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## STUDIES IN EAST BALTIC CONSONANT CLUSTERS 2: \**rTv*

**Abstract:** In this article, which is part of a series devoted to the investigation of consonant clusters in East Baltic, I examine the cluster \**rTv*-. The main motivation for examining this cluster is a new etymological proposal: I suggest that Baltic \**kirvoja*- ‘axe’ belongs to the root \**kert*- ‘to chop’. This is defended in Section 1, followed in Section 2 by a comparison with alternative proposals that start from roots of the shape \**ker*- and \**k<sup>w</sup>er*-. In Section 3, I return to the cluster \**rTv*-, identifying one probable and another potential parallel, and examine counter-evidence. In the course of the discussion, I also reassess the outcome of the cluster \**dv* in Baltic.

**Keywords:** sound law; Proto-Indo-European; etymology; syllabic resonants.

### 1. On Baltic \**kirvoja*- ‘axe’ and Russian *чепё* ‘sickle’

Lt. *kiřvis*, Lv. *čirvis* ‘axe’ is a formation with the suffix \**-vja*- (NOM.SG. \**-vīs*), a comparatively rare deverbal suffix which forms nouns of agentive function (cf. Leskien 1891, 348; Skardžius 1941, 379). The clearest examples are the following:

- Lv. *būrvīs* (F. *būrvē*) ‘sorcerer, sorceress’ < *buřt* ‘conjure, cast spells’
- Lt. *-ėivīs* ‘goer’ in compounds, e.g. *ateivīs* ‘newcomer, stranger’, *kareivīs* ‘soldier’ (lit. ‘war-goer’, cf. *kāras* ‘war’) < *ėiti* ‘go’
- Lt. *kālvis*, Lv. dial. *kaļvis* ‘smith’ < Lt. *kālti*, Lv. *kaļt* ‘forge’

Synchronically, the word for ‘axe’ appears to belong to the verbal root *kert*- attested in Lt. *kiřsti* (3PRES. *keřta*), Lv. *čirst* (3PRES. *čērt*) ‘chop, cut’. That these words are intuitively felt to be related can be seen in the fact that Ruhig, in his Lithuanian–German dictionary (1747 1, 60), places *kirwis* ‘eine Axt’ in the word family of *kertū* ‘ich haue’, and Lange likewise, in his Latvian–German dictionary (1773, 404), lists *zirris*, *zirwis* (= Lv. *čirvis*) ‘die Axt, das Beil’ under *zirst* ‘hauen mit der Axt’. Moreover, the modern LKŽ defines Lt. *kiřvis* as ‘įrankis kam *kirsti*’ (“a tool to *kirsti* (i.e. chop) something [with]”, emphasis mine). While the noun and verb are normally seen to be connected

in etymological works, the connection — since the earliest investigations — has been taken as indirect, whereby Baltic *\*kivoja-* ‘axe’ is assumed to contain a root *\*ker-*, while *\*kert-* ‘chop, cut’ is seen as an ‘extended’ variant of the same (Diefenbach 1851, 504; Bielenstein 1863, 264; Pott 1867, 502). That *\*kivoja-* could have been derived directly from the root *\*kert-* did not appear to cross anyone’s mind.

Perhaps part of the reason that this possibility was not considered by later authors is Russian dial. *черв* ‘sickle’, which has been included in this cognate set since Zubatý (1894, 388). As the cluster *\*-rtv-* is known to have remained unchanged in Slavic (e.g. OCS мрътъвь, Ru. мёртв ‘dead’ < *\*mr̥tuo-*; cf. NIL, 489), this would prove we are dealing with a Balto-Slavic *\*kivo(j)a-*, and a form with *\*-t-* would be excluded (cf. Berneker 1908–1914 1, 172; Trautmann 1923, 135; further Vasmer REW 3, 317; Fraenkel LEW, 259; Sławski SP 2 [1976], 271; ÈSSJa 4 [1977], 171; Smoczyński 2018, 551). On the other hand, this Russian word not only lacks parallels in other Slavic languages, it is scarcely attested even in Russian. As far as I can find, this word is a *hapax legomenon*, known only from Dal’'s dictionary, where we read:

**Червь и черпъ** м. вят. серпъ, коимъ жнуть. **Червакъ** том. пила?

(Dal’<sup>1</sup> 4 [1866], 539)

