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## LEX *RUKI* IN BALTIC IN PERSPECTIVE OF THE EARLY BALTIC LOANS IN FINNIC

**Abstract.** This discourse puts forward arguments for the complete validity of Pedersen's Law, also called 'Lex *RUKI*', in Proto-Baltic (or an early Baltic dialect) in all positions. This conclusion was formulated based on an analysis of the early Baltic borrowings into Finnic.

**Keywords:** Lex *RUKI*; Pedersen's law; Baltic; Finnic; Saamic; loanword.

0. It is a well-known fact that the Uralic \*š has changed into Finnic \*h, a process which affected not only inherited \*š but also \*š in loanwords. We will focus on two sets of loanwords in Finnic, in both cases from Early Baltic. The first set contains loanwords with Proto-Baltic \*š, which arose due to the Lex *RUKI* from older IE \*s; the second set contains reflexes of Baltic \*š, which is a continuant of the Indo-European voiceless palatovelar \*k̑.

The first part of this contribution demonstrates the development of the Finno-Ugric \*š in native words, continuing in Finnic \*h. The second part focuses on the reflexes of Early Baltic \*š originated thanks to Lex *RUKI* in the Baltic borrowings in Finnic. The third part analyzes the reflexes of old Indo-European voiceless palatovelars in the Early Baltic and their substituents in the Baltic loans in Finnic.

**Note:** For a short and yet exhaustive introduction to relevant literature, see Vaba (2011), especially since it sums up significant phonemic developments.

1. Baltic \*š has been adopted as Finnic \*h, in agreement with the fate of Uralic/Finno-Ugric \*š in Finnic. Let us demonstrate the development of Uralic/Finno-Ugric \*š to Finnic \*h in inherited data (example 1.3. also demonstrates the validity of the development of the loanwords from Indo-Iranian into Finno-Ugric):

1.1. \*š- > h-

Finno-Ugric \*šijere ‘mouse’ (UEW, 500–501) ~ \*šijiri id. (Sammallahti 1988, 550) > Finnish *hiiri*, gen. *hiiren* ‘Maus’, Estonian *hiir*, gen. *hiire* | Mordva: Erzya *čejér*, *čeveré*, Mokša *šejer* | Udmurt *šir* (S), *šâr* (K), *šîr* (G), Komi *šir* (S P), *šor* (PO) | Khanty *lõĵkær* (V), *jõĵkær* (Vj.), *teĵkær* (DN), *loĵkær*, *leĵkær* (O) (> Nenets Nj. Sach. *jaĵkar?*, P *đajkaL*), Mansi *täĵkær* (TJ), *täĵkær* (KU P), *taĵkær* (LO), Hungarian *egér*, acc. *egeret* id.

1.2. \*-š- > -h-

Finno-Ugric \*(j)iša ‘skin’ (UEW, 636) ~ Finno-Permic \*iša id. (Sammallahti 1988, 552) > Finnish *iho* ‘skin; the colour of the skin’, Estonian *ihu* ‘body, trunk, torso’ | PSaami \*esē (Lehtiranta 1989, 12, n. 23) > *ásse* ‘skin contrary to fur’ (N), *assē* ‘side of skin covering meat’ (L), *jissie* (S), *jissee* (U), *assie* (P), *ase* (I), *ââ’ss* (Sk), *q’ss* (Kld), *všše* (T) | Mordva: Erzya *jožo*, Mokša *jož(a)* ‘surface of skin’ | Mari *juž-wət* ‘water in the water skin’ | Komi *ež* (Z), *ež* (I) ‘inner side of the skin’ | Khanty *el* ‘body’ (V), *el* ‘skin’ (O).

1.3. \*-kš- > -h-

Finno-Ugric \*mekši ‘bee, *Apis mellifica*’ (UEW, 271) ~ \*mekši id. (Sammallahti 1988, 545) > Finnish *mehiläinen*, *mehiäinen* ‘Honigbiene’, South Estonian *mehiläne*, *mehine* (dial.) ‘bee’ | Mordva: Erzya *mekš*, *mäkš*, Mokša *meš* (M) | Mari *mükš* (KB U B) | Udmurt *muš* (S G), *müš*, *muš* (K), Komi *moš* (P), *muš* (V PO) | Hungarian *méh*, dial. *mêhe*, *mév*, *mihe*, *mihe* ‘bee’.

Borrowed from an Indo-Iranian source, cf. Vedic *mákṣikā* ‘fly, bee’, *mákṣā* & *mákṣ-* ‘fly’; Avestan *maḡšī-* ‘fly’.

2. The following four pairs of comparisons attest the early Baltic loanwords in Finnic, confirming the assumption that the *RUKI*-law operated in all four configurations in the donor language.

