

The Indo-European Verb



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Proceedings of the Conference of the Society
for Indo-European Studies, Los Angeles 13–15 September 2010

Edited by
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Wiesbaden 2012
Reichert Verlag

Bibliografische Information der Deutschen Nationalbibliothek
Die Deutsche Nationalbibliothek verzeichnet diese Publikation in der
Deutschen Nationalbibliografie; detaillierte bibliografische Daten sind
im Internet über <http://dnb.ddb.de> abrufbar.

© 2012 Dr. Ludwig Reichert Verlag Wiesbaden
ISBN: 978-3-89500-864-1
www.reichert-verlag.de

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Gedruckt auf säurefreiem Papier
(alterungsbeständig pH7 -, neutral)
Printed in Germany

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The Accentuation of Old Indic Reduplicated (3rd Class) Presents*

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It will be demonstrated that of the three accent types of reduplicated presents found in Vedic – type (1) *bībharmi* ~ *bībhā́si*, type (2) *jūhómi* ~ *jūhū́s*, type (3) *jáhāti* ~ *jihū́te* – only type (1), lacking a secondary explanation, can be original, whilst for type (2) and (3) a secondary genesis is probable. The exceptional paroxytonic accentuation similar to that of type (2) found already in the RV and AV in the strong stem of verbs that otherwise belong to type (1), namely *bībhā́rti* (1x RV, 2x AV) and *iyá́rṣi* (1x RV), will be explained as part of a Late Vedic development.

1. The reduplication syllable

1.1. The evidence

Athematic reduplicated presents of the structure: reduplication syllable – ablauting root – ending are most prominent in Indo-Iranian and Greek; e.g. Vedic *dá-dhā-mi* ~ Gr. *τί-θη-μι* ‘put, place’. This present type must, therefore, be reconstructed for the PIE proto-language. This reconstruction is further supported by extra-Graeco-Aryan evidence such as OLith. 1st sg. *demi* < **ded-méj*, 3rd sg. *dēsti* < **ded-ti*; OCS 1st sg. *deždo* < **ded-ǰé/ó-*, which, however, are no precise morphological cognates of the Greek and Indo-Iranian forms but have been morphologically transformed.

The pair Vedic *dá-dhā-mi* ~ Gr. *τί-θη-μι* is almost a precise match but for the vocalism of the reduplication syllable. Greek reduplicated presents exhibit solely *i*-reduplication, e.g. *τί-θη-μι* ‘put’, *δί-δω-μι* ‘give’, whilst we encounter two different kinds of reduplication in Indo-Iranian, namely *i*-reduplication (e.g. *bi-bhar-ti*, *pi-par-ti*), and *a*-reduplication (*dá-dhā-ti*, *dá-dā-ti*). Whether a stem is derived by means of *i*- or *a*-reduplication is not predictable. The types of reduplication are lexically distributed. Furthermore, Indo-Iranian shows another type of reduplication, namely *u*-reduplication, found only in stems derived from roots containing *-u-*; e.g. *ju-hó-mi* (*HU-* ‘praise, libate’), *yu-yó-ti* (*YU-* ‘separate’). It is generally assumed that this type is an innovation due to an early substitution of *-i-* by *-u-* in analogy to *i*-reduplicated presents derived from roots containing *-i-*; e.g. *NIJ-* ‘wash’ < PIIr.¹ **nig-* (prs. *ni-nik-ta* 2nd pl. ipv.), *HU-* ‘praise, libate’ < PIIr. **f^hu-* (prs. *ju-hó-mi*):

$$\text{I.}^2 \quad \begin{array}{l} *nig- \sim *ni-nig- : *f^h u- \sim X \\ X = *f^{(h)} i- f^h u \rightarrow *f^{(h)} u- f^h u- \end{array}$$

Regarding the *-i-* of the reduplication syllable, the combined Greek and Indo-Iranian evidence conclusively points to PIE **-i-*. The *-a-* of *dá-dhā-ti* could be traced back either to PIE **-e-* or to **-o-*. The lack of lengthening by Brugmann’s law, however, excludes **-o-*. Thus, only **-e-* is possible, which is

* We would like to give thanks to Corinna Scheungraber, who agreed to present an earlier version of this paper during the authors’ absence at the conference.