The form *черп* ‘sickle’, which Dal’ quotes as a by-form of *черв*, is, by contrast, well documented in modern dialects. As well as *черп* in Vyatka region (OSVG 12, 50), we find *черп* (|| *у’ерп*, *м’с’ерп*) Vologda (DARJa 1, 166; Myznikov 2019, 869), *у’ерп* Kostroma (DARJa 1, 166), *черп* || *уерп* Arkhangel’sk (Levičkin, Myznikov 2014, 180) and Komi Republic (Podjukov 2006, 256), *чэрен* Sverdlovsk (Matveev 1996, 564), *черьп* Kemerovo (Žurakovskaja, Ljubimova 1976, 225). This is apparently a variant of *черп* ‘sickle’ with sporadic affrication of /s/, as has been noted in other individual lexemes in northern Russian dialects, cf. *у’эно* (< *сэно*) ‘hay’, *оу’ень* (< *осень*) ‘autumn’ Yaroslavl; *куцок* (< *кусок*) ‘piece’, *уарай* (< *сарай*) ‘barn’ Kostroma; *чельсовэт* (< *сельсовэт*) ‘village council’, *чачики* (< *часики*) ‘wristwatch (?)’ Vologda (DARJa 1, 166; Kuznetsova 1975, 144).

The form *червакъ* ‘saw’, also recorded in Vyatka (OSVG 12, 38) and Krasnojarsk (SRGCRKK 5, 105), is most likely not “a valuable addition to a Proto-Slavic dialectism” (Anikin, Mullonen 2020, 257), but a semantic

extension of dial. *червák* ‘worm’ (e.g. *червák* Olonets, Kulikovskij 1898, 132; *ч’арвák* Rjazan’, Ossoveckij 1969, 594; cf. Ukrainian *червák*), inspired by the ‘wriggling’ motion of a crosscut saw (Jakob 2024, 35 fn. 61). This theory is supported by other data corresponding formally to Ru. *червják* ‘worm’, e.g. *червják* ‘crosscut saw’ Altai, Novosibirsk (SRGS 5, 274–275), ‘two-handed saw’ Amur, Khabarovsk (Filin 1983, 322), ‘saw for cutting firewood’ Novgorod (Levičkin, Myznikov 2010, 1272 with the label “перен.” recognizing that this is a transferred sense), DIM. *червячок* ‘small saw’ Sverdlovsk (Matveev 1996, 564). Interestingly, we also find the same word in the sense ‘sickle’: *червják* Amur (Filin 1983, 322), *червják* Komi Republic (SRGNP 2, 417).<sup>1</sup> A possible parallel for the semantic shift can be cited in Old Irish *serr* ‘sickle’, which is perhaps borrowed from Latin *serra* ‘saw’ (LEIA, S-95; Stifter 2024, 11).

The chance of a word recorded only once in a single dialect being inherited from Proto-Slavic is naturally very slim, and an inherited etymology should not be accepted without a strong caveat. Moreover, I can see two possible alternatives:

1. As suggested in Jakob (2024, 35 fn. 61), *черв* might be emended to *черф*\* and be associated with a facultative alternation between /f/ and /p/ recorded in Vyatka dialects (Smetanina, Ivanova 2018, 208).
2. Given the existence of *червják* ‘sickle’, it is possible that *черв* is a continuation of Ru. *червь* ‘worm, grub’ with phonetic hardening of final /v’/, a phenomenon widespread in Vyatka dialects (Makarova 1998, 247).

In view of the above, Ru. *черв* can hardly be taken as a *certain* cognate of Baltic \**kiroja-*, and the question arises as to whether the Baltic word for ‘axe’ might contain the root \**kert-*, after all. All other things being equal, the derivation from a root already known to have reflexes in East Baltic is a more trivial proposal than a derivation from a root otherwise unattested in Balto-Slavic. In the following, I will take another look at the traditional etymology, which starts from a root \**ker-*, and compare it to my new proposal.

<sup>1</sup> The informant quoted here claims *червják* is a Komi word. The actual Komi word for ‘sickle’ is *чарла*, a Turkic borrowing. Given that /v/ frequently alternates with /l/ in paradigms in Komi, e.g. *тöв* (stem *тöл-*) ‘wind’ (for details, see Lytkin 1955, 17–21), it is quite possible that the informant associated *чарл-* with Russian *черв-*. However, since the meaning ‘sickle’ is also attested in the Amur region, the similarity is most likely purely coincidental. See also Myznikov (2019, 857).

