The Etymology of Vedic *bravⁱ* 'to say, to speak, to tell'

CARMELA MASTRANGELO¹ and ZSOLT SIMON^{2*}

¹ Istituto Italiano di Studi Orientali, Sapienza Università di Roma

² Hungarian Research Centre for Linguistics, Eötvös Loránd Research Network

Received: February 19, 2021 • Accepted: May 3, 2021

© 2021 The Author(s)

ABSTRACT

This paper argues that the standard etymology of Vedic $brav^i$ 'to say, to speak, to tell' from Proto-Indo-European * $mle\mu h_2$ - 'to speak' (and its connection with Avestan mrao- 'to say, to speak') cannot be upheld, since it is based on an irregular consonant change that cannot be independently motivated and explained. As an alternative, two different PIE verbal roots will be proposed, * $melH-u- \rightarrow mle\mu H$ -'to say, to speak' and * $ble\mu h_{2/3}$ -'to speak or to call', that provide phonologically and semantically regular bases for the words involved.

KEYWORDS

Vedic, Tocharian, Slavic, Avestan, verb, etymology, PIE *b





^{*} Corresponding Author. E-mail: zsltsimon@gmail.com

1. THE PROBLEM¹

The question of the etymology of Vedic *brav*^{*i*} 'to say, to speak, to tell' (RV+) seems settled. Both the standard etymological dictionary of Sanskrit (EWAia-II: 235–236)² and the handbooks of Indo-European etymology³ derive it from the Proto-Indo-European root **mleuh*₂- 'to speak' and connect it with Avestan *mrao*- 'to say, to speak'; Tocharian B *pälwā*- 'to complain, bewail one's fate' and Slavic **molviti* 'to say, to speak' (OCS *mloviti* 'to make ado, to make a rout', Czech *mluviti* 'to speak, to say', Ukrainian *móvyty* 'to say', etc.).⁴ Nevertheless, this etymology is obviously problematic due to the irregular initial consonant, since PIE **m*- is regularly continued as *m*- in Vedic and thus, in case of **mlV*- the expected form is *mrV*- or *mlV*-, if one takes into account the known exceptions to the PIE **l* > Vedic *r* rule (see e.g., the overview in Kobayashi 2004: 144-146). This is exactly what we find in *mlātá*- 'tanned' < PIE **mleh*₂- (note that there is no base for the analogical restoration of the initial consonant) and probably in *mrad*- 'soften' < PIE **mled*-, but one may argue here that its initial consonant is restored on the analogy with *mrdú*- 'soft' (Kobayashi 2004: 94, cf. also EWAia-II: 387–388 and LIV²: 431).⁵ Thus, this etymology can only be accepted if there is an adequate, i.e. a non-arbitrary explanation for the change of the initial consonant.

⁵ The assumed sound changes mr > br- or ml > bl- themselves are of course cross-linguistically well-known. Nevertheless, Vedic evidence is needed to claim such a change in the prehistory of Vedic, which is, however, missing: Wackernagel 1896: 182 cautiously ('angeblich') cites another instance for the change *mr > br-, that of *-bradhna*-'arrowhead', allegedly related to $m\bar{u}rdh\acute{a}n$ - 'top, head' (Johansson 1890: 449). The etymology of *-bradhna*-, however, is entirely unclear (see the discussion in KEWA-II: 451 with refs.) and the connection with $m\bar{u}rdh\acute{a}n$ - is phonologically problematic, since $m\bar{u}rdh\acute{a}n$ - points to an earlier $*mrHdh\acute{a}n$ - (cf. Kobayashi 2004: 135, for its etymology see EWAia-II: 368 [$*mlh_d\hbar^{-1}$], with discussion and refs.), whose laryngeal excludes any connection with *-bradhna*-(cf. already KEWA-II: 451 ['unsicher'], 452 ['wahrscheinlich irrig']). – The word *bráhman*- was also explained from a word with an initial *mr- ($*mr\acute{e}g^{wh}$ -men-, cf. Gr. µop¢ή, Thieme 1952: 127–129; cautiously followed by Puhvel 1964: 4–5), but this etymology cannot be upheld since it is phonologically impossible ($*-g^{wh}C$ - leads to -ghC-) and does not explain the related Iranian data (Middle Persian, Parthian *brahm* 'form, appearance, style', Old Persian

charanj>), all pointing to an Indo-Iranian form $*b^{(h)}r\acute{a}f^{h}$ -man- (see the discussion in EWAia-II: 237–238 with refs., cf. already KEWA-II: 451 ['wahrscheinlich irrig'], 453–454). – Lastly, Wackernagel 1896: 183 explains *bála*-'strength, power', *bali*- 'tax, tribute', *bíla*- 'cave, pit' ('vielleich') from an earlier $*ml-/*ml_-$: this explanation of *bála*is wrong (see below) and the two other words are of unknown etymology, see EWAia-II: 216, 225 resp., with refs.



