessary if the two-fold development of PIE *-r > *-r and *-r was already Proto-Italic (see (2)).
- (4) The Lat. 3rd sg. / pl. passive endings -tur, -ntur cannot reflect a preform *-(n)tr (as has been proposed by Schmidt 1977: 96–98). Such a preform would have given Lat. *-(n)ter according to the above sound law. The attested endings rather reflect *-(n)to-r, which can be analysed as containing the medial marker *-o- and the -r-ending. A similar conglomerate can be found in Hitt. medio-passive endings in °-a-ri, and in the Neo-Phrygian ending - τ o- ρ ($\alpha\delta\delta\alpha\kappa\epsilon\tau$ o ρ 'set up for himself', $\alpha\beta\beta\epsilon\rho\epsilon\tau$ o ρ 'brought for himself'). Consequently, the option of tracing Toch. -(n)tär and the OIr. deponent-endings -thir, -tir back to *-(n)tr is at least questionable (despite

more, PIE *pr- is a preverb, which is only found as a compositive prefix in the Italic languages (e.g. Lat. por-tend \bar{o} , $porrig\bar{o}$) and therefore *-r is not in final position. The one example for final *-r cited in Planta l.c. Osc. $tedur[\dots]$ (< PIE *tetr???) is found in a broken context and is thus not useful in the discussion (see also Planta's doubts l.c. 549). Umbr. utur 'water' < Proto-Italic * $ud\bar{o}r$ as per Meiser (1986: 94), not *udr, cf. Gk. $v\delta\omega\rho$.

The Phrygian ending conclusively points to *-tor, whilst the Hitt. ending could theoretically also go back to *o-r + i. Of interest is also the r-less doublet Old Phrygian -toj, which, again, clearly points to o-vocalism. This double-system (-to(i) vs. -tor) is further supported by Arm. evidence: 3rd sg. aor. med.-pass. -w < *-to, 3rd sg. prs. med.-pass. -y < *-toi (= akt. -y < *-ti) vs. non-Class. (but nonetheless old) 3rd sg. ipf. med.-pass. -wr < *-tor (s. Jasanoff 1977: 165). Objection to this is found in Klingenschmitt (1982: 22): "Bei Herleitung des -wr aus *-tor müßte das Armenische ursprünglich zwei verschiedene Formen der Sekundärendung der 3. Singular Medium besessen haben (vgl. -w < *-to im Indikativ Aorist), deren gegenseitiges Verhältnis und Verteilung unklar bleiben." But cf. the evidence for the coexistence of two endings in Phrygian.

Van Windekens 1982: 275 and Schmidt 1977, respectively), since the evidence for such a form is rather meagre.²¹

- **3.2.5** There are some synchronic neuter r-stems in Latin that might go back to original r/n-heteroclites, and could thus be regarded as evidence for the given Latin (Proto-Italic?) sound law. Admittedly, a PIE r/n-stem cannot be secured in any of the following cases. On the contrary, almost all the certain Latin continuations of PIE r/n-stems are still heteroclitic (fe-mur, -inis) even though sometimes strangely contaminated (iecur, iocineris; iter, itineris) and have not been transformed into plain r-stems, with the sole exception of $\bar{u}ber$, -eris 'udder', which, however, clearly shows that such a transformation could take place within the pre-history of Latin.
- (1) Lat. *acer*, *aceris* 'maple'. According to Oettinger (1994: 80–84, following Puhvel 1991: 304f.) this word goes back to a PIE r/n-stem $h_2\hat{e}\hat{k}$ -r / $h_2\hat{e}\hat{k}$ - η -s (acrostatic type with lengthened-grade root-syllable, cf. Gk. $\tilde{\eta}\pi\alpha\rho$ 'liver'), which is also continued in Hitt. hiqqarza 'a plant' with secondary -s added to a presumed r-stem hiqqar (cf. haster-a 'star' high = hi The lengthened-grade (probably also seen in German cognates with initial long a [Oettinger l.c. 84]) is necessary to account for the non-coloured vowel in the root-syllable of Hitt. hiqqarza. The fortis consonant aqq-aq
- (2) Lat. *cicer*, *ciceris* 'chick-pea'. The Armenian cognate *sisern* 'id.' points to an *r/n*-heteroclite (cf. *amarn* 'summer', *jmern* 'winter'; Olsen 1999: 128)