## 2. Competing root etymologies for Baltic *\*kiruja-*

Diefenbach (1851, 504) compared the Baltic noun directly with the Germanic *u*-stem Go. *hairus*, ON *hǫrr*, OE *heoru* ‘sword’, suggesting an ablauting *\*ker-u-* : *\*kr-u-* (cf. Walde, Pokorny 1, 411; Lehmann 1986, 171). This idea is certainly worthy of consideration; it is semantically more plausible than the alternative comparison of the Germanic word with Skt. *śáru-* ‘arrow, spear’ (Uhlenbeck 1898, 305; Kroonen 2013, 222; see Mayrhofer EWA 2, 618). Nevertheless, an internal derivation (like the one proposed here for Baltic), provided it does not present any formal or semantic issues, should be preferred over an external comparison.

Furthermore, aside from this Germanic word for ‘sword’, there is actually rather little evidence for an ‘unextended’ root *\*ker-* ‘cut’ in Proto-Indo-European at all. It appears that most of the evidence traditionally adduced (Walde, Pokorny 2, 573–577; Pokorny 1959, 938–940; LIV, 556–557) must instead be assigned to three other roots:<sup>2</sup>

(1) *\*kers-*: Gr. *κείρω* ‘cut, clip (usu. of hair); cut down (of trees)’ is normally interpreted as *\*ker-je-*. However, the verbal noun *κουργά* ‘cutting, clipping’ cannot reflect a root *\*ker-*, and rather suggests an earlier *\*korsā-*. The relationship between the verb and noun is much more easily understood if we start from an underlying root *\*kers-* (Szemerényi apud Forbes 1958, 238; Risch 1965, 3; Chantraine DELG, 510; van Beek 2022, 430). A verbal root *\*kers-* is also continued by Hittite *karszi* (*karssijezzi*) ‘cut (off), separate’, and probably also underlies OIr. *cerr* ‘crooked, maimed’ (Stifter 2024, 33) and Tocharian B *kärsanaṃ*, PRET. *śarsa* ‘know’ (LIV, 355–356).

(2) *\*skerH-*: The acute root of Lt. *skirti* ‘distribute, allot; separate, distinguish’, Lv. *šķirt* ‘separate’ suggests a final laryngeal, and therefore a distinct root (cf. LIV, 558). Here also belong other forms with initial *\*sk-*: OIr. *scaraid* ‘divide, separate’, Alb. *harr*, *herr* ‘weed, prune’, and also ON *skera*, OHG *sceran* ‘cut, shave’, which is semantically more closely aligned to

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<sup>2</sup> Aside from these, there is a root *\*ker-* attested in various words for ‘skin’, most notably: (1) Skt. *cārman-*, YAv. *carəman-* ‘hide, leather’, Pr. III *kērmens* ‘body’; (2) Lat. *corium* ‘skin, hide’, Middle Welsh *cryd* ‘shoemaker’ < *\*krijo-* (de Bernardo Stempel 1987, 93); and (3) various other formations perhaps pointing to a verbal root, like Lt. *at-kėrti* ‘peel off, flake off (of bark, skin)’, Ru. *ко́ра* ‘bark, crust’, Old Norse *hǫrund* ‘skin’, etc. While words for ‘skin’ can theoretically be derived from roots meaning ‘cut’, a word for ‘skin’ cannot in itself prove the existence of a verbal root in this meaning.

Gr. κείρω, but attests a meaning close to that attested in Baltic in derivatives, e.g. OE *scirian*, OS *scerian* ‘assign, allot’.

(3) \**k<sup>w</sup>er-*: Lat. *curtus* ‘mutilated, maimed’ may be compared directly with Žemaitian *kōrts* (Vanagienė 1, 356) ‘deaf’ < \**kurta-* (whence standard Lithuanian *kuřčias* and the derived verb Lt. *ap-kuřsti*, PRET. °*kuřto* ‘go deaf’, Lv. *ais-kurrtufchas* PART.PRET.ACT. ACC.PL. Mancelius 1654 2, 70). Surprisingly, the Latin and Baltic words have rarely been equated (an exception is van Beek 2022, 24), but Lat. *curtus* has been compared with Slavic forms such as Sln. *křn* ‘mutilated’ (Ernout, Meillet 1951, 160–161), and these are universally recognized as cognate with the cited Baltic words. It is highly plausible that these belong to the verbal root seen in Hitt. *kuerzi* ‘cut (off, up), amputate, mutilate’,<sup>3</sup> suggesting a root \**k<sup>w</sup>er-*.