¹ The present paper is the result of a joint effort, with equal contributions from both authors in a constant dialogue about all topics treated. Nevertheless, Sections §1–2 were written by Carmela Mastrangelo and Sections §3–4 by Zsolt Simon. We are very grateful to Gabriella Juhász for correcting our English.

 $^{^2}$ Similarly e. g. Cheung 2007: 275; Casaretto 2006: 144–145; Kobayashi 2004: 94; Werba 1997: 305–306; KEWA-II: 452 (with refs.); Persson 1912: 37; Bartholomae 1904: 1196; Uhlenbeck 1898–1899: 193; Wackernagel 1896: 182; Bloomfield 1884: 180; Schmidt 1875: 283–284, see already Grassmann 1863: 122–123. For the /i/ in its conjugation see Jamison 1988, esp. 220–223.

³ LIV²: 446–447; Mallory and Adams 2006: 353–354; EIEC: 535.

⁴ This etymology is usually accepted from the Tocharian and Slavic sides as well (see Schmidt 1982: 365, followed by Malzahn 2010: 720 and Adams 2013: 407 [cautiously], and Berneker 1898: 286–287, followed by Persson 1912: 37; Vasmer 1955: 148–149; Derksen 2008: 334, resp.). For the specific problems regarding these words see below. Only Hajnal 1995: 111–112 n. 106 reconstructs a root '**mruH*-"sprechen", since he does not take into account the Tocharian and Slavic words and because he wants to connect the Indo-Iranian verbs with Lycian A *mar*- 'to order'. However, as admitted by Hajnal, this is irregular from the point of view of Lycian historical phonology. Moreover, as Kimball 2017: 213 rightly pointed out, Hajnal's reconstruction of the root is phonologically impossible, if the Tocharian and Slavic words are cognate. On the origin of the Lycian verb see most recently Opfermann and Sasseville 2019 with discussion.

2. THE SUGGESTIONS FOR THE INITIAL CONSONANT

Setting aside EIEC: 535 and Mallory and Adams 2006: 353-354, who leave the initial consonant unexplained, the most widespread view attributes the change **ml-* > *br-* to alleged special circumstances surrounding the verb meaning 'to tell': 'br° beruht wahrscheinlich auf den Sonderbedingungen eines Verbums für "sagen" (EWAia-II: 236, followed by LIV²: 446, see already KEWA-II: 452, followed by Schmidt 1982: 365 n. 21). KEWA-II: 452 refers to Bartholomae 1896: 712 and Turner 1937: 13–14. Bartholomae argues as follows:

[•]Die ausnahmsweise Verallgemeinerung der Satzanlautsform *br*- für *mr*- bei ai. *brávīmi* hängt jedenfalls mit dem besonders häufigen Gebrauch von Formen wie *brūhí*, *brávīmi* und ähnlichen im Satzanlaut (auch in eingeschobenen Sätzen, vgl. unser "sag' ich", "sagt er") zusammen.²

However, Bartholomae's argumentation is based on a misunderstanding: the frequent usage of the phrase 'I say' and the like, as a kind of interjection and/or conjunction may indeed influence the phonetic shape of the word, but typically this means shortening the word via vowel- or syllable loss (see Bartholomae's quoted German phrases), weakening the vowels, assimilation and/ or simplification of consonant clusters, and none of these happens here. What does happen here is the substitution of one well-formed initial consonant cluster by another well-formed initial consonant cluster without any shortening, weakening, simplification, assimilation or even dissimilation. This cannot be motivated by the interjection- and conjunction-like usage of the verb 'to say'. Furthermore, no other special usage of the verbs 'to say, to speak, to tell' is known that could explain any phonological irregularity.⁶

Mayrhofer's second reference (Turner 1937: 13–14) is false, since Turner did not attribute this change to any special circumstances surrounding the verb 'to say'. Instead, he suggested that this is an anticipated sound change, more precisely, it is an anticipation of the Khowar sound law mr-> br-. However, there is no reason for any Khowarism in Vedic texts.