2.1. IE \*-rs- > *RUKI* -rš- > Baltic \*-rš- → Finno-Ugric \*-rš- > Finnic \*-rh-:

2.1.1. Baltic \*širšōn / \*širšen<sup>o</sup>, der. \*širšel<sup>o</sup> / \*širšil<sup>o</sup> > Lithuanian *širšuō*, acc.sg. *širšenj*, besides *širšys*, *širšas*, *širšė*, dial. *širšė*, *širšilas* / *širšilas*, *širšelis*, *širšlỹs*, *širšuonas* etc. ‘hornet, *Vespa crabro*’; Latvian *sirsenis* & *siřs(en)is*, *siřsuonis*, *siřsins*, *sirsis* ‘hornet, big wasp’ (Smoczyński 2018, 1386; ALEW, 1035; Fraenkel 1962–1965, 988; Derksen 2015, 449); Prussian *sirsilis* ‘horlitz’ = ‘Hornisse’ (EV 790) < \*sirsilas (Mažiulis

2013, 853–854). Related are Church Slavonic (of Russian redaction) *svršēnъ* ‘hornet’; Old Saxon *hornut*, Old High German *hornuz* & *horniz* m. ‘hornet’ < West Germanic *\*hurnuta-* < *\*k̑ȓ(h₂)nud°*, besides Old English *hyrnetu*, Middle Dutch *hornete*, Old High German *hornizza* f. id. (EWAhd 4, cc. 1150; 1146); Latin *crābrō*, *-ōnis* ‘hornet’ < *\*krāsrōn-* < *\*k̑ȓh₂s-r-ōn-*; Tocharian B *kro(ñ)kše* ‘bee’ < *\*k̑ȓh₂snu-k̑ñh₂ken-* ‘yellowish hornet’ or ‘honey-hornet’ (Adams 2013, 235: *\*k̑ȓH₂snukuken-*).

Baltic *\*širšōn* → Finnic, cf. Finnish *herhiläinen* ‘Vespa crabro’, Vote *öröläin* ‘wasp, hornet’, Estonian (*h*)*erilane*, *ärilane*, (*h*)*õrilane* id. (Thomsen 1890, 224; SKES, 70; EES, 74).

2.1.2. Baltic *\*kerš-* > Lithuanian *kéršas* ‘spotted, multicoloured with big spots; dark-coloured horse or pig with a white crosswise stripe’, *kéršis*, *-ė* ‘schwarzgeflecktes Haustier’, *karšis*, var. *karšis*, *karšys*, *káršis*, ‘common bream, freshwater bream / *Abramis brama* vel *vimbra*’; maybe Bulgarian dial. *čer* ‘black’, if from *\*čbrxъ* as *vet* ‘old’ from *\*vetъxъ* (ESSJ 4, 156); with the nasal extension cf. Old Prussian *kirsnan* ‘black’, plus river names in Yatvingian > Lithuanian *Kirsnà*, and Curonian > Lithuanian *Kirkšnó-upis*; Vedic *kṛṣṇá-* ‘black, dark’ (Smoczyński 2018, 529, 494; ALEW, 455; Fraenkel 1962–1965, 245, 223; Mažiulis 2013, 416–417).

Baltic *\*kerš-* → Finnic; cf. South Estonian (Tartu, Võru) *kähr* ‘badger’, *kährrik* ‘raccoon dog / *Nyctereutes procyonoides*’ (EES, 205).

2.2. IE *\*-us-* > *RUKI -uš-* > Baltic *\*-uš-* → Finno-Ugric *\*-uš-* > Finnic *\*-uh-*:

2.2.1. Baltic *\*kauša-* > Lithuanian *káušas* ‘wooden vessel with a handle, used for ladling grain, flour, liquids; (soup) ladle’; drinking cup, usually wooden; skull, pate; a (nut) shell; a shell of a crayfish, of a snail; Latvian *kaūss*, *kāuss* ‘skull; semicircular vessel; ladle, scoop’ (Smoczyński 2018, 510–511; ALEW, 231–232; Fraenkel 1962–1965, 470; Derksen 2015, 234). Related are Old Norse *hauss* ‘Schadel’, Old Danish *høs* ‘Hirnschale’, Old Swedish *hös* ‘head’ (de Vries 1977, 214); maybe Sanskrit *kóṣa-* m. ‘cupboard; treasury’.

Baltic *\*kauša-* → Finno-Saamic *\*kavša* > Finnic *\*kauha* > Finnish, Karelian *kauha* ‘dipper, ladle, large spoon’, (Olonets) *kauhu*, Lude *kauh(e)*, Veps *kāuh* ‘trulla, Schöpflöffel’, Vote *kavi* (*\*kauhi*), Estonian *kavi* ‘löylynviskauskauha’ < Vote (Donner 1884, 264; Thomsen 1890, 184; SKES, 172) | PSaami *\*kuksē* ‘ladle’ (see Lehtiranta 1989, 58, n. 491; Hofírková, Blažek 2011, 53).

2.2.2. Baltic *\*krauš-ēje-* > Lithuanian *kraušyti, kraušai, kraušiaū* dial. ‘to crumple, wring; beat, hit; pull, tug; mash, crush, trample’, refl. ‘to crowd, throng’, Latvian *krausīt, -īju* ‘to crush, beat barley husks on the threshing floor’, var. *krāusēt, -ēju* ‘to crush in a mortar’ (Smoczyński 2018, 595–596; ALEW, 530–531; Fraenkel 1962–1965, 302–303); related are Old Church Slavonic *sv-krušiti, -krušō* ‘mash, crush, crumble’, *ukruχv* ‘κλάσμα, fraction, piece’; Greek *κρούω* (*\*krou-s-*) ‘to strike, strike the strings, knock (at the door), strike one against another; clap, stamp one’s feet (in dance)’ etc. (Beekes 2010, 785f.).