We might instead assume that Lt. *kiřvis* is derived from the root \**k<sup>w</sup>er-* ‘cut, mutilate’, a possibility that is mentioned by ALEW (s.v. *kiřvis*). Phonologically, the main issue is that Baltic \**kurta-* ‘deaf’ < \**k<sup>w</sup>r-to-* shows a different reflex of syllabic \**r̥*: \**-ur-* as opposed to \**-ir-* in the word for ‘axe’. The split reflex of syllabic resonants is a well-known crux of Balto-Slavic linguistics, and although there is still by no means a consensus on the issue (see e.g. Petit 2018, 1644), the most attractive solution remains the analysis of Vaillant (1950, 171–173; cf. Kortlandt 1978, 240; Young 2006, 372; Kortlandt 2007), who argued that \**-uR-* is the regular reflex of a syllabic resonant after a labiovelar, and \**-iR-* elsewhere. By my count, there are six compelling cases in which *u*-vocalism in Balto-Slavic coincides with external evidence for an original labiovelar:

1. Pr. III *gulsennin* ACC.SG. ‘pain’ (< \**g<sup>w</sup>̥H-*), cf. OHG *quelan* ‘suffer’ (Pokorny 1959, 470–471; LIV, 207)
2. Pr. III *guntwei*, OCS гънати (PRES. жѣнѣ) ‘chase, pursue’ (< \**g<sup>w</sup>̥h-*), cf. Gr. θείνω ‘slay’ (Pokorny 1959, 491–493; LIV, 218–219)
3. Lt. *gurklỹs* ‘crop (of a bird)’, Cz. *hrdlo* ‘throat’ (< \**g<sup>w</sup>̥H-tlo-*), cf. Lat. *vorō* ‘swallow, devour’ (Pokorny 1959, 474–475; LIV, 211–212)

<sup>3</sup> The same root could also underlie other forms in *satəm* languages traditionally listed under \**ker-*, such as Arm. *k’erem* ‘scratch, scrape, graze’. Contrary to the traditional view, I would prefer to separate these words meaning ‘cut, mutilate’ from the family of Skt. *kṛṇóti* ‘do, make’, Welsh *pryd* ‘appearance, shape, form’. The reconstruction of a meaning like ‘shape by cutting’ (cf. Puhvel 1997, 215; LIV, 391–392) seems only to be an artificial attempt to bridge the gap between the two words and is not necessitated by the data.

4. ORu. гѢРНѢ\* (attested горну LOC.SG.) ‘smelting furnace’ (< \*g<sup>wh</sup>r-no-), cf. Lat. *fornus* ‘oven’ (Pokorny 1959, 493–495; NIL, 197)
5. Lt. *kūrti* ‘light (a fire); create’, Pr. III *kūra* 3<sub>PRET.</sub> ‘created’ (< \*k<sup>w</sup>r(H)-), cf. Welsh *pryd* ‘appearance, shape, form’<sup>4</sup> (Būga 1922, 105; Fraenkel LEW, 319)
6. Lt. *kuřčias* ‘deaf’, Sln. *křn* ‘mutilated’ (< \*k<sup>w</sup>r-), cf. Hitt. *kuerzi* ‘cut (off, up), mutilate’ (see above)

A seventh potential example is Lt. *gūrti*, Lv. *guřt* ‘grow weak, tire’,<sup>5</sup> if this is cognate with Tocharian A *kurā-*, B *kwār(ā)-* ‘grow old, decrepit’ (Adams 2013, 255) and Skt. *glāyati* ‘feel reluctant, grow weak, tire, fall asleep’ (Čop *apud* Mayrhofer EWA 1, 510). All these forms could reflect an ablauting \*g<sup>w</sup>reH- : \*g<sup>w</sup>rH-. In this case, however, we would have to reject the inner-Baltic comparison with Lt. *iš-gvérti* ‘grow loose, fall apart, grow decrepit (with age)’ (Fraenkel LEW, 179; Smoczyński 2018, 410), which suggests an underlying root \*g<sup>(h)</sup>uerH- (a reconstruction that could work for Tocharian, but not for Sanskrit). Urbutis (1997, 246–247) has argued against the inner-Baltic connection on other grounds, but there are alternative explanations for the Tocharian form, too (see Blažek, Schwartz 2011). As a result, our seventh example remains uncertain.

The cost of accepting this sound law is the assumption of a trivial analogy in certain cases, such as in Lt. *giñti* ‘chase, pursue’ beside 3<sub>PRET.</sub> *gēna* (Vaillant 1950, 171; Matasović 2004, 346). In other cases, the analogy is less trivial, but there is nevertheless evidence of ablaut within Balto-Slavic, e.g. Lt. *gìlė*, Pr. E *gile* beside Ru. *жѣлѣдѣ* ‘acorn’ (cf. Gr. βάλανος) or Lt.