The other explanations are not convincing either. In view of Schmidt 1875: 283–284, **mr*- is a 'schwirige lautverbindung' and thus the change **mr* > *br* is 'lautphysiologisch wol begründet'. However, since Sanskrit does have many words with this allegedly complicated initial cluster (*mr-ityáti* 'decays', *mrócati* 'goes down', etc.), this cannot be the reason. In general, since both clusters are well-formed in initial position in Sanskrit, no substitution rule can account for this change.

Osthoff 1881: 55 assumes that **mr*- regularly became *br*- in Vedic and thus all cases that have *mr*- are analogical, resulting from postvocalic allomorphs where *-*mr*- was preserved. However,

⁶ 'Anonymous reviewer B' suggests as an explanation that *ml*- has an extremely low type and token frequency in Vedic and that 'this low frequency is best explained by the fact that *ml*- was highly marked in Vedic (which strongly prefers complex onsets with higher sonority contrasts).' Since *bl*- is 'completely inconspicuous', the onset *ml*- is 'clearly far worse'. However, the explanation of the low frequency of *ml*- is different: as it is well-known, PIE **l* became regularly *r* in Vedic, all known exceptions are irregular and usually attributed to another dialect (cf. above). In other words, PIE **ml*- led to **mr*- in Vedic and thus, there was no competition if the onset with *bl*- or the onset with *ml*- is worse in this word. Note that in terms of sound laws the explanation provided by the reviewer is *ad hoc*.



this is refuted by the above quoted cases with $mr - \langle *ml -$ without any possible postvocalic allomorphs where *-*mr*- could have been preserved (cf. also Kobayashi 2004: 93).⁷

Wackernagel 1896: 182 suggested that *br*- might have come into being only under special phonological conditions (for instance after a pause or after words ending in consonants), i.e. /b/ is the result of paradigmatic levelling and opts for a position after a vowel. Unfortunately, there is no evidence for Wackernagel's proposal.⁸

Thus, since all suggestions to explain the change *ml - > br- are arbitrary, and this change cannot be independently accounted for (no sound law, no substitution, and no analogy can explain it), the traditional etymology cannot be upheld without *ad hoc* assumptions.

3. TOWARDS A NEW ETYMOLOGY

It is worth noting at this juncture that not only the Vedic verb, but also Tocharian B $p\ddot{a}lw\bar{a}$ - 'to complain, bewail one's fate' is irregular from phonological point of view and almost exactly in the same way due to the assumed change '**ml*- > *pl*-' (cf. Adams 2013: 407 quoting *mlutk*- '±crush' from PIE **mleu*-*T*-, cf. Avestan *mruta*- 'crushed, weak' and also Tocharian B *mlut*- 'pluck', Adams 2013: 516). While admitting this, Schmidt 1982: 365 n. 21 cautiously explained this change with the 'Sonderbedingungen eines Verbums für "sagen", without explaining what these special circumstances could and should be, referring only to Mayrhofer's above quoted dictionary (followed by LIV²: 446–447 with a question mark) and as we could see, this assumption does not solve the problem.⁹

The Tocharian form regularly continues $*p/b/b^hluH$ -, which shows a remarkable coincidence with the expected proto-form of *brávīti*, i.e. *bl/reuH-. This observation points to the possibility that we can regularly explain *all* presumably related forms if we assume *two* different PIE verbal roots:

PIE *bleuh_{2/3}-, providing a phonologically regular basis for both Vedic bravⁱ and Tocharian B pälwā-, where the history of the Tocharian verb even identifies the laryngeal as *h_{2/3}: pälwā- <*pluwā- <*bluh_{2/3}- (Malzahn 2010: 720, cf. also LIV²: 447 n. 3, but the restriction to *h, presented here is problematic, see the discussion in Hackstein 1995:

⁹ Further etymologies of the Tocharian verb (listed in Adams 2013: 406–407) are unconvincing: (1) Adams's suggestion, * $b^h l_r$ -w, a *w*-extended form of * $b^h e l_r$ 'to speak, yell; bark' suffers from the *ad hoc* assumption of a *w*-extension on the one hand and the unsupported PIE form on the other (attested are only * $b^h e l H_r$ 'tönen, dröhnen' [and only in Germanic and Balto-Slavic] and * $b^h l e h_i$ - 'heulen', see LIV²: 74, 87). (2) Van Windekens's suggestion (1976: 359, rightly rejecting Couvreur's proposal [1950: 127–128] from "* $b^h e l_r$ 'lauten" [now * $b^h l e h_i$ - 'heulen', LIV²: 87] on formal grounds), a connection with Greek $\phi \lambda \epsilon \omega$ 'to overflow' and (3) Normier's suggestion (1980: 269), a connection with Slavic * $b l_i b v \dot{a} t i$ 'vomit', were rightly rejected by Adams calling attention to the semantic gap (currently both the Greek and the Slavic verbs are derived from PIE * $b^h l e \mu_i$ - 'überströmen', Derksen 2008: 46; LIV²: 90; but see Beekes 2010: 1578).



⁷ Theoretically, one could even turn the direction of the change the other way round and assume PIE br-/bl- behind these words (on the existence of PIE b/b see below), bl- could even explain the Vedic and Tocharian forms. However, it cannot explain the Avestan and Slavic words, since Proto-Iranian and Proto-Slavic br- and bl- do not change into mr-/ml- in Avestan and in the Slavic languages.

⁸ 'Anonymous reviewer A' cautiously suggested that Vedic *b* might have resulted from an assimilation due to the 'labial $\bar{u}/*uH$ of the following syllable in the zero grade root'. The problem with this idea is that it is not only *ad hoc* but also phonetically unmotivated (**m* is labial, after all) and, as the reviewer also admits, it is 'not evident' that the suggested assimilation would have worked across *-l*-.

18–19). The researchers just quoted have taken for granted that these verbs meaning 'to say, to speak, to tell' and 'to complain, to bewail one's fate' can be derived from a common meaning 'to speak', but this is not necessarily obvious.¹⁰ There are two ways to tackle with this issue. First, that **bleuh_{2/3}-* indeed meant 'to speak' and underwent a semantic change in Tocharian, as verbs with the neutral meanings 'to say, to speak' frequently acquire meanings referring to special speech acts (e.g., the Slavic continuations of PIE **b^heh₂-* 'sprechen, sagen' meaning, among others, 'to tell fables' [Czech *bajeti*], 'to talk idly' [Slovene *bájati*], 'to say magic chants' [Bulgarian *bája*, for all these see Derksen 2008: 33] or Anglo-Saxon *gehan* 'aussprechen, bekennen' from PIE **jek-* 'sprechen', LIV²: 311, etc.). It might have happened via the intermediary meaning 'to call' (for 'to say' > 'to call' see, e.g., Arm. *kočem* 'to call' < PIE **g^uet-* 'sagen' [LIV²: 189]). The other possibility is that both the Vedic and the Tocharian meanings resulted from a semantic change: in this case, an earlier meaning 'to call' can provide a semantically fitting base, as per above. All in all, the meaning of PIE **bleuh_{2/3}-* can be defined as 'to speak' or 'to call'.

2) PIE **mle*µ*H*- 'to say, to speak', which is continued in Avestan *mrao*- 'to say, to speak' (on the laryngeal see De Vaan 2003: 299). LIV²: 446 n. 1 rejects the derivation of the Slavic words from **mle*µ*h*₂- pointing out that OCS *mlvva* 'tumult, commotion' (Proto-Slavic **mvlva* 'speech', on which the verb *mvlviti* 'to say, to speak' is based, Reinhart 2009: 312) requires **ml*µ-, which cannot be derived from **mluh*₂-.¹¹ This problem is solved by Reinhart 2009: 312, who suggests **ml*µ*µ*-*eh*₂ from **melH*-*u*-, an older variant of **mle*µ*H*-. This variation, more precisely the back-formation of secondary roots with new full grade to zero grade of *u*-presents (i.e. here **melH*-*u*- → **mluH*- → **mle*µ*H*-), is indeed well-known,¹² see e.g. **keh*₂-*u*- 'schlagen, spalten' (> Tocharian B *kau*- 'to destroy, to kill') → **kuh*₂- → **ke*µ*h*₂- (> Gr. κεάσ(σ)αι 'to split', see Nikolaev 2010: 201–202 with discussion and refs.).