Baltic *\*krauš-ēje-* → Finnic; cf. Finnish *rouhia* ‘to stamp, break by stamping; survoa t. hakata pieniksi, palasiksi’, Karelian *rouhie* ‘rouhia, survoa kappaleiksi, hakata pieniksi’, Lude *rouhida* ‘to stamp, break by stamping; rouhia’, Veps *rouhta* ‘to have ground = milled, crumble, break, crush, stamp, pound; jauhattaa, murentaa (ohria)’, Estonian *rõhve* ‘jtak murentunutta, murentuneet oljet, pehku’ (SKES, 846).

2.3. IE *\*-ks-* > *RUKI -kš-* > Baltic *\*-kš-* → Finno-Volgaic *\*-kš-* > Finnic *\*-h-*:

2.3.1. Baltic *\*sikšnā*<sup>1</sup> > *\*šikšnā* > Lithuanian *šikšnà* ‘tanned skin, without hair; narrow strip of leather, thong; belt of coarsely-tanned leather’, Latvian *siksna* or *siksns* ‘thong’ (Smoczyński 2018, 1378; ALEW, 1026; Fraenkel 1962–1965, 981 with older etymological attempts).

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<sup>1</sup> The root-vowel *\*i* indicates the zero-grade form, similarly Lithuanian *siklas, siklis, siklius* ‘silver coin’, lit. ‘cut off, piece of metal that has been sliced off’, derived from the verb *įsekti* ‘to cut, notch’, or Latvian *sikāt, sikāju* ‘to walk with difficulty, walk in small steps’ vs Lithuanian *sèkti, sekù, sekiaū* ‘to follow sb’s steps, watch sb, imitate’ (Smoczyński 2018, 1152–1153). The root *\*sek-*, in the zero-grade *\*sik-*, is followed by the derivational suffix *\*-snā*, which belongs together with its variants *\*-sno-*, *\*-sni-*, to very productive morphemes not only in Baltic: Lithuanian *liepsnà* ‘flame’, the *nomen actionis* formed from the verb attested in Old Lithuanian *laipyti* ‘to burn, lodern’, Latvian *lipt, lipu*, ‘to light (a torch, candle, lamp)’; Latvian *sērksna* ‘hard crust on the surface of snow after a short thaw’, besides *sērsna* ‘hoarfrost, frozen crust on the surface of snow, mild frost at night in spring’, Lithuanian *šerškšnas*, with variants *šerškšnà, šerškšnis* f. ‘hoarfrost’; Old Prussian pl. *lauxnos* ‘constellation’ vs Middle High German *liehsen* ‘bright’, Latin *lūna* ‘moon’, Praeneste *losna*, Greek *λύχνος* ‘lamp’, Avestan adj. *raoxšna-* ‘light, bright’ (Brugmann 1906, 264–265; Otrębski 1965, 169–171; Mažiulis 2004, 28; Smoczyński 2018, 698, 1367).

**Note:** Smoczyński (2018, 1378) derived the Baltic forms from the root \**kēs-* ‘to cut’, but none of its derivatives bears the meaning ‘skin’, while the synonym \**sek-* is a base of several designations of ‘skin’ in various IE branches: Old Irish *se(i)che* f. ‘skin, hide’ < \**sekjā*; Old Norse *sigg* n. ‘hard skin’ < \**segja-* < \**sekjō-*, both from \**sek-* ‘to cut’ (Kroonen 2013, 430). The root \**sek-* is known from Latin *secō*, *-āre* ‘to cut, sever’; Middle Irish *tescaid* ‘cuts, severs; cuts off, destroys, slays’ (\**to-eks-sk-*), *eiscid* ‘cuts off, lops, severs’ (\**in-sek-*); Old Norse *sǫg* ‘saw’, Old English *sagu*, *sage*, Old High German *sega*, *saga* id. < \**segō* & \**sagō*, besides Old Saxon *segisna*, Old High German *segesna* & *segansa* ‘scythe’ < \**segasnōn*, or Old Norse *sigðr* m., *sigð* f., Old English *sigðe* m., Middle Low German *segede*, *sichte* f. ‘sickle’ (\**seketō-*) etc.; Old Lithuanian *įsekti* ‘to engrave’, *išsekti* ‘to carve out, cut out’; Old Church Slavonic *seko*, *sešti* ‘to cut’ (Pokorny 1959, 895–896); maybe Tocharian B *sakna* ‘rags’ (cf. Adams 2013, 734, following Van Windekens 1976, 411).

The assimilation \**s ... š* > *š ... š* is well-documented, e.g. in Lithuanian *šėšuras* ‘husband’s father, father-in-law; wife’s father, father-in-law’, Old Lithuanian ‘brother-in-law’ < \**sekūro-* (Smoczyński 2018, 1372 with other examples).