²¹ Cf. most recently Pinault (2010: 292), who, for the Toch. endings, reconstructs 3rd sg. *-tor besides 3rd pl. *-ntro (+ r in CToch.), although I do not see the necessity for the reconstruction of the latter form, since *-ntor would work as well. *-(n)tro was, indeed, reconstructed by Jasanoff (2003: 52–54) based on the OIr. deponent-endings -thir, -tir and Osc. and Umbr. -(n)ter. Be that as it may, the combined evidence of several old IE languages clearly points to *-(n)tor (beside *-(n)to(i)) – perhaps also to *-ntro – but there is absolutely no clear evidence for *-(n)tr.

²² Note that Oettinger (l.c. 82f.) explicitly reckons with the possibility of PIE *-r yielding Lat. -er comparing aser with Gk. ἔαρ.

which exhibits the contamination of the r- and n-formant, similar to that of Lat. *iocineris*, *itineris*. But the Hesychian gloss κίκερροι · ὧχροι. Μακεδόνες points to an original thematic stem *kiker(r)os, which entered the third declension in Latin. Examples of such a transition are rare, however.²³ If one includes κίκερροι in the discussion, Latin cicer is thus a loanword.

- (3) Lat. *sopor*, *sopōris* 'sleep'. Whether this masculine r-stem reflects a PIE r/n-stem *suop-r/-n- is a much debated issue (see NIL 667 n. 3 for the relevant literature). If so, it would be subject to the above sound law showing the development after labial. Note, however, that the ending differs from *femur*, *iecur* with resepect to the vocalism (-u- vs. -o-).
- (4) Lat. $v\bar{e}r$, $v\bar{e}ris$ 'spring'. The Greek cognate $\check{e}\alpha\rho$ 'spring(time)' (homophonous with $\check{e}\alpha\rho$ 'blood'), Av. loc. $va\eta ri < {}^*\mu asri$ 'in the spring', Lith. $vasar\grave{a}$ 'summer', and OCS vesna point to a PIE r/n-stem ${}^*h_1\mu es_-r/n$ 'spring(time), warm time of the year' vel sim. The Latin word, however, differs from Gk. $\check{e}\alpha\rho$ in that it must reflect PIE ${}^*h_1\mu\bar{e}r$ instead of ${}^*h_1\mu es_-r$. According to the proposed sound law the outcome of PIE ${}^*h_1\mu es_-r$ would be Lat. *veser showing the effect of the dissimilatory miser-rule, 24 which also accounts for aser instead of *arer (with rhotacism). The form $v\bar{e}r$ could be explained by the following ad hoc development: ${}^*h_1\mu es_-r > {}^*\mu erer > (syncope before dissimilation by <math>miser$ -rule) ${}^*\mu err > v\bar{e}r$ vs. *h_1sh_2 - ${}^*r > {}^*aser > {}^*arer > (dissimilation by <math>miser$ -rule) aser. Between two identical vowels syncope took place before the dissimilation by the miser-rule giving miser, aser vs. $v\bar{e}r$. This explanation, which would make $v\bar{e}r$ an example of the proposed sound law, is, of course, totally ad hoc. It thus cannot be regarded as positive evidence. Furthermore, Lat. $v\bar{e}r$ has a cognate in OIcel.

Cf. OLat. sequester, -a, -um ~ ClLat. sequester, -tris, -tre; mulcibrī (Accius, Cicero), d.sg. -berō (inscr.) ~ mulciber, -eris (Ovid), -ris (Caesell. in Prisc.); gener, generī ~ n.pl. -ēs (inscr.), abl.pl. -ibus (Accius), D.Sg. -ī (inscr.); OLat. pauper, -a, -um ~ ClLat. pauper, -eris. Lat. cicur, -uris 'tame' vs. Skt. śakur-a-'id.' (according to KEWA III 289 not directly connected; thematisation of Old Indic heteroclitic śákvan-, śákvarī- 'powerful, able, mighty'?); perhaps also adj. ūber 'rich, abundant, copious' < *ūþeros if not of the same origin as subst. ūber 'udder' < *ūþṛ as suggested by Szemerényi 1955 (with discussion of other explanations for the coexistence of ūber 'udder' and ūber 'abundant'), followed by Hamp 1970.