1 When this development took place is open to debate. It could be Proto-Indo-Iranian: cf. Av. *zū-zuy-anəm* (for *zū-zuv-anəm* ‘of the praised’, g.pl. of the med. ptc.), even though Avestan also exhibits some *i*-reduplicated presents derived from roots containing *-u-*; e.g. *zī-zušte* ‘savours, relishes’ < **ǵi-ǵus-* ‘taste’. The existence of *u*-reduplication in Hittite (cf. *išduškuške/a-zi* ‘be announced, proclaimed (?)’ < **stu-stu-ske/o-*, *kukuš-zi* ‘taste’ < **ǵu-ǵus-*) suggests a PIE date, but such processes could also have taken place several times independently.

2 All analogical processes will be numbered by Roman numerals, which will be referred to in the synopsis at the very end of the paper.

also supported by the above-mentioned Balto-Slavic forms OLith. *demì*, OCS *deždq̇*. We therefore must assume the existence of two different kinds of reduplication already for PIE, i.e. PIE *i*-reduplication alongside PIE *e*-reduplication.

1.2. Interpretation of the evidence

Thus far, two entirely different attempts have been made at explaining the distribution of *i*- vs. *e*-reduplication: the polythematic and the monothematic approach. In the following, both explanations and their potential implications will be discussed and be weighed against each other regarding plausibility.

1.2.1. The polythematic approach

The polythematic approach reckons with two different types of reduplicated presents, one showing *e*-reduplication throughout, the other exhibiting only *i*-reduplication (LÜHR 1984: 64ff., HARÐARSON 1993: 30-32, *LIV*² 16):

(a) with *e*-reduplication and static accentuation on the reduplication syllable:

**Cé-Ce/oC-* ~ **Cé-CC-*

(b) with *i*-reduplication and mobile accentuation alternating between root and ending:

**Ci-Cé/óC-* ~ **Ci-CC-'*

For the sake of simplicity these two types, as well as all subsequently discussed types of reduplicated paradigms, will be labelled with terminology used to describe accent-ablaut patterns of the IE noun. Thus (a) will be an “acrostatic” paradigm, (b) a “hysterodynamic” paradigm, as if the reduplication syllable were equivalent to the nominal root, the verbal root to the noun-suffix, and the verbal ending to the nominal ending. To avoid misunderstandings, these terms will be used with inverted commas when referring to verbal paradigms.

Obviously the representatives of the polythematic approach consider the *e*-vocalism of the reduplication syllable as connected with accentedness, the *i*-vocalism with unaccentedness. The following description and criticism will apply the same axiom (*e*-vocalism = accented, *i*-vocalism = unaccented). This procedure does not affect the following description and interpretation of the evidence. It will, however, be relevant to a certain degree in the final reconstruction; see 3.

1.2.2. The monothematic approach

In the monothematic approach *e*- and *i*-reduplication are considered to be complementarily distributed within a single paradigm. Such a paradigm can then be reconstructed in two ways, given that at least in one paradigmatic form the reduplication syllable was accented:

(a) “proterodynamic” paradigm with accent-alternation between reduplication syllable and root:

**Cé-Ce/oC-* ~ **Ci-Cé/óC-*

(b) “amphidynamic” paradigm with accent-alternation between reduplication syllable and ending:

**Cé-Ce/oC-* ~ **Ci-CC-'*

Given the axiom that *e*-vocalism of the reduplication is connected with accentedness, a “hysterodynamic” paradigm such as the one reconstructed by those who assume two different stem formations is not possible, because it lacks the accented *e*-grade in the reduplication syllable necessary to account for its *e*-vocalism.

In two quite similar monothematic approaches, however, WATKINS (1969: 36) and RASMUSSEN (1987: 111f., 1999 [1988]: 321f., 1997: 252f.) argue for an original “hysterodynamic” paradigm, providing different solutions to account for the *e*-grade of the reduplication syllable. In WATKINS’ approach the *e*-vocalism is accounted for by assuming that the accented *e*-grade was secondarily transferred from the paradigm of the reduplicated intensive formation, such as *várvarti* ‘he turns eagerly, frequently’. RASMUSSEN regards the *i*-vocalism of the weak stem (**d^hi-d^héh₁-ti*) as due to unaccentedness, while the peculiar form of the 3rd plural (see 1.2.3.) with accented reduplication syllable accounts for the *e*-vocalism in the paradigm. For a criticism of these approaches see 2.2.3.