A classic argument can be brought against the suggestion: the alleged lack of the phoneme /b/ in Proto-Indo-European. Nevertheless, the phoneme /b/ *is* attested, also in initial position, even if it is rare, see e.g. PIE **bel*-'strong' > Ved. *bála*-'strength, power', Lat. *debilis*, Greek $\beta \epsilon \lambda \tau \epsilon \rho o \varsigma$ 'better',

¹² Note, however, that the example cited by Reinhart (**b*^{*h*}*erH-u*- [Lat. *fervere* 'to be hot, boil' and OIr. *berbaid* 'to boil'] and **b*^{*h*}*reµ*_{*h*}- [Proto-Germanic **brewwan*- 'to brew']) is at least problematic (cf. LIV²: 81 n. 1. s.v. **b*^{*h*}*erµ*- 'un-klar'; Schrijver 1991: 254–255 is explicitly against it): the Latin and Old Irish words reflect **b*^{*h*}*eru*- 'sieden, wallen' (see e.g. LIV²: 81; De Vaan 2008: 215; Matasović 2009: 63), where nothing requires the assumption of a laryngeal (Schrijver 1991: 254–255). - From a phonological point of view, this phenomenon is generally known as laryngeal metathesis, on which see, e.g., Mayrhofer 1986: 174–175. 'Anonymous reviewer A' argues that next to cases with the structure *CHU → *CUH an exact parallel, i.e. a case with *CRHU → *CRUH should also be quoted. Such an example is provided, e.g., by **terh*₂-*u*- (Gr. τέρυς 'soft, weak') → **truh*₂- (> Gr. τέρυµut 'to wear down, exhaust') → **truh*₂- (> ORussian *truti* 'consume', Nikolaev 2010: 202, with ref.). Note, however, that, *contra* the implication of the reviewer, it is improbable that the structure of the syllable onset has any influence on the metathesis involving the syllable nucleus and coda.



¹⁰ We are grateful to 'anonymous reviewer A' for calling our attention to this problem.

¹¹ Derksen 2008: 334 remarks that he is not convinced that a vocalization in *mluH-V- would be out of question. However, he did not adduce arguments and his conviction runs against the Indo-European and Slavic syllabification rules (Reinhart 2009: 312 n. 4). This etymology was already rejected by Uhlenbeck 1898–1899: 193 (without arguments), 1905: 271 (here with a nowadays obsolete phonological argument).

OCS *bolii* 'bigger, better'.¹³ Rarity, however, does not mean lack. In other words, if our proposal is correct, we can add yet another reconstruction with PIE /b/.¹⁴

Finally, the Khotanese verb pari- 'to order, to deign' must be mentioned. It has been connected with Avestan *mrao*- already by Konow 1932: 167 (as *pa(ti)-*mrau*-) and the question is still unsettled (cf. Emmerick 1968: 73; Bailey 1979: 219 ['hardly better' (than the alternative etymology *pa(ti)-*rau-d*- 'to make sounds'), without arguments]; also cited by Cheung 2007: 275 with a question mark, without refs.). Neither $*bleuh_2$ - nor *mleuH- can lead directly to the Khotanese verb, since Proto-Iranian *br- (< PIE $*b^{(h)}l/r$ -) is reflected as
> (cf. bratar- 'brother') and although the fate of *mrV- is not clear, there is no evidence for a Khotanese reflex <par-> (for Khotanese historical phonology see Emmerick 1989: 210–216). The suggested combination with the preverb *pati- does not help either: in case of *pa(ti)-*mrauH*- the *m would not disappear in this position, since intervocalic *-mr- became -mbr- in Khotanese (hambruittä 'it heals' < *hamraudati, cf. Av. $rao\delta a$ - 'to grow', Emmerick 1989: 215). The other option, *pa(ti)-brauH- leads regularly to *pa(ti)- $\beta rV^\circ > *pawrV^\circ > †paurV^\circ ~ †porV^\circ$ (cf. ora- 'sky' < *abra- [see Av. $a\beta ra$ -], hauda / hoda 'seven' [without morpheme boundary]; *ksundau* 'husband (acc. sing. masc.)' < ksundaku [with morpheme boundary], Emmerick 1989: 211, 214, 215), thus again not to the attested form. All in all, this verb cannot be connected to either of the reconstructed roots.