²⁴ Meiser 1998: 95.

 $v\acute{a}r$, which cannot be explained by this inner-Latin $ad\ hoc$ development. For other explanations for ${}^*h_1 u\bar{e}r$ see Szemerényi (1990: 123) and Bjorvand & Lindeman (2007: 1344–1346), as well as Porzig (1954: 110f.), who suggests influence by PIE ${}^*(H)i\bar{e}r$ 'year', also found in Germanic (Goth. ier, OHG iar) and Italic (Lat. iarnus 'of this year' < iarnus').

None of these lexemes can be regarded as secure further evidence for the sound law PIE *-r > Lat. -or or -er. Nonetheless, they are not counter-examples²⁵ either, but would be consistent with it in the case they were actually continuants of r/n-heteroclites.

4 Further evidence for the two-fold development of PIE *-r in Vedic

Apart from the evidence provided by the desinence of the nom.-4.1 acc.sg. of the r/n-heteroclites and by the ending of the 3rd pl. ind. perf. act., one further word-form might be explained by the sound law proposed here: sthātúr* < *sthātý, which in all RV instances is a nom. or acc.sg. (RV 1.69.1 (acc.), RV 1.58.2, 1.70.7 (nom.)) in agreement with carátham n. '(that which is) mobile, with which it appears in a fixed formula sthātúś carátham 'the immobile (and) the mobile'. *sthātṛ 'what is standing, not moving' is a semantic counter-part of jágat- 'what is moving, living; living world' (cf. Narten 1972: 164f.). Tichy (1995: 71), however, argues that the development *- $\dot{r} > -\dot{u}r$ is not likely ("es spricht nichts dafür, daß zwischen der erstmaligen Bildung der Form *sthātf und der Prägung des Ausdrucks sthātúś carátham eine Zeitspanne lag, in der -ŕ vor anlautendem Vokal – in einer anderen Stellung ist der Wandel schwer vorstellbar - zu -úr entwickelt wurde"). She therefore favours the explanation of stātúś being an abstract noun in -tu- (sthātu-* 'das Stehen; alles, was steht'; cf. similarly AiGr. III 204, followed by Renou (1937: 115), who later - 1952: 203 - changed his view; see o above). I believe that *sthātf is simply a relic form of an otherwise rare neuter -tar-noun, and shows the regular outcome of PIE final *-r. The fact that there is no other neuter *-tar-*agent noun to be found in older

There is only one extremely doubtful potential counter-example: Lat. $s\bar{u}ber$, -eris n. 'cork(-oak)', which has been connected with Gk. $\sigma\tilde{v}\phi\alpha\rho$ 'wrinkled skin, old person' (see Walde-Hofmann 1938–1954: II 617, Frisk 1960–1970: II 825). Their origin is, however, unknown: borrowing from a common source? Besides, the semantics of $s\bar{u}ber$ and $\sigma\tilde{v}\phi\alpha\rho$ are not immediately proximate.

Vedic texts and that *sthātúś* is only found in the younger first book of the RV does not contradict this.

- **4.2** Pinault 1989, who also reckons with a two-fold outcome of PIE *-r in Vedic, argues for a dialectal distribution²⁶ of -ar and -ur instead of one conditioned by accent. Indeed, some of the examples he gives for the two-fold outcome cannot be explained by the position of the accent:
 - 1 sanutár 'far away, distant' beside sanitúr 'distant' (3× RV).
 - 2 *prātár* 'early (in the morning)' beside *prādúr*, Pāl. *pātu* 'obvious, apparent'.