1.2.3. The plausibility of the two approaches

The polythematic approach implies that, after the split-up of the proto-language, the two stem types were intermingled by analogical processes. Thus, in Greek the *i*-reduplication of the “hysterodynamic” paradigm was generalised for all reduplicated presents, whereas in Indo-Iranian both types, *i*- and *e*-reduplication, were retained. Note, that the lexically distributed *i*- and *e*-reduplication of presents in Vedic does not necessarily represent the old distribution. It is probable that at least some attested *i*-reduplicated presents could have originally belonged to the “acrostatic” stem type (i.e. the originally *e*-reduplicated type), since *i*-reduplication is much more frequent. In other words the “hysterodynamic” type is the more productive one, which was consequently more apt to spread at the expense of the much rarer “acrostatic” type.

The monothematic approach implies that the different stem alternants were generalised differently in each individual language by analogical processes. Greek generalised *i*-reduplication, Indo-Iranian, at least partly, preserved both types.

Although both assumptions are possible, the monothematic approach is much more economical than the polythematic one. The latter has to reckon with two different stem types and with implications concerning the dynamics of the accent-ablaut-interface, that is, accented *e*-vocalism vs. unaccented *i*-vocalism. The monothematic approach, on the other hand, only has to reckon with the latter. This is a purely logical argument simply counting the number of necessary additional assumptions. But there is also a more substantial argument in favour of the monothematic approach: in Indo-Iranian we encounter not only reduplicated presents whose paradigm exhibits *i*- or *a*-reduplication throughout, but also reduplicated presents that show both types of reduplication; e.g.

ra-rī-thās (2nd sg.inj.med.) ~ *ri-rī-hī* (2nd sg.ipv.act.) *RĀ*- ‘bestow’
sá-śc-ati (3rd pl.ind.act.) ~ *sī-ṣak-ti* (3rd sg.ind.act.) *SAC*- ‘accompany’
já-hā-ti (3rd sg.ind.act.) ~ *ji-hī-te* (3rd sg.ind.med.) *HĀ*₁- ‘leave (tr.)’ / *HĀ*₂- ‘go away’
 fossilised participle *jágat*- ‘the world’ < ‘moving’ ~ finite forms stem *ji-gā*- ‘go, move’

It is extremely unlikely that in the course of an analogical process only some forms of one present stem type were replaced by those of the other. Furthermore, some of the mixed paradigms might still show the paradigmatic distribution as predicted by the monothematic approach. The *e*-reduplication is found in strong stem forms, where the accent is on the reduplication, whilst in the weak stem forms the reduplication syllable has *-i-*; cf. strong active stem *já-hā-ti* with *a*-reduplication vs. weak medial stem *ji-hī-te* with *i*-reduplication. Here the original distribution of the reduplication vocalism was preserved probably because the paradigm of *já-hā-ti* and *ji-hī-te* was split into two synchronically separate lexemes.³ Thus, the monothematic approach is altogether much more likely than the polythematic one.

Assuming that there was only one type of reduplicated presents, in which *i*- and *e*-reduplication were distributed paradigmatically, the question has to be asked which of the two potential accent-ablaut-types is the original one: the “proterodynamic” paradigm, or the “amphidynamic” paradigm.

2. The accentuation in Vedic

2.1. The evidence

In Vedic three different types of accentuation are found:

- (1) “amphidynamic” type *bībharmi* ~ *bībhṛmāsi* (3rd pl. *bībhṛati*)
- (2) “hysterodynamic” type *juhómi* ~ *juhúmas* (3rd pl. *júhvati*)
- (3) “static” type *jáhāti* ~ *jihīte*

³ Note that the accentuation of *ji-hī-te* cannot be original; see 2.2.1.

The 3rd plural form is peculiar, because it is always accented on the reduplication syllable (*bibhrati*, *júhvati*) as if it were a strong stem form of type (1). Moreover, it always has a zero-grade ending *-ati* and *-ate* < **-ṛti*, **-ṛtoj*.

For a “proterodynamic” type, which was theoretically assumed above in order to account for the *e*-reduplication, there is absolutely no evidence whatsoever. This type can thus be ruled out.