4. CONCLUSIONS

The standard etymology of Vedic $brav^i$ 'to say, to speak, to tell', a connection with Avestan *mrao*-'dto' and a derivation from PIE **mleu*₂- 'to speak' is based on an irregular consonant change that cannot be independently motivated and explained. Alternatively, two different PIE verbal roots can be assumed, **melH-u-* \rightarrow *mleuH-* 'to say, to speak' and **bleu*_{2/3}- 'to speak or to call', that provide phonologically and semantically regular bases for the words involved, i.e. Avestan *mrao-* 'to say, to speak' and Proto-Slavic **mvlva* 'speech' on the one hand and Vedic *bravⁱ* 'to say, to speak, to tell' and Tocharian B *pälwā-* 'to complain, to bewail one's fate', on the other.

¹⁴ One may also object the widespread view that there is a suppletive relationship between Ved. *bravⁱ* und *vac-*, mirrored in Avestan *mrao-* and *vac-*, which could point to the identity of *bravⁱ* and *mrao-*. However, even assuming the suppletion and the identity of the Avestan and Vedic suppletions, it does not necessarily mean that the members must be the same etymologically speaking (note the famous example of Latin *ferõ*, *ferre*, *tulī*, *lātum*). Moreover, Casaretto 2006 demonstrated that the suppletive relationship in Vedic postdates RV and AV, and that the Iranian and the Vedic suppletions are different, in other words, the two phenomena have nothing to do with each other and thus have no relevance regarding the etymology of these verbs ('anonymous reviewer A' pointed out that the Avestan and Vedic verbs also have some shared collocations that 'quite strongly argue for a common (...) poetic tradition'. This is correct, but it still does not prove that the suppletive forms must be etymologically identical, as per above). Further morphological parallels, e.g. the *t*-less 3rd sg. pres. mid. ending, cannot be used either as a counter-argument, since they are not restricted to these verbs (for *t*-less ending see e.g. Vedic *duhé* 'to milk', *vidé* 'to find', *śáye* 'to lie', etc.).



¹³ Mayrhofer 1986: 99–100; Kapović 2017: 16; Byrd 2018: 2061–2063; Weiss 2020: 37; Fritz and Meier-Brügger 2021: 138. Clackson's statement (2007: 46), 'there are no secure reconstructions which have an initial *b-' is erroneous. 'Anonymous reviewer A' wants to see non-initial cases, too: see, e.g., * $pib(h_3)e/o$ - 'to drink', *seib- 'fließen lassen' (LIV²: 462–463, 521).

ABBREVIATIONS

- EIEC = MALLORY, James P. and Douglas Q. ADAMS (eds.) 1997. *Encyclopedia of Indo-European Culture*. London–Chicago: Fitzroy Dearborn.
- EWAia = MAYRHOFER, Manfred 1992–2001. *Etymologisches Wörterbuch des Altindoarischen I–III*. Heidelberg: Winter.
- KEWA = MAYRHOFER, Manfred 1956–1978. Kurzgefaβtes etymologisches Wörterbuch des Altindischen. A Concise Etymological Sanskrit Dictionary. Heidelberg: Winter.
- LIV² = RIX, Helmut (ed.) 2001². *Lexikon der indogermanischen Verben. Die Wurzeln und ihre Primärstammbildungen*. Wiesbaden: Reichert.