Baltic \**sikšnā* > \**šikšnā* → Finno-Mordva \**šikšna*, cf. Finnish *hihna* ‘strap, belt’, Karelian *hihna*, (Olonets) *hihnu*, Lude *hīnaz*, *hīhn(e)*, Veps *hihn*, *hihn*, Vote *ihna*, Estonian *ihn*, *ehn* ‘strap, leather belt’, Livonian *nīn* ‘leveä vyö’ = ‘breiter Gürtel’ | PSAami \**sešnē* > South *sāsnie*, Arjeplog *sas’nie*, Lule *sasne* ‘ohut nahka, säämiskä’ = ‘Sämischleder’, Ume *sassne* ‘nahka, josta karva on poistettu’, Inari *šišne* ‘nivotettu nahka, talja, josta karva on kulunut’, Kildin *šišn*, Ter *šišne* ‘parkittu poronnahka’ = ‘Leder aus Rentierhaut’ (SKES, 73; Lehtiranta 1989, 118, n. 1095) | PMordva \**šakšna* > Mokša *šna*, Erzya *kšna* ‘Riemen’ (Keresztes 1986, 68–69) | ?Mari *šəštə* (KB), *šüštö* (U B) ‘Riemen; weißgegerbtes Leder’ (Donner 1884, 266; Thomsen 1890, 223; Keresztes 1986, 69; SKES, 73; UEW, 786; EES, 89).

**Note:** Grünthal (2012, 318) sees parallel borrowings from the Baltic here. Cf. also Junttila 2015, 29, n. 44.

2.3.2. Baltic \**kekš-* > Lithuanian *kėkšti*, *kėkštù*, *kėkšau* ‘zur Hure werden’, *kėkšė* ‘whore, prostitute’, *kėkšys* id., *kėkšystà* ‘prostitution, harlotry’, *iškekinis* ‘child born out of wedlock, bastard’ (Smoczyński 2018, 516: \**kėkš-* + the derogatory suffix *-šė* as in *bōbšė* ‘old bag’, *meřgšė* ‘big or nasty girl’; Fraenkel 1962–1965, 235). Related may be Slavic \**koxati* ‘to love’ > Czech *kochat se*

‘to enjoy, delight’, Pomerian Slovincian *k<sup>h</sup>oxac* ‘to love’, Polish *kochać* ‘to love’, dial. *kochać się* ‘coire’, Russian dial. *koxát’* ‘to love’, Ukrainian *koxáty* ‘to love, bring up (children), Belorussian *koxác* ‘to kiss, embrace’, with the derivative *\*orz-košb/-koša* ‘pleasure, delight’ > Church Slavonic *raskošb* ‘voluptas’, Bulgarian *razkóš* ‘haughty beauty; delight’, Macedonian *raskoš* ‘pleasure’, Serbian *ráskoš* ‘enchantment’, Croatian *ráskoš* ‘bliss, beatitude’, Slovenian *razkôš* ‘delight, grandeur’, Old Slovak *rozkoš*, rare *rozkoša* ‘pleasure, happiness’, Czech *rozkoš*, Upper Sorbian *rozkoš*, Pomerian Slovincian *roz<sup>h</sup>oš*, Polish *rozkosz*, Old Russian *roskošb* & *raskošb* ‘delight, pleasure’, Russian *róskoš* ‘pride’, Ukrainian *róskiš* ‘delight, abundance’, Belorussian *róskoš* ‘abundance’ (Bezenberger 1878, 157; ESSJ 10, 110–111; 33, 192–194).

Baltic *\*kekš-* → Finnic; cf. Finnish *kehdata* ‘sich nicht schämen, wagen; nicht die Mühe scheuen, Lust haben’, Karelian *kehtoa-*, (Olonets) *kehtata* ‘to care to do; like, desire, want, be inclined; viitsiä, haluta’, Lude *kiehtädä*, Veps *kehhta* ‘viitsiä’, Estonian *kõhata* ‘to be able, be capable; not be ashamed, be bold enough, have the impudence to do a th.; voida; kehdata, iljeta’ (SKES, 175–176; Liukkonen 1999, 70–71, n. 39).<sup>2</sup>

2.4. IE *\*-is-* > *RUKI -iš-* > Baltic *\*-iš-* → Finno-Ugric *\*-iš-* > Finnic *\*-ih-*:

2.4.1. Baltic *\*laiša-* > Lithuanian *líasas*, gen. *-à* & *-a* ‘thin, skinny (about an animal), slim (about a person); lean (about meat, milk)’, Latvian *liēss* ‘slim, thin (about a tree)’ (Smoczyński 2018, 698; ALEW, 580; Derksen 2015, 284). The closest cognate seems to be the West Germanic comparative *\*laisizan-* ‘smaller, lesser’ > Old English *lēs* adv. ‘less’, English *less*, Old Frisian *lessa*, *lessera* id., which can be projected into PIE *\*leh<sub>2/3</sub>is-is-on-*, while the Baltic forms reflect PIE *\*leh<sub>2/3</sub>is-o-* (Kroonen 2013, 324; cf. already Holthausen apud Fraenkel 1962–1965, 329).