Type (1) is the most frequent one, and, it is derived from roots of every possible structure, whereas type (2) is extremely rare. It is, as a rule, derived only from roots which contain an *-u-* and, as a consequence, exhibit *u*-reduplication. Of those there are only two that form a reduplicated present, namely *HU-* ‘praise, libate’ (*juhómi* ~ *juhumás*) and *YU-* ‘separate’ (*yuyóta* ~ *yuyutám*). There are some rare exceptions to this rule: the hapax legomenon *ni-cikéši* ‘you perceive, are aware of’ (AV 1.10.36) and *vavákṣi* ‘you wish’ (RV 8.45.6), as well as the forms *bibhárti* (RV 4.50.7c, AV 19.26.1b, 2b) and *ud-iyárṣi* ‘you uprise’ (RV 10.37.4b) also follow the “hysterodynamic” pattern. The latter two must be considered exceptional being found beside their extremely frequent “amphidynamic” counterparts (*bibarmi*, *bibharṣi*, and *bibharti*; *iyarmi*, *iyarti*). Type (3) is also rather rare. It is only found in the four medial forms *íṭṭe* ‘praises’, *jihūte* ‘takes his/her leave, goes away’, *mimīte* ‘measures’, and *śísīte* ‘sharpens, whets’.

2.2. Interpretation of the evidence

2.2.1. The “static” type

This type is regarded as “static” because its medial forms, which are usually weak stem forms – cf. *dhatté*, *juhuté* – are accented on the reduplication syllable like strong stem forms of the “amphidynamic” type (*bibharti*). It is conspicuous that active forms of these verbs are not attested: *íṭṭe*, *jihūte*, *mimīte*, *śísīte* are all media tantum. A medium tantum in the strict sense is *íṭṭe*, where there is absolutely no active paradigm attested. Of *mimīte* and *śísīte* only the indicative forms are medial, while the imperative is active. These imperatival forms are accented according to the “amphidynamic” type with accent on the ending (*mimīhi*, *mimītám*, *śísīhi*). *jihūte*, however, is different. There are two semantically close roots: *HĀ₁-* ‘leave behind (trans.)’, which forms an activum tantum *jáhāti*, and *HĀ₂-* ‘go away, yield, give away (intrans.)’ with the medium tantum *jihūte*. It is very likely that *HĀ₁-* and *HĀ₂-* were originally one root (see OETTINGER 2007). Synchronically, the two lexemes are, however, distinct. After the lexeme split, *jihūte* became a proper medium tantum, whilst *jáhāti* became an active tantum. In other words, *jihūte* had lost its active counterpart, and therefore its paradigm no longer contained any strong forms, that is forms with the accent on the first syllable. It was diathetically isolated. The hypothetical form **jihūté*, the remnant of the originally complete paradigm *jáhāti* ~ **jihūté*, was then transformed in analogy to the relatively frequent media tantum of 1st class thematic presents, such as *cáyate*, *syádate*. Each unaccented main-clause verb may have been the linking form that made the proportional analogy possible:

- II.

<i>cáyate</i> ~ <i>jihūte</i> (main clause) : <i>cáyate</i> ~ X (subordinate clause) <i>X</i> = <i>*jihūté</i> → <i>jihūte</i>

The other media tantum *íṭṭe* and – at least partly – also *mimīte* and *śísīte* had no active paradigm to begin with, perhaps never had one. Thus it is likely that the same analogy replaced **íṭṭé*, **mimīté*, **śísīté* by *íṭṭe*, *mimīte*, *śísīte*. The retraction of the accent to the first syllable, i.e. the reduplication syllable, seems to have been productive in a certain period of Vedic; cf. for instance the neo-present *íṣṭe*, *íkṣe* ‘possesses, obtains’, whose perfect origin is still betrayed by 3rd sg. *íṣe* ‘id.’ and 2nd sg. *íṣiṣe* (with perfect endings), but whose accentuation has been changed according to the innovative initial accent of isolated middles, when it was transformed into a present.⁴

⁴ But note that the original accentuation is preserved in the hapax 1st sg. *īlé* ‘praise’, which is regarded as a proper perfect form by KÜMMEL (2000: 122), while the innovative accentuation is found in the 1st sg. *īle* ‘praise’ (7x RV), which is, however, probably an original reduplicated present.