REFERENCES

- ADAMS, Douglas Q. 2013. A Dictionary of Tocharian B. Revised and Greatly Enlarged. [Leiden Studies in Indo-European 10.] Amsterdam and New York: Rodopi.
- BAILEY, Harold W. 1979. Dictionary of Khotan Saka. Cambridge: Cambridge University Press.
- BARTHOLOMAE, Christian 1896. 'Beiträge zur altindischen Grammatik. Aus Anlass von J. Wackernagel's Aind. Grammatik I. Lautlehre'. Zeitschrift der Deutschen Morgenländischen Gesellschaft 50: 674–735.
- BARTHOLOMAE, Christian 1904. Altiranisches Wörterbuch. Strassburg: Trübner.
- BEEKES, Robert 2010. *Etymological Dictionary of Greek*. [Leiden Indo-European Etymological Dictionary Series 10.] Leiden and Boston: Brill.
- BERNEKER, Erich 1898. 'Etymologisches'. Indogermanische Forschungen 8: 283-287.
- BLOOMFIELD, Maurice 1884. 'On the probability of the existence of phonetic law.' *The American Journal of Philology* 5: 178–185.
- BYRD, Andrew M. 2018. 'The phonology of Proto-Indo-European.' In: Jared KLEIN, Brian JOSEPH and Matthias FRITZ (eds.) Handbook of Comparative and Historical Indo-European linguistics. [Handbücher zur Sprach- und Kommunikationswissenschaft 41.] Berlin and Boston: De Gruyter, 2056–2079.
- CASARETTO, Antje 2006. 'Zur Suppletion von idg. **mleuh*₂- und **wek*^w- 'sprechen' im Indoiranischen'. *Historische Sprachforschung* 119: 133–152.
- CHEUNG, Johnny 2007. *Etymological Dictionary of the Iranian Verb*. [Leiden Indo-European Etymological Dictionary Series 10.] Leiden and Boston: Brill.
- CLACKSON, James 2007. Indo-European linguistics. An introduction. Cambridge: Cambridge University Press. COUVREUR, Walter 1950. 'B-Tocharische Etymologien'. Archiv Orientální 18: 126–130.
- DERKSEN, Rick 2008. *Etymological Dictionary of the Slavic Inherited Lexicon*. [Leiden Indo-European Etymological Dictionary Series 4.] Leiden and Boston: Brill.
- EMMERICK, Ronald E. 1968. Saka grammatical studies. Oxford: Oxford University Press.
- Еммекіск, Ronald E. 1989. 'Khotanese and Tumshuqese.' In: Rüdiger SCHMITT (ed.) *Compendium Linguarum Iranicarum*. Wiesbaden: Reichert, 204–229.
- FRITZ, Matthias and Michael MEIER-BRÜGGER 2021¹⁰. *Indogermanische Sprachwissenschaft*. Berlin and New York: De Gruyter.
- GRASSMANN, Hermann 1863. 'Ueber das ursprüngliche vorhandensein von wurzeln, deren anlaut und auslaut eine aspirate enthielt.' Zeitschrift für vergleichende Sprachforschung 12: 110–138.



- HACKSTEIN, Olav 1995. Untersuchungen zu den sigmatischen Präsensstammbildungen des Tocharischen. Göttingen: Vandenhoeck & Ruprecht.
- HAJNAL, Ivo 1995. Der lykische Vokalismus. Methode und Erkenntnisse der vergleichenden anatolischen Sprachwissenschaft, angewandt auf das Vokalsystem einer Kleincorpussprache. Graz: Leykam.
- JAMISON, Stephanie W. 1988. 'The Quantity of the Outcome of Vocalized Laryngeals in Indic.' In: Alfred BAMMESBERGER (ed.) Die Laryngaltheorie und die Rekonstruktion des indogermanischen Laut- und Formensystems. Heidelberg: Winter, 213–226.

JOHANSSON, Karl F. 1890. 'Etymologische beiträge.' Zeitschrift für vergleichende Sprachforschung 30: 428–452.