Baltic *\*laiša-* → Finno-Saamic *\*lajša* > Finnic *\*laiha* > Finnish *laiha* ‘lean, thin’, Karelian *laiha*, (Olonets) *laihu*, Lude *laih*, Veps *laih*, Vote *laih*, Estonian *lahja* ‘lean, thin, weak’, Livonian *lajà* id. (SKES, 269) | PSaami *\*lāššē* (?) > Lule *lassjē*, N *lašše* ‘lean, thin’ (Donner 1884, 265; Thomsen 1890, 196; SKES, 269; EES, 221–222).

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<sup>2</sup> Liukkonen proposed the semantic development ‘zur Hure werden’ → ‘sich nicht schämen, wagen, sich erdreisten’.

2.4.2. Baltic \**uišūā*, *-ijā* > Lithuanian *viksvà*, dial. *vikšvà*, *vikšvė* ‘sharp marsh grass, sedge, *Carex*’, Latvian *vikse* ‘marsh grass’ (Smoczyński 2018, 1660–1661; ALEW, 1241; Fraenkel 1962–1965, 1249); Old Prussian *wissene* EV ‘Pors’ = ‘Porsch / *Ledum palustre*’ indicates the underived Proto-Baltic stem \**uišā* (cf. Mažiulis 2013, 958: \**oisā* ‘marsh, swamp’) without *-k-* before the sibilant, corresponding to Slavic: Slovenian *vīš*, *vīši* ‘bulrush, sedge’, Polish dial. *wisz* ‘marsh grass’, Russian *viš* ‘*Spongilla fluviatilis*; *Spongilla lacustris*’, *viša* ‘duckweed’; and Germanic: Norwegian *veisa* ‘plant with a juicy stalk’; Old High German *wisa*, German *Wiese* ‘meadow’.

Baltic \**uišūā* → Finnic \**vihv*<sup>o</sup> > Finnish *vihvilä*, *vihviläinen* ‘juncus, carex’, Karelian *vihviläine* (Thomsen 1890, 242; SKES, 1740–1741).

3. Finnic \**š* also reflects the Early Baltic \**š* resulting from IE \**k̑*. Both sibilants merged already in early Baltic (unlike in other *satəm*-languages affected by the Lex *RUKI*), and the resulting sibilant \**š* underwent the same development as the original Finno-Ugric \**š* (see §1), i.e. \**š* > \**h*, IE \**k̑* > *satəm*-IE \**ś* > Baltic \**š* → Finno-Saamic \**š* > Finnic \**h*:

3.1. Baltic \**šalnā* > Lithuanian *šalnà* ‘mild frost at night in spring or autumn’, Latvian *salna* ‘frost, mild frost’; further Old Church Slavonic *slana* ‘mild frost’; Vedic *śísira-*, Avestan *sarəta-* ‘chilly, cold’; Old Norse *hela* ‘mild frost’ (Smoczyński 2018, 1349–1350; ALEW, 1008–1009; LIV, 323: \**k̑elH-*).

Baltic \**šalnā* ‘frost’ → Finno-Saamic \**šalna* > Finnic \**halla* > Finnish *halla* ‘frost; harm’, Karelian *haaŋa*, Olonets *haaŋi*, Ludi *haaŋi*, Veps *haaa*, Vote *aaaa*, Estonian *hall*, Livonian *āla*, *ōla* id.; PSaami \**sōlnē* ‘dew’ (Donner 1884, 266; Thomsen 1890, 220; Nieminen 1934, 10; SKES, 51; Lehtiranta 1989, 126, n. 1176; EES, 68).

3.2. Baltic \**ešūā* & \**ašūā* > Old Lithuanian *ešva* [Bretkūnas], *ašva* & *ašviena*, Modern *ašvà* & *ašvienė* ‘mare’, *ašvis* ‘foal’, Žemaitic *ašvīenīs* ‘workhorse’, Middle Latvian (17<sup>th</sup> cent.) *asa*, Highland Latvian *osa* ‘mare’ (formed according to the lost masculine \**asvas* > \**asvs* > \**ass* → f. *asa*); Old Prussian (EV 694) *aswinan* ‘mare’s milk’, with the *e*-form preserved in *Eswiten* (1353), the place-name formed perhaps from a personal name by the diminutive suffix \**-īt-* (ALEW 1, 63–64; Derksen 2015, 65; Karulis 1985, 19–21; Karulis 1, 468; Mažiulis 2013, 50; Toporov 1, 135–138; Gerullis 1922, 34, 257–258).

Baltic \**ešūā* ‘mare’ → Finnic \**ehva* / \**ehvo* > Finnish *hieho*, dial. *h(i)ehvo*, Vote *ehva*, Estonian *õhv(a)* ‘calf’; the semantic shift has an analogy, e.g. in Finnish *lehmä* ‘cow’ vs Mordva *l’išmé* ‘horse’ (SKES, 72; 284; cf. already Ojansuu 1908, 33–35 and recently EES, 625 and Junttila 2014, 33).