As in all these cases only the middle forms point to a static paradigm, it is not helpful to return to the theory of a second “acrostatic” present stem type (as per HARDARSON, LÜHR and LIV² l.c.), because a complete static paradigm, with an initially accented active is not at all attested. Besides, all “static” presents exhibit *i*-reduplication which is incompatible with the postulated *e*-grade of the reduplication in an “acrostatic” paradigm. Instead the “static” paradigm is clearly to be regarded as secondary.

In Late Vedic we twice within the same passage encounter a form *mimīté* (TS 6.1.9.4, 5) instead of *mimīte*. Given its late occurrence it is unlikely that these TS-forms preserve the original accentuation. It is more probable that *mimīté* is either a singular error induced by the accentuation of regular middles (e.g. *dhatté*) or even a linguistically genuine form analogically formed on basis of these very middle forms:

III.

<i>dhatte</i> ~ <i>mimīte</i> (main clause) : <i>dhatté</i> ~ X (subordinate clause) <i>X</i> = <i>mimīte</i> → <i>mimīté</i>
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The analogical process, however, seems much more unlikely, as one would expect to find more forms like *mimīté*, which could confirm their status as idiomatic forms in Late Vedic.

2.2.2. The “hysterodynamic” type

The “hysterodynamic” type, too, is certainly of secondary origin. It is extremely remarkable that the two roots that form a reduplicated present of the “hysterodynamic” type both contain an *-u-*. Except for those two, no other root regularly forms a “hysterodynamic” reduplicated present. For the exceptional “hysterodynamic” forms *bibhárti*, *ud-iyársi*, and the hapax legomena *ni-cikéši* and *vavákši* see 2.2.4.

As long as no plausible morphological or phonological reason can be furnished as to why the peculiar “hysterodynamic” accentuation is only found in present stems derived from roots containing *-u-*, it is not feasible to regard the “hysterodynamic” type as being original. Instead, it is rather likely that these two verbs acquired their accentuation secondarily by means of analogy. A fairly probable analogy is that to the structurally similar *nu*-presents, such as *su-nó-* ~ *su-nu-* ‘squeeze, press out’:

IV.

<i>sunumás</i> ~ <i>sunómi</i> : <i>juhúmas</i> ~ X <i>X</i> = * <i>juhómi</i> → <i>juhómi</i>

Note that the substitution of *i*-reduplication by *u*-reduplication must precede this analogy. The 3rd pl. *juhúvati* with initial accent and zero-grade ending, which is different from the 3rd pl. of *nu*-presents such as *sunvánti*, still betrays its origin, namely the “amphidynamic” type; cf. 3rd pl. *bibhrati* which matches *juhúvati*. In other words, the 3rd pl. always preserves its peculiarity and seems resistant to any morphological changes.

2.2.3. The “amphidynamic” type

Since the “static” type and the “hysterodynamic” type have to be regarded as secondary, the “amphidynamic” type *bibharmi* ~ *bibhmás*, for which there is no secondary explanation, remains the only type that can be considered original.

A different explanation was given by WATKINS (1969: 36), who, following KURYŁOWICZ (1958: 101-103), considered the “hysterodynamic” type *juhómi* ~ *juhúmas* as original. He regards the forms with initial accent such as *bibharti* as being formed in analogy to the intensive formations with initial accent such as *várvarti*. WATKINS also included the above-mentioned exceptional form *bibhárti* in his discussion, which he regards as an archaism pointing to an alleged “hysterodynamic” accentuation. To this form could be added the exceptional 2nd sg. *iyársi*. The morphology of these two formations is, however, rather different. The intensive formation exhibits full reduplication or – in the words of RASMUSSEN (1987: 113) “just so much material of the underlying root that it forms a closed syllable” – while the 3rd class shows partial reduplication, i.e. an open syllable. Moreover, the intensive usually has a fixed accent on the reduplication syllable, whereas 3rd class presents of whichever type (*juhómi* ~

juhumás or *bíbharmi* ~ *bíbhṛmási*) exhibit a mobile accentuation. It is thus fairly unlikely that an analogical process has taken place between the intensive and the 3rd class presents.