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<sup>4</sup> The appurtenance of Welsh *peri* (PRES. *par-*) ‘fashion, make; prepare’ is less certain. As Anders Richardt Jørgensen (p.c. November 2025) suggests to me, this Brittonic verb may at least partially represent a loan from Latin *pariō* ‘produce, create’ or *parō* ‘prepare, furnish, provide’ (cf. Loth 1892, 195), in support of which speaks the borrowed participle in Welsh *parod* ‘ready, prepared’ < Lat. *parātum*.

<sup>5</sup> Typically (Matasović 2004, 345; Kortlandt 2007, 7; NIL, 195–196), Lv. *guřdęns*, dial. *guřds* ‘tired, weary’ is quoted here as evidence and compared directly with Gr. βραδύς ‘slow’ < \*g<sup>w</sup>rd. However, I consider this Indo-European comparison improbable, as it violates the root constraint against two *mediae* in a root. The corresponding factitive in Lv. *guřdināt* ‘make tired’ is hardly to be separated from the synonymous Lv. *gurrinaht* ‘müde machen’ (Lange 1773, 126), which belongs with *guřt* ‘grow weak, tire’, cf. Urbutis 1997, Smoczyński 2018, 409. It is therefore likely that *guřds* is ultimately derived from *guřt*, too. As a result, the Greek–Baltic equation is better rejected.

*kirmis*, Lv. *cirmis* ‘worm’ < \**k<sup>w</sup><sub>r</sub>-mi-* (= MW *pryf*) beside Lt. *kermenāi* ‘bee larvae’, Lv. *cèrme* ‘roundworm’ (Matasović 2004, 350; Jakob 2024, 63). On the reconstruction of Lt. *gìrnos*, Lv. *dziřnus*, OCS жрѣны ‘millstone’ < \**g<sup>w</sup><sub>r</sub>h<sub>2</sub>-nu-* (~ MW *breuan*), see Kroonen et al. 2022, 8.

If this sound law is valid, Baltic \**kirvoja-* ‘axe’ would be a third case that cannot be explained by a trivial analogy. While it is theoretically possible that \**kir-* represents a secondary zero-grade extracted from a full-grade \**ker-*, there is no trace of this full-grade within Balto-Slavic, making this suggestion circular. Furthermore, the derivation from \**k<sup>w</sup><sub>er-</sub>*, which most frequently means ‘mutilate’, is semantically less attractive than a derivation from \**kert-* ‘chop, cut’, whose semantic connection with axes has remained transparent until the present day.

### 3. The cluster \*-rTv- in Baltic

We have now seen that the etymological connection between Baltic \**kirvoja-* ‘axe’ and the root \**kert-* ‘chop, cut’ is semantically attractive, and that the alternative root etymologies are potentially problematic. However, an obvious phonological issue needs to be overcome: would \*-t- be lost in a formation \**kirt-oja-*? While this may seem counter-intuitive at first, there is a good parallel for a dental being lost in the exact same environment \*/r\_v : Lt. *smárvē* ‘stink, smell’,<sup>6</sup> which belongs to *smirdėti* ‘stink’, must be from an earlier \**smar’d-vē-* (Leskien 1884, 344; Leskien 1891, 349). While this is not disputed, it has normally been taken as evidence of a more general sound law \*-dv- > -v-, for which the following additional evidence has been adduced:

- Lt. *blaīvas* (> *blaiūs*) ‘pale, whitish; clear (of the sky); sober’ ~ OCS блѣдъ, OE *blāt* ‘pale’ (Leskien 1891, 345; Skardžius 1941, 376; Fraenkel LEW, 46; ALEW, s.v. *blaīvas*)
- Lv. *devis* PART.PRET.ACT. of *duôt* ~ Skt. *dadvāms-* (Jaunius 1893, 54; Būga 1908, 64 fn.; Endzelīns 1923, 679, 727)
- Lv. *šķiēva*<sup>2</sup> ‘scar in fruit’ Bauska (ME 4, 54), *fchkeewa* ‘eine Spalte im Holz’ in Livonian dialects (Ulmann 1872, 293) ~ *šķiēst* (3PRET. *šķiēda*) ‘scatter, disperse; cut (off)’ (ME 4, 54)

<sup>6</sup> Lv. *smārvē* on the Curonian Spit (Plāķis 1927, 113), and *fchmarwa* ‘stinker’ (Seewald 1865, 49; Ulmann 1872, 298) with an apparently secondary (‘expressive’) initial š-, are probably loans from Lithuanian.