**Note:** Finnic \**ehva*/\**ehvo* ‘calf’ may alternatively represent an adaptation of Germanic \**ehwō* ‘mare’, preserved, e.g. in the Old Runic personal names: *Ehwu* [bracteate from Skåne; 450–550 CE], *Ehu* [bracteate from Åsum; 450–550 CE] (Antonsen 1975, 60, 78).

3.3. Baltic \**parša-* > Lithuanian *pařšas* ‘castrated male pig, hog, barrow, porker; piglet, young pig; male pig, boar’; Old Prussian *prastian* ‘ferkel’ = ‘piglet’, corr. \**parstian* < \**parsistja-*, corresponding to the Lithuanian diminutive *pařšiřčias* ‘piglet’ (Smoczyński 2018, 915; ALEW, 736; Mažiulis 2013, 759–760); related are Slavic \**porse*, gen. *-ete* ‘pig’; Young Avestan [Nīrangastān] *pərəsō* ‘young pig’, corr. \**parəsa-* (Hoffmann 1967, 35–36), Khotanese *pāsa-* ‘pig, hog’ (Bailey 1979, 235; Morgenstierne 1923, 277 added Kurdish \**purs* ‘pig’, but it was questioned already by Benveniste 1949, 88, fn. 1 and Hoffmann 1965, 35 identified it definitively as a ghost word); Armenian *ors* ‘θήρα’ = ‘game’ (Clackson 1994, 164 after Ačařyan); Latin *porcus* ‘hog, pig; piglet’, *porca* ‘pig, sow’, *porcellus* ‘piglet; young boar’, Umbrian **purka**, *porca* acc.pl. ‘sow’; Irish *orc* m. ‘pig’; Germanic \**farha-* > Old Norse *seimfarri* ‘Goldeber’, Swedish *fargalt* ‘Eber’; Old English *fearh*, Old High German *farah* n. ‘pig, piglet’ (EWAhd 3, cc. 55–56).

Baltic \**parša-* ‘pig’ → Finnic \**parh°* > South Estonian *pahr* ‘boar, male pig’ (EES, 346).

**Note:** Beginning with Donner (1884, 263), Lithuanian *pařšas* has been supposed as a source of Finnic \**poršas* ‘piglet’ > Finnish *poršas* ‘piglet’, Veps *porzaz*, Vote *perzaz*, Estonian *pōrsas*, gen. *pōrsa*, Livonian *pūğraz* id. (SKES, 606), although already Donner mentioned that ... hier stimmt aber nicht das lit. ř zu finn. s. Napolskich (2002, 269) brought up the possibility of identifying the donor language in Balto-Slavic. For phonetic compatibility, we prefer the traditional interpretation of the Finnic forms as cognates of Mordva Erzya *purcos*, *pućis*, Mokša *puć* | Udmurt *parś* (S), *parš* (K), *parś*, *pars* (G), *pariś* (MU) ‘pig’, Komi *porś* (S P PO) id. (> Khanty V *porəs*, DN *purəš*, O *porəs*; Mansi KU *pürs*, P *pōrəs*, So. *pūrəs*; Nenets Sj. *porš*; Khanty > Nenets O *poraś*, Nj. *pořes*) < Finno-Permic \**poršas* (\**porčas*) ‘pig, piglet’ < Indo-



Iranian \**parśas* (\**parćas*) – see the detailed discussion by Holopainen (2019, 190–193), who himself vacillates between Indo-Iranian and Balto-Slavic origin.

4. In Lithuanian, there is a set of examples where \**s* in the *RUKI*-context does not change into *š* (e.g. #2.4.1. above). The best reasoned analyses of this phenomenon (Karaliūnas 1966; Hamp 1967; Matasović 2005) explain it on the basis of inner Baltic or Lithuanian morphophonemic processes.

4.1. Lithuanian *ausis* ‘ear’ should originally have been a root-noun, reconstructible as \**aušs* > \**aus*, and only secondarily was it transformed into an *i*-stem (Karaliūnas 1966, 122–123; Matasović 2005, 149).

4.2. Lithuanian *sausas*<sup>3</sup> ‘dry’ instead of expected \**saušas* is explainable via progressive assimilation (Matasović 2005, 149; IE \**sH<sub>2</sub>euso-*).

4.3. Karaliūnas (1966, 122) mentions the unchanged *s* in the Lithuanian forms, where it plays a role in the flective morphemes, e.g. Old Lithuanian *trisù* ‘as a group of three’, vs Old Church Slavonic loc.pl. *trьxъ*, Vedic loc. pl. *triṣú*, or the futures of the type Lithuanian *búsiu*, or iteratives in *-st*<sup>4</sup> as Lithuanian *saistýti* ‘to bind, wrap, hang clotheslines’ vs *siėti* ‘to bind, bind into sheaves; fasten, tie’ etc.