He traces both (1) and (2) back to adverbs ending in PIE *-tr giving -túr in one dialect and -tár in the other. There is, however, no evidence for adverbs ending in PIE zero-grade *-tr but only for those ending in full-grade *-tér² (cf. the discussion in Kümmel 2000: 46). Furthermore, neither sanutár nor prātár, which may indeed go back to adverbs in *-tér, need to be etymologically connected with sanitúr and prādúr, respectively. Indeed, this is rather unlikely. Despite Pinault (l.c. 40) the form sanitúr can be interpreted as g.sg. of a -tar-agent noun sanitár- 'winner' in all three passages.² This explanation has the advantage of not necessitating an other-

According to Pinault, -ur belongs to a dialect that was "the common language for the redaction of the RV" (l.c. 96), whereas -ar belongs to a dialect that was not the common spoken language of that time, and that has some affinities with Avestan ($cf. *-r > Av. -ar^3$).

²⁷ Examples being Lat. *inter* 'within' = Ved. *antár*, Gk. ἀτέρ 'without' (psilotic, < *sm-tér), and, also, Ved. *prātár* 'early'. Greek adverbs ἄφαρ 'immediately', εἶθαρ 'id', ἴκταρ 'close, nigh', ὄναρ 'in dream, unreal', ὕπαρ 'in truth, real' are of nominal origin (acc.sg. of r(/n)-stems; Frisk 1960–1970: I 194, 452; II 393f., 966).

²⁸ RV 1.163.5ab imā te vājinn avamūrjanāni imā šaphānām sanitūr nidhānā 'Dies sind deine Schwemmen, du Streitroß, dies der Schatz der Hufe, (die der Schatz) für den Gewinner sind.' RV 3.31.2ab ná jāmáye tānuvo rikthám āraik cakāra gárbham sanitūr nidhānam 'Der leibliche Sohn hat seiner Schwester das Erbe nicht überlassen; er machte ihren Mutterleib zu einer Schatzkammer des Gewinners.' RV 5.12.3cd védā me devá rtupā rtūnām nāhám pátim sanitūr asya rāyāḥ 'Der Gott, der der Hüter der Zeiten ist, kennt mich; ich (kenne) nicht den Herrn, noch den Gewinner dieses Reichtums.' (Transll. by Geldner 1951: I 226, 367, II 14). Pinault points to the parallelism between the syntagm sanutār dhā- (2× RV) 'mettre à l'écart, au secret' and sanitūr nidhāna- allegedly 'dépôt

wise unattested lexeme (adverb sanitúr), and of being able to account directly for the i-vocalism in the middle-syllable of sanitúr (g.sg. of sanitár-from seṭ-root san^i - 'win' < * $senh_2$ -) vs. u-vocalism in sanutár (adv., < * $son(h_1)$ -u-té r^{29}). They are simply two different words. Forssman now (2000: 39–54) plausibly traces Ved. $pr\bar{a}dúr$ 'obvious, apparent' back to a preform * $pr\bar{o}$ -dhur or * $pr\bar{o}$ -dhurs 'in front of the door' (with replacement of dh- by d- after $dv\bar{a}$ 'two', as must already be assumed for Ved. $dv\bar{a}r$ -dur-'door'), so that $pr\bar{a}dúr$ and $pr\bar{a}t\acute{a}r$ have to be kept apart.

Pinault (l.c. 47-57) discusses a third case for his alleged dialectal distribution: loc.sg. nánāndari 'sister of the husband' (RV 10.85.46), which corresponds to a synchronic g.sg. nánāndur in a parallel passage in AV 14.1.44. After having examined the RV-passage syntactically and by content, he reaches the conclusion that the loc.sg. nánāndari must stand for an incongruent³⁰ loc.pl. *nánāndṛ (without the loc.pl.-marker -su), which yielded *nánāndar in one dialect (corresponding to sanutár, prātár above), nánāndur in the other (corresponding to sanitúr, prādúr), represented directly by the AV form nánāndur. Both RV *nánāndar and AV nánāndur fit into the metre, whilst the attested RV nánāndari has one syllable too many. Despite Pinault's brilliant philological and stylistical survey of the relevant passages, it remains questionable if the assumption of *nánāndṛ is indeed compulsory, particularly because several additional assumptions have to be made (incongruency (see fn. 30); transformation of loc.sg. *-ar into -ari). Besides, the development * $n\acute{a}n\ddot{a}ndr > *n\acute{a}n\ddot{a}ndar$ would be consistent with the sound law presented here (unaccented *-r > Ved. -ar). Only AV

caché, trésor'. This is, however, a mere supportive argument for his thesis and in itself not compulsory for the interpretation of *sanitúr*.