Additionally, Endzelīns (1937, 420) and Stang (1966, 318) have cited Lt. 1DU.PRES. *dūwa* ‘give’ recorded by Klein (1653, 117) beside 3PRES. *dūd*. However, both authors immediately note that this form may be analogical after *dūmi* 1SG.PRES., *dūme* 1PL.PRES., which show the uncontroversial development \*-dm- > -m-. Moreover, Endzelīns (1937, 420–422) later retracted his support for the direct equation between Lv. *devis* and Sanskrit *dadvāms-*, assuming instead that *dev-* had replaced earlier *\*dedv-* due to analogical pressure from the preterite *deva* ‘gave’. In fact, as Stang (1942, 195–197) has argued, there is no reason to assume an original form *\*dedv-* at all: perfect reduplication is otherwise unattested in Balto-Slavic, and one can just as well start from a preterite *\*davē- < \*dō’-ē-* (cf. Stang 1966, 381).<sup>7</sup>

For Lt. *blāivas*, the attested circumflex intonation is in conflict with Winter’s law (Derksen 2015, 92), and the alternative comparison with OE *blīo*, *blēo* ‘colour, hue; appearance’, OS *bli* gl. color < *\*bliwa-* (Persson 1893, 273; Walde, Pokorný 2, 210; Kroonen 2013, 69) appears at least equally attractive.

As a result, aside from *smárvė*, the most convincing example of the sound law is Lv. *šġiėva*<sup>2</sup> ‘split, scar’. Semantically, the derivation from the verb *šġiėst* can hardly be faulted, cf. *šġiėdums* ‘crack, slit’ (EH 2, 640). An alternative derivation has been proposed starting from a root *\*skeiH-* (Būga 1922, 283; Endzelīns 1937, 420), for which compare Middle Breton *squeiaff* ‘cut’, OIr. *scían* ‘knife’ (LIV, 547; Matasović 2009, 343; Zair 2012, 240). However, this alternative has a clear disadvantage in that it relies on a root otherwise unattested in Balto-Slavic.

On the other hand, the sequence *dv-* is regularly preserved word-initially. Compare, for instance, Lt. *dvi-* ‘two (in compounds)’ (= Lat. *bi-*, Gr.  $\delta\iota-$ ; Pokorný 1959, 229), Lt. *dvėsti* ‘breathe’, Lv. *dvėst* ‘wheeze, breathe (with difficulty)’ (~ OCS дъхнеть ‘πνεύσει’; cf. Pokorný 1959, 268–271), Lv. dial. *dvars* ‘a gate of horizontal bars’ (= Skt. *dvār-* ‘door, gate’; ME 1, 536, cf. Pokorný 1959, 278–279). Thus, while a sound law *\*dv > v* offers us a more trivial explanation for Lv. dial. *šġiėva*<sup>2</sup>, an unconditioned sound law for

<sup>7</sup> Unlike Stang and others (see Yamazaki 2019 with lit.), I think this preterite form is most easily understood as recent, with the -v- being a mere hiatus filler between the root *\*dō’-* and the *ē-*preterite. Compare, similarly, the sequence *-uv- < \*ū’* in Lt. *būvo* ‘was’, where -v- is a hiatus filler between the root *bū’-* (INF. *būti*) and the preterite formant *\*-ā-*. This form is clearly recent in Lithuanian, replacing earlier *biti* ‘was’ (see Stang 1966, 379–380). Note also the preterite *-āvo* (< *\*-ō’- + \*-ā-*) to the verbal suffix *-ūoti*.



East Baltic cannot be accepted. In this context, Endzelīns (1937, 420) has attempted to narrow the formulation of this sound law, suggesting to limit it to post-consonantal position. However, the law  $*dv > *v / C\_$  is designed to explain precisely one word: Lt. *smárvė* <  $*smar'dvė-$ , and is thus circular.

Considering the similarity between the phonetic environment in Lt. *kīrvois* ‘axe’ <  $*kirtoja-$  and *smárvė* ‘smell’ <  $*smar'dvė-$ , an alternative formulation can be offered:  $*-rTv- > *-rv-$ . In other words, the loss of the dental stop before  $*v$  would be conditioned by a preceding  $*r$ . It is possible the sound law could be extended to other resonants, too, but I have been unable to identify any evidence or counter-evidence. We might note here the example of Lt. *nakvóti* ‘spend the night’ <  $*naktvā-$  (cf. *naktis* ‘night’; cf. Karaliūnas 1994, 52–54; Smoczyński 2018, 839–840), which suggests a similar loss of a dental after a stop. In that case, we could propose a sound law  $*-CTv- > *-Cv-$ . This would be similar to what Endzelīns (1937, 420) proposed, but broadened to include voiceless dentals. However, it is unclear whether this generalization is warranted, and for the time being I will restrict myself to the narrower formulation  $*-rTv- > *-rv-$ .