4.4. Karaliūnas (1966, 121–122) considers the rule described in §4.3. was generalized for derivational suffixes too, e.g. Lithuanian *gausà* ‘a thing received, gift; one’s entire belongings’, *gausùs* ‘abundant, numerous’, derived from *gáuti* : *gáunu* & *gáuju* ‘to receive, get, obtain; manage, succeed; conceive, become pregnant; be obliged to’. The same principle was apparently applied also to the less transparent cases, if the *s*-morpheme was understood as changeable, e.g. in the example from §2.4.1. Lithuanian *liesas* ‘thin, skinny (about an animal), slim (about a person); lean (about meat, milk)’ vs *liebas* ‘on skinny, thin legs (about a horse)’, *láibas* ‘thin, emaciated, slender, slight’ and *leinas* ‘lean, slim, thin; supple’ (Karaliūnas 1966, 120). Judging from the presence of \**š* in Finno-Saamic \**laiša* ‘thin’ (§2.4.1.), this exception

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<sup>3</sup> For the explanation of the Estonian dial. *sõus(k)* ‘low place by a river’ (VMS), it is not necessary to apply this rule, if there is Latvian *sàuss* ‘dry’ as the most probable source; cf. also Latvian *sauseklis* ‘eine trockene Stelle in einer Wiese’ (ME 3, 775).

<sup>4</sup> This rule allows us to explain the preservation of *s* in such the forms as the Lithuanian (Szyrwid) participle *irstąs* ‘baufällig’ and Finnish (Agricola) *irstas* ‘liederlich, dissolute, wanton rakish, debauched’ (Thomson 1890, 174; SKES, 108), formed similarly as Lithuanian *saistas* ‘commitment to do sth; twine, tether’ from *saistýti* ‘to bind, wrap’ (Smoczyński 2018, 1123).

began to spread only after the application of the *RUKI* law in the earliest Baltic borrowings in Finno-Saamic or Finnic.

4.5. Another reason for the preservation of \*s after \*i & \*u is the primary cluster consisting of \*t/\*d + \*s, where the dental was regularly assimilated, as, e.g. in Lithuanian *šviesùs* ‘bright’, *šviesà* n. ‘light’ vs *švaitýti*, *švaitaũ*, *švaiciaũ* ‘to shine, brighten up’, *švitėti*, *švita*, *švitėjo* ‘to shine brightly; (of day) dawn’ (Karaliūnas 1966, 120), or *baisà* ‘horror, fear’, *baisùs* ‘horrible, terrible’ vs *baidýti*, *baidaũ*, *baidžiaũ* ‘to scare, startle, chase away, drive out; appear (of ghosts)’, *baidas* ‘scarecrow, fright’, Latvian *biņdēt*, *-ēju* ‘to arouse fear, inspire fear, scare someone’ (Hamp 1967, 8–9).

4.6. Karaliūnas (1966, 120–121) also mentions the cases of the cluster consisting of dental + \*t, giving Baltic \*st independently of the preceding phonemes, e.g. Lithuanian *sviestas* ‘butter’ vs Latvian *svaīdīt* ‘salben, schmieren’.

4.6.1. Applying the last rule, it is possible to explain, e.g. the comparison of Hyllsted (2014, 81), identifying in Livonian *āistar* ‘pimple’ a Baltic loan with regard to Lithuanian *aistrà* ‘strong desire, lust, passion, urge; passion, fervour; rabies; sex drive (in animals)’, which is derivable from Proto-Baltic \**aīd-trā*. It probably designated both ‘passion, ardour’ and ‘inflammation’ and was derived from IE \**H<sub>2</sub>eǵd<sup>h</sup>*- ‘to burn, kindle, ignite’ (LIV, 259; Smoczyński 2018, 7–8).

4.7. There are the Baltisms adapted into Finnic, which are explainable as borrowings from Latvian or some of the extinct North Baltic dialects, where have merged the continuants of IE \*s including the *RUKI*-context and IE \**ś* into the only sibilant s, e.g.

4.7.1. Finnish *kausta* ‘upper beam of a sleigh that connects the tops of the supports between the skid and the bottom; river or sea coast’ (SKES, 174) < Latvian *skāusts* ‘Keil; Rückenkreuz; Nacken eines Tieres’ (ME 3, 877);

4.7.2. Finnish *laiska* ‘lazy, slow, idle’ (SKES, 270) < Latvian *laīšks* ‘faul, träge’ (Thomsen 1890, 193; ME 2, 411), although the opposite vector of borrowing is also not excluded;

4.7.3. Finnish *ruskea* ‘brown’ (SKES, 880–882) < Latvian *ruzgs* ‘rötlich, braun’, *rūsgans* ‘rötlich, bräunlich, rotbraun’ (ME 3, 565, 573) etc.

4.8. The illustrative examples from §§4.1.–4.7. cover the most frequent reasons why the Baltic loans in Finnic indicate no traces of the change \*s > Baltic \*š > Finnic \*h in the *RUKI*-context.

5. Reviewing the data above, we have to state that:

5.1. In Early Baltic, the *RUKI*-sibilant \*š had merged with the *satəm*-sibilant \*ś (< IE \**ś*) into a single sibilant \*š, which was introduced into

Finno-Saamic as \*š (see §§2.3.1., 3.1.). It further continued in Common Saamic \*s<sup>5</sup> and Common Finnic \*h. In Mordva<sup>6</sup> and perhaps also Mari<sup>7</sup> this \*š continued as š- ~ -ž- (/ -š- / -č- / -dž-) and -ž- respectively.