- KAPOVIĆ, Mate 2017. 'Proto-Indo-European Phonology.' In: ID. (ed.) The Indo-European languages. Second Edition. London and New York: Routledge, 13–60.
- KIMBALL, Sara 2017. 'Luwic *mar-'. Indogermanische Forschungen 122: 207–218.
- KOBAYASHI, Masato 2004. Historical Phonology of the Old Indo-Aryan Consonants. Tokyo: Tokyo University for Foreign Studies.
- KONOW, Sten 1932. Saka Studies. Oslo: Etnografiske Museum.
- MALLORY, James P. and Douglas Q. ADAMS 2006. The Oxford Introduction to Proto-Indo-European and the Proto-Indo-European World. Oxford: Oxford University Press.
- MALZAHN, Melanie 2010. *The Tocharian Verbal System*. [Brill's Studies in Indo-European Languages and Linguistics 3.] Leiden and Boston: Brill.
- MATASOVIĆ, Ranko 2009. *Etymological Dictionary of Proto-Celtic*. [Leiden Indo-European Etymological Dictionary Series 9.] Leiden and Boston: Brill.
- MAYRHOFER, Manfred 1986. 'Lautlehre. Segmentale Phonologie des Indogermanischen.' In: Jerzy KURYło-WICZ and ID. (eds.) Indogermanische Grammatik I. Heidelberg: Winter, 73–181.
- NIKOLAEV, Alexander 2010. 'Time to gather stones together: Greek λãας and its Indo-European background.' In: Stephane W. JAMISON *et al.* (eds.) *Proceedings of the 21st Annual UCLA Indo-European Conference*. Bremen: Hempen, 189–206.
- Normier, Rudolf 1980. 'Tocharisch *ñkät/ñakte* 'Gott'. Zeitschrift für vergleichende Sprachforschung 94: 251–281.
- OPFERMANN, Andreas and David SASSEVILLE 2019. '*mér-/mr̥-'. In: Olav HACKSTEIN, Jared L. MILLER and Elisabeth RIEKEN (eds.) Digital Philological-Etymological Dictionary of the Minor Ancient Anatolian Corpus Languages. München–Marburg. http://www.ediana.gwi.uni-muenchen.de/dictionary. php?lemma=224 (last accessed: 16 February 2021).
- OSTHOFF, Hermann 1881. 'Die tiefstufe im indogermanischen Vocalismus'. Morphologische Untersuchungen auf dem Gebiete der indogermanischen Sprachen 4: 1–406.
- PERSSON, Per 1912. Beiträge zur indogermanischen Wortforschung. Uppsala: A.-B. Akademiska Bokhandeln; Leiden: Otto Harrassowitz.
- PUHVEL, Jaan 1964. 'A Mycenaean-Vedic titular coincidence.' Zeitschrift für vergleichende Sprachforschung 79: 1–7.
- REINHART, Johannes 2009. 'Slavisch *məlva'. Historische Sprachforschung 122: 311-314.
- SCHMIDT, Johannes 1875. Zur Geschichte des Indogermanischen Vocalismus II. Weimar: Böhlau.
- SCHMIDT, Klaus T. 1982. 'Spuren tiefstufiger set-Wurzeln im tocharischen Verbalsystem.' In: Johann TISCHLER (ed.) Serta indogermanica. Festschrift für Günter Neumann zum 60. Geburtstag. [Innsbrucker Beiträge zur Sprachwissenschaft 40.] Innsbruck: Institut für Sprachwissenschaft der Universität Innsbruck, 363–372.
- SCHRIJVER, Peter 1991. The Reflexes of the Proto-Indo-European Laryngeals in Latin. [Leiden Studies in Indo-European 2.] Amsterdam and Atlanta: Rodopi.



SZEMERÉNYI Oswald 1954. 'Latin promulgare'. Emerita 22: 159–174.

- THIEME, Paul 1952. 'Bráhman'. Zeitschrift der Deutschen Morgenländischen Gesellschaft 102: 91–129.
- TURNER, Ralph L. 1937. 'Anticipation of normal sound changes in Indo-Aryan.' Transactions of the Philological Society 1937: 1–14.
- UHLENBECK, Christianus C. 1898–1899. *Kurzgefasstes etymologisches Wörterbuch der altindischen Sprache*. Amsterdam: Müller.
- UHLENBECK, Christianus C. 1905. 'Bemerkungen zum gotischen Wortschatz'. Beiträge zur Geschichte der deutschen Sprache und Literatur 30: 252–327.
- DE VAAN, Michiel 2003. The Avestan Vowels. [Leiden Studies in Indo-European 12.] Amsterdam and New York: Rodopi.
- DE VAAN, Michiel 2008. Etymological Dictionary of Latin and the Other Italic Languages. [Leiden Indo-European Etymological Dictionary Series 7.] Leiden and Boston: Brill.
- VAN WINDEKENS, Albert J. 1979. Le tokharien confronté avec les autres langues indo-européennes I. Le phonétique et la vocabulaire. Louvain: Centre international de dialectologie générale.

VASMER, Max 1955. Russisches Etymologisches Wörterbuch II. Heidelberg: Winter.

WACKERNAGEL, Jakob 1896. Altindische Grammatik I. Lautlehre. Göttingen: Vandenhoeck & Ruprecht.

- WEISS, Michael 2020². Outline of the Historical and Comparative Grammar of Latin. Ann Arbor and New York: Beech Stave Press.
- WERBA, Chlodwig H. 1997. Verba Indoarica. Die primären und sekundären Wurzeln der Sanskrit-Sprache Pars I. Radices Primariae. Wien: Österreichische Akademie der Wissenschaften.

Open Access. This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (https://creativecommons.org/licenses/by/4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited, a link to the CC License is provided, and changes – if any – are indicated. (SID_1)