An original “hysterodynamic” paradigm was also assumed by RASMUSSEN (1987: 111f., 1999 [1988]: 321f., 1997: 252f.). For him too, the type *juhómi* ~ *juhumás* preserves the original accentuation, whereas the accentuation of the type *bíbharti* ~ *bíbhṛmási* is due to the influence of the morphologically peculiar 3rd pl. form, which is always accented on the reduplication (and presumably also exhibited *e*-grade originally).

As could be shown above, the “hysterodynamic” type *juhómi* ~ *juhumás* is due to an analogy to *nu*-presents. Thus the main part of WATKINS’ and RASMUSSEN’s argumentation for an original “hysterodynamic” paradigm disappears. There remain to be explained only such exceptional forms as *bíbhárti* and *iyárṣi*, the former of which WATKINS put forward for his assumption.

2.2.4. Exceptional “amphidynamic” accentuation (*bíbhárti*, *iyárṣi*; *cikéṣi*, *vavákṣi*)

As shown above (2.1.), the forms *bíbhárti* and *ud-iyárṣi* are exceptional, only occurring twice or once, respectively, in the older Vedic tradition (RV and AV). But at least *bíbhárti* with penultimate accent is quite abundant in the later Vedic tradition.

Examining the attestations of the strong stem alternant *bíbhar-* in the TS and keeping a strict distinction between prose and mantra passages, one obtains a fairly illuminating picture: strong inflectional forms are constantly accented on the first, i.e. the reduplication syllable, when attested in a mantra passage, but on the second, the root syllable, when found in a prose passage. The fact that the mantra passages belong to an older tradition than the prose passages shows that *bíbhárti* is younger compared to *bíbharti*.

In the younger VS we only find the presumably younger forms accented on the second syllable. (*bíbhárṣi*, *bíbhárti*). It is, however, very revealing that *bíbhárti* VS 34.51 equals AV 1.35.2, where we find the older form *bíbharti* instead. *bíbhárti* can therefore not be original, but is to be regarded as an innovation.

Yajur-Veda:

TS:

mantra

prose

bíbharṣi (4.5.1.2)

bíbhárti (5.6.5.2; 5.6.9.3)

VS:

bíbhárti (34.51) = *bíbharti* (AV 1.35.2)

bíbhárṣi (16.3)

The paroxytone form *bíbhárti* also occurs quite frequently in passages of the ŚB which are independent of RV and VS material (e.g. 2.3.3.3, 3.6.2.20, 6.3.1.41, 7.1.2.10 and other). Thus, the tendency towards paroxytone accent generally seems to be a Late Vedic innovation. Consequently the RV form *bíbhárti* – even though it is attested in the relatively old 4th book – can be revealed as innovative, too, as it seems to be part of the same tendency. The same goes for the AV attestations of *bíbhárti* which are found in the young 19th book only (AV 19.26.1⁵, 2). It would be reasonable to assume the same for the paroxytone form *iyárṣi*. But such a distinctive distribution as for *bíbhar-* is not to be found for *iyar-*. In fact, we must admit that we could not find any other instances for paroxytone reduplicated verb forms other than *bíbhar-* in the Late Vedic period. One would expect to find forms like *iyárti* vel sim., for this verb, too, like *bíbhar-*, is very frequent. We have not undertaken a thorough investigation of all reduplicated presents of Late Vedic. Perhaps other examples can be found. For *iyárṣi* it is, however, relevant to note that it is only attested in the younger 10th book of the RV.

⁵ Var. lect.: K, Km *bíbharti*; Dc *bíbhárti* corrected to *bíbharti*. The latter correction, however, must be considered the lectio facillior.

The remaining question is: how did the innovative paroxytone accentuation (*bibhárti* instead of *bíbharti*) come into being?