Potential exceptions to the proposed sound law are few. In Latvian, there do not appear to be any instances of  $-rtv-$  or  $-rdv-$  outside of compounds. In Lithuanian, there are a few cases of  $-rtv-$ , but none look old. The following deserve comment:

- *būrtvininkas* ‘sorcerer’ (i.e. North Žemaitian *būrtvinīnks*; Vanagienė 1, 84), is the result of a contamination between Lt. *būrtininkas* and Lv. *būrvōis* ‘sorcerer’. From Ylakiai, Būga (1908, 158 fn.) quotes the form *būrtvōis* (cf. also Šlapelis 1921, 85), which closely resembles its Latvian source but has an additional  $-t-$  after *būrt(v)ininkas*.
- *martwe* ‘infamis pestilentia’ (SD<sup>4</sup>, 118) is a syncopated variant of (or perhaps simply an error for) *martuwe* ‘pestis’ (SD<sup>4</sup>, 237), cf. *mártuwēsp* ALL.SG. ‘smierć’, i.e. ‘death’ (DP, 184).
- *szyrtwa* ACC.SG. ‘hovel’ (Daukantas ŽT 2, 39), *širtva* Salantai (LKŽ), Telševskij ujezd (Jablonskis in Juška 1, 718) ‘den (of an animal)’ beside *šērts* Mosėdis (Vanagienė 2, 286), Salantai, Alsėdžiai (LKŽ), *szirtusy* LOC.PL. (Daukantas 1929 [1822], 80). Here, the  $-v-$  is perhaps due to analogy following the Žemaitian loss of  $-v-$  before  $/uo/$  (<  $*ā$ ); cf. *tūorà* ‘fence’ < *tvorà*, *nakūotė* ‘spend the night’ < *nakvóti* (Grinaveckis 1973, 330–332). When this law was productive, LOC.SG.  $^{(*)}$ *šėrtūo* would be ambiguous between NOM.SG. *šėrt<sup>a</sup>* and *šėrtv<sup>a</sup>* (note that this word is

frequently used in the locative). At any rate, there are a number of other words in Žemaitian which show an extra *-v-* in a similar context: Žem. *bràstvò*<sup>á</sup> ‘ford’, GEN.SG. *\*bràstvũos* (Vanagienė 1, 73) < *brastà*, *lqstvà* Tryškiai, Kvédarna (LKŽ) < *lqstà* ‘bird cage’, and *ýdva* Kuliai, Alsédžiai, Telšiai, Tverai (Zinkevičius 1966, 199) < *ýda* ‘defect, flaw’.<sup>8</sup>

An apparent piece of counter evidence is Lt. *ařdvas*, *eřdvas* (> *erdvũs*) ‘spacious, roomy, loose’. However, it is clear that *\*ardva-* is a Lithuanian innovation: Lv. *ãrdavs* ‘spacious, comfortable’ shows that this word must originally have been an ablauting *u*-stem *\*ardu-* : *\*ardav-* (the former could be continued by the Latvian by-form *ãrds* cited by ME 1, 240–241). A similar thematicization can be seen in Lt. *leņgvas* ‘light’, while Lv. *liēgs*<sup>2</sup> could directly continue the *u*-stem *\*h<sub>1</sub>leng<sup>h</sup>-u-*, attested in Gr. ἐλαχύς ‘small’. Note also the similar (but pan-East-Baltic) thematicization in Lt. *tėvas*, Lv. *tiēvs* ‘thin’ (< *\*ten’va-*) beside the *u*-stem in Skt. *tánu-*, Gr. ταναός ‘thin, slender’.

Curiously enough, Juška (1, 109) actually attests a form <árvas> Veliuona ‘свободный, вольный’, which could show the predicted regular reflex of *\*ardvas* according to our sound law (Fraenkel 1951, 138–140). If correctly analysed, this would constitute a third example of the law.