²⁹ See most recently Oettinger 2007 for an etymological discussion of *sanutár* and related lexemes (Hitt. *šannapi* 'scattered, sporadic', Ved. *sānu-* 'back, tergum' etc.).

³⁰ Cf. the examples in *AiGr*. III 78–81, Pinault (l.c. 54). But note that all certain examples given in *AiGr*. and by Pinault for this kind of incongruency exhibit actual grammatically possible forms, such as *rocané* = loc.sg. instead of *rocanéṣu*, never an impossible form such as **nánāndṛ*. That suggests that the incongruency is merely one between sg. and pl., and is not to be interpreted as the omission of a morpheme (here -*su*) in a quasi-agglutinative manner. But cf. agglutinative double marking in the hapax RV 1.129.4 *pṛt-sú-ṣu* 'in the battles' (for the indication of this form I thank A. Müth.).

nánāndur, if not a g.sg. intended by the AV-composer, would contradict it. But Pinault himself (l.c. 56) states that the AV-passage is much more innovative than the corresponding passage in the RV ("Tout cela trahit un travail superficiel, et confirme *a contrario* la rigueur du texte originel, conservé pour l'essentiel dans le RV"). Thus, it is possible that the AV intendedly had a g.sg. form in this passage. I would not go so far as to assume a dialectal distribution on the grounds of a presumed *nánāndṛ alone, particularly because all other potential instances of such a distribution are extremely improbable (see (1) and (2) above).

I come to the conclusion that there is no need to trace back the -ar-desinence of the Ved. r/n-stems to a full-grade *-er. Instead, it is very likely that we are dealing with the zero-grade *-r that is to be assumed due to relic forms in Ved. $(y\acute{a}krt, \acute{a}srg)$, and because it is well attested outside Vedic. Another outcome of PIE *-r is Ved. $-\acute{u}r$ as in the perf. ending and, probably, $sth\bar{a}t\acute{u}r^*$. The conditioning factor is the accent: Unaccented final sonantic *-r yields -r yields -r accented final sonantic *-r yields -r to Ved. -r as seen in the g.sg. of r-stem-nouns.

It is perhaps possible to assume that the latter development is not due to the final genitive -s but to the accent, as most of the r-stem-nouns including tar-agentives are oxytonic. The development of the g.sg.-desinence would then be: *- \hat{r} -s > *- \hat{u} r-s > *- \hat{u} r-r > - \hat{u} r. It would be part of the same accent-conditioned sound law and not underlie another sound law by which *-rs yields -ur independently of the accent. That implies that the above formulated sound law must be licensed not only to the absolute final position, but to final syllables ending in -s (or probably any other continuant) as well. The most frequent form of the g.sg. in accented - \hat{u} r would then have been taken over by barytonic nouns as well.

For Latin another double representation of PIE *-*r* could be determined which is not conditioned by accent, but by the preceding consonant: PIE *-*r* yields Lat. -*ur* after labials, -*er* elsewhere. Due to the lack of evidence it remains unknown if this development is already Proto-Italic.

For the plausibility that accented *- \dot{r} yields - $\dot{u}r$ while unaccented *- \dot{r} yields -ar, note the phonological parallel found in OHG, where e.g. the prefix ur- is preserved as such in initially accented nominal compounds (cf. $\dot{u}r$ -teili, $\dot{u}r$ -cundo) while unaccented ur- in verbal composition with

stem-accent yields *ar*-, and later *er*- or *ir*- (cf. *ir*-téilen, *ir*-kúnden); cf. Braune & Reiffenstein (2004: 76).

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