It is possible that *bibharti* was replaced by *bibhárti* in analogy to the perfect stem. The pluperfect, which can easily be interpreted as an imperfect, could have been the linking form between the two categories. But an analogy to the perfect is only likely with roots that contain an *i* or an *u*, where the perfect shows likewise *i/u*-reduplication and the forms are more similar (cf. *cikéṣi*, *bibhétí* below), although a proportional analogy remains mechanically possible even if the forms are not similar (cf. *jāgárti* below). The fact, however, that the 3rd pl. *bibhrati* remains unchanged is peculiar. It is still accented on the first syllable, even in the innovative prose passages of the TS, where we otherwise find the consistent innovative accentuation *bibhárti* in the strong forms of the singular. This means that a theoretically possible but not very likely analogy to the perfect did not influence the 3rd plural. This looks much like the situation found with *juhómi*, whose 3rd pl. *júhvati* was not replaced by **juhvánti* in the course of analogy to *nu*-presents. Thus it is reasonable to assume that the accentuation of *bibhárti* came into being due to an analogy to the – in itself secondary – type *juhómi* ~ *juhumás*:

V.

<i>juhumás</i> ~ <i>juhómi</i> : <i>bibhṃás(i)</i> ~ X X = <i>bibharmi</i> → <i>bibhármi</i>

Also *cikéṣi* and *vavákṣi* are not valid as arguments for an original “hysterodynamic” type. They, too, are clearly secondary: *cikéṣi* is explained by HOFFMANN (1982: 82) as being a back-formation from a perfect on the basis of the pluperfect, which was interpreted as an imperfect. The same mechanism was described by CARDONA 1992 for a couple of other verbs such as *bibhétí* ‘is afraid’, *jāgárti* ‘is awake’. The hapax *vavákṣi* is considered a nonce-formation by JOACHIM (1978: 150-152), which ultimately perhaps is of perfect origin too.

3. Conclusions and reconstruction

It could be shown that for two of the three Vedic accentuation types a secondary explanation can be furnished. The “hysterodynamic” type *juhómi* ~ *juhumás* acquired its accentuation in analogy to *nu*-presents such as *sunómi* ~ *sunumás*. The “static” type *jáhāti* ~ *jīhīte* displays the results of a diathetical lexematic split with the accentuation of the weak stem of the middle forms being due to an analogy to 1st class media tantum presents such as *syádate*. Only for the first, the “amphidynamic” type *bibharmi* ~ *bibhṃási* no secondary explanation can be found. It must therefore be inherited and thus must be the starting point for the reconstruction of the PIE paradigm. It is probable that the two types of reduplication, *i*-reduplication and *a/*e*-reduplication, were originally paradigmatically distributed (monothematic approach), and are not to be attributed to two different present stem formations (polythematic approach).

A very remarkable form is the 3rd plural, which consistently shows a zero-grade ending and is accented on the first syllable, as if it were a strong inflectional form. Even in the analogically created “hysterodynamic” paradigm of *juhómi*, the 3rd plural remains unchanged *júhvati* (instead of **juhvánti*), as does the 3rd pl. *bibhrati* throughout the Vedic period, i.e. even in Late Vedic, where we find a 3rd sg. *bibhárti* (instead of *bibharti*).

If one combines the results gained by the interpretation of the evidence as presented here, one reaches the following reconstruction, applying the axiom that *i*-vocalism of the reduplication syllable appears when the reduplication syllable is unaccented, *e*-vocalism when it is accented:

Vedic	1st sg.	<i>bí-bhar-mi</i>	~	1st pl.	<i>bī-bhṛ-mási</i>	3rd pl.	<i>bí-bhr-ati</i>
PIE	1st sg.	<i>*b^hé-b^he/or-mi</i>	~	1st pl.	<i>*b^hi-b^hṛ-més + i</i>	3rd pl.	<i>*b^hé-b^hr-ṛti</i>

4. Unresolved questions

4.1. The reduplication syllable

One might raise the question as to why *i*-reduplication occurs in the absence of the accent instead of *e*-reduplication under the accent. There are several conceivable possibilities, which shall be presented here as mere suggestions for future research:

- (1) RASMUSSEN 1988, including other potential cases in his investigation (the alternation in the numeral **duo/i-* ‘two’, the interrogative pronoun **k^wo/i-*, 3rd person pronoun **(h₁)e/i-*) argues for a phonological source of the alternation: *i* is the unaccented equivalent of *e*, which itself is in some cases an alternation of *o*.
- (2) One might think of an epenthetic schwa-like vowel as the source of the *i*-vocalism, which could be identical in origin to the obscure *-i-* in Gr. *πίτνημι* ‘spread out, open’ (see on that form COWGILL/MAYRHOFER 1986: 176 with further references; HARDARSON 1993: 182¹⁹). Thus *i*-vocalism would be equivalent to a zero grade, i.e. absence of any vowel.
- (3) Apart from these phonological explanations, one might also think of a morphological reason for the *i*-vocalism. The vowel of the reduplication syllable may not be a proper apophonic element which follows a certain kind of ablaut pattern applying for the whole word-form but instead it may be a reduplicated element of the root. Hence the reduplication rule for partial reduplication could be formulated thus: *XYZ* → *XY-XYZ* instead of *XYZ* → *XV-XYZ* with *V* being an apophonic element; i.e. the reduplication comprises not only the first consonantal segment of the word but also the following vocalic segment. The *e* would be the reduplicate of the root vowel *-e-* found in the strong stem, while the *i* would be the reduplicate of the vowel in the weak stem of **CeḷC*-roots, which would subsequently have been generalised as the usual reduplication type of the weak stem. This scenario would also account directly for the *u*-reduplication. Cf. the reduplication-pattern for the different root types:

**Ce-CeḷC* ~ **Ci-CiC*-

**Ce-CeḷC* ~ **Cu-CuC*-

**Ce-CeC*- ~ **C?-CC*- (replaced by **Ci-CC*-)

This explanation, however, is only feasible if the root had *e*-grade in the strong stem.

4.2. The root vowel

The Vedic evidence is ambiguous as concerns the vocalism of the root syllable in the strong stem. An argument in favour of *o*-vocalism is the absence of secondary palatalisation in forms like *jgharmi* ‘drip’. But these forms can well be the result of levelling, for there is no position for palatalisation in the zero grade of the root syllable in the weak stem alternant. In fact, the hapax *abhi-jiharti* (see *AiGr.Nachtr.* 79) strongly suggests an *e*-grade, because there is no inner-paradigmatic source for the palatalisation. An argument for *e*-vocalism is the absence of lengthening by Brugmann’s law. But here too an analogical levelling is very likely, since only the 1st sg. ipf. with the secondary ending *-am* < **-m* would provide an open syllable, but only with roots of the structure **CeC*-. LÜHR (1984: 39, 64f.) comparing the Germanic 6th class present **fara/i-* ‘go, travel’ directly with Vedic *piparti* ‘trespasses, crosses’ reconstructs an *o*-grade root syllable. This procedure requires, however, justification as to the fact that these two morphologically different formations can indeed be equated, which is rather doubtful.

The Greek evidence is equally ambiguous. Gr. *τίθημι* < (virtually) **d^hi-d^heh₁-mi* points to *e*-vocalism, which can, however, be analogical to *δίδομι* < **di-de/oh₃-mi*, where *e* and *o*-grade are equally possible (s. LÜHR l.c. 65). Presents such as Gr. *ιάπτω* ‘harm’ < (virtually) **h₂i-h₂ek^w-je/o-* (**h₂ek^w-*; e.g. Ved. *áka-* ‘harm, pain’, Av. *akō-* ‘evil’) seem to argue for an *e*-grade, but the original present stem was probably unreduplicated (**h₂ek^w-je/o-*) with the *i*-reduplication being just a secondary addition as seems to be productive in Greek: cf. *ιάνω* ‘sleep’ < Proto-Gr. **i-aus-ō-* (**h₂ues-* ‘sleep, spend

the night'), where the reduplication must be secondary, as only thus the development of the root-initial cluster **h₂u-* > **au-* can be accounted for (s. *LIV*² 293).

It remains a task for the future to determine the vocalism of the root and the morphological status of the peculiar 3rd plural form, as well as to identify the source, be it phonological or morphological, for the alternation of *e-* and *i-*vocalism in the reduplication syllable. This article mainly aimed at presenting and interpreting the Vedic material, with special focus on the accentuation, in order to provide a solid basis for further research. A concise overview of the achieved results can be found in the synopsis on the following page.

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Synopsis – from one PIE type to multiple types in (Late) Vedic

Original PIE *e/i*-reduplicated “amphidynamic” type**Cé-Ce/oC-mi* (1st sg.) ~ **Ci-CC-més(i)* (1st pl.) ~ **Cé-CC-ṛti* / **Cé-CC-ṛtoṅi* (3rd pl. act./med.)