#### 4. Conclusion

East Baltic *\*kiroja-* ‘axe’ is traditionally taken from an Indo-European root *\*ker-* ‘cut’. In this paper, I have argued in favour of an alternative, Baltic-internal etymology starting from the root *\*kert-* ‘chop, cut’, and against a direct equation with the Russian dialectal hapax *чepø*, for which other explanations

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<sup>8</sup> The *-v-* in *brètũons* ‘large dog’ < Pl. *brytan* (Urbutis 2001; Kregždys 2016, 242) must be due to hypercorrection rather than analogy. For further examples, see Zinkevičius 1966, 199. Lt. *brastvò* is generally understood as *\*brad-tvã-*, with a suffix corresponding to OCS бри-тва ‘razor’ (CS брити са ‘shave’) (Leskien 1891, 564; Jaunius 1911, 12; Skardžius 1941, 378), yet the specific limitation to Žemaitian speaks in favour of an analogical origin. Moreover, evidence for a suffix *\*-tvã-* in Baltic is very limited. As with Szyrwid’s *martve*, it is likely that many of the apparent examples have resulted from syncope of *-u-* in the productive suffixes *-tuva*, *-tuvė*: e.g. (1) *sietvò* Leckava, Vieķšnai, Židikai = *sietvò* ‘deep, wide stretch of a river’; (2) *bũstvė* Karklėnai ‘occurrence’ and *grũstvòs* ‘hardening’ Luokė (< *\*bũstuvė*, *\*grũstuvòs*) against syncope in a similar context in *sqsivĩnys* Karklėnai, Luokė < *sqsivĩnys* ‘notebook’ (Zinkevičius 1966, 132).

are available. I have shown that the Baltic word for ‘axe’ is semantically associated with this verbal root in the modern Baltic languages. In addition, I have attempted to demonstrate that an Indo-European root *\*ker-* ‘cut’ cannot be reconstructed with confidence, and most of the data traditionally attributed to this root must be analysed differently. The alternative derivation of *\*kirvoja-* from a root *\*k<sup>w</sup>er-* ‘cut’ is also not without issue, as it would mean another awkward exception to the otherwise convincing development *\*R̥ > \*uR* after a labiovelar.

I have suggested a new sound law *\*-rTv- > \*-rv-* for East Baltic with two probable and one more possible example:

1. Lt. *kiřvois*, Lv. *cīrvois* ‘axe’ < *\*kirt-vja-*, cf. Lt. *kiřsti*, Lv. *cīrst* ‘chop, cut’
2. Lt. *smárvė* ‘stink, smell’ < *\*smar’d-vė-*, cf. *smirdėti* ‘stink’
3. ? Lt. *arvas* ‘free’ (Juška 1, 109) < *\*ardva-*, cf. Lv. *ārdavs* ‘spacious, comfortable’

The sound law does not have any convincing exceptions. The conditioning may also be broadened to include any consonant: a law *\*-CTv- > \*-Cv-* would additionally account for Lt. *nakvóti* ‘spend the night’ beside *naktis* ‘night’.

## RYTŲ BALŲ PRIEBALSIŲ JUNGINIŲ TYRIMAI 2: *\*rTv*

### *Santrauka*

Straipsnyje siūloma nauja baltų *\*kirvoja-* ‘kirvis’ etimologija, išeities tašku laikant šaknį *\*kert-* ir nedažną, tačiau patikimai paliudytą agentyvinę priesagą *\*-vja-*. Nepritariau lyginimui su ru. *чeрв* ‘pjautuvas’, kuris yra Dalio žodyno hapax ir galimas paaiškinti kitaip. Anksčiau bandyta ši baltų kalbų žodį kildinti iš šaknies *\*ker-* ar *\*k<sup>w</sup>er-* ‘kirsti’. Parodau, kad pirmąją šaknį remia labai nedaug duomenų, o antroji prieštarautų šiaip reguliariai *\*R̥ > \*uR* vokalizacijai po labioveliarinių priebalsių baltų ir slavų kalbose. Be to, semantinis ryšys tarp baltų *\*kirvoja-* ir *\*kert-* yra trivialus ir vis dar matomas šiuolaikinėse kalbose. Fonetinės raidos *\*kirtvoja-* > *\*kirvoja-* paralelė gali būti matoma lietuvių kalbos žodyje *smárvė*, atspindinčiame ankstesnę *\*smar’d-vė-* (plg. *smirdėti*). Iki šiol tai buvo laikoma garsų dėsnio *\*-dv- > \*-v-* pavyzdžiu. Vis dėlto tvirtų šio dėsnio įrodymų nesama, o *\*dv-* baltų kalbose reguliariai išlaikomas žodžio pradžioje. Garsų dėsnis *\*-rTv- > \*-rv-*, regis, neturi išimčių. Trečias šio dėsnio pavyzdys galėtų būti Juškos žodyne paliudytas lie. *arvas* ‘laisvas’.

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