This merger is **unique** in the whole *satəm*-area (Albanian and Armenian are not taken into account here) since Slavic, Iranian and Indo-Aryan carefully preserve the distinction between the *satəm*-sibilant and the *RUKI*-sibilant. Compare the following table where Vedic represents the Indo-Aryan languages, Avestan the Iranian languages, Old Church Slavonic the Slavic languages, and Lithuanian represents the Baltic languages:

IE	<i>satəm</i> -IE	Vedic	Avestan	OCS	Lithuanian
*s	*s	s	h	s	s
{i/u/k/r} *s	*š	ṣ	š	x/š*	š
*k̑	*ś	ś	s	s	š

\* Slavic š is a variant before a palatal phoneme.

This feature is clearly defining our data as originating from the Baltic dialect with precisely the same distribution of sibilants as Modern Lithuanian (with exceptions analyzed in §4).

5.2. The Finno-Ugric phoneme \*š (of any origin) was later depalatalized and debuccalized in Finnic \*h, while Finnic \*s was preserved as such, either original or in loanwords.

<sup>5</sup> See Proto-Saami \**kuksē* ‘ladle’, \**sesnē* ‘reindeer leather’ with \*s < Baltic \*š < IE *RUKI*-\*s, and \**lōsē* ‘salmon’, \**sārDē* ‘heart’, \**serve* ‘elk’, \**sōjnē* ‘grass, hay’, \**sōlnē* ‘dew’ with \*s < Baltic \*š < IE \*k̑, besides unique \**śuovunje* ‘well-trained dog’, all discussed by Hofírková, Blažek 2011, 54–57.

<sup>6</sup> Cf. §2.3.1. and Mordva Erzya *šerže*, *šerže*, Mokša *šarža*, *šarža* ‘grey hair; greyhead’ < Proto-Baltic \**šeršnas* > Lithuanian *šerškšnas* m., *šerkšnà* f. ‘ripe; frost’, adj. *šerškšnas*, -à ‘greyish, of the colour of hoarfrost’ (Grünthal 2012, 331–32), besides Pre-Mordva \**kerši* > Erzya *kerč*, *kerš*, *kärč*, Mokša *kerđži*, *kerži*, *kärži*, *kerš*, *keřeš* etc. ‘left’ < Proto-Baltic \**krejšas*, continuing in Latvian *kreiss* ‘left’ (Grünthal 2012, 316).

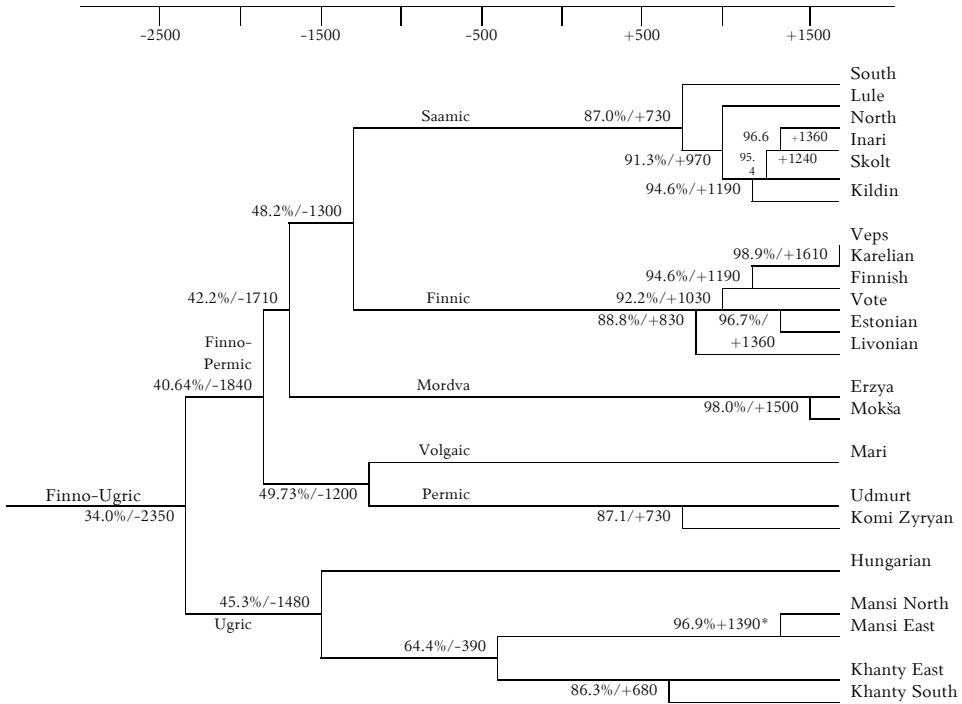
<sup>7</sup> Cf. Mari *šəštə* (KB), *šüştö* (U B) ‘Riemen’ < Baltic \**šikšnā*, discussed with question mark in §2.3.1., and Mari H *təžem*, M *tüžem* ‘1000’; Mordva Erzya *řožań*, *řužäń*, *řožov*, Mokša *řožän*, *řožäń*, *řožəm* ‘1000’; Finnish *tuhát*, *tuhante-* ‘1000’ (SKES, 1374) < \**tušan-ti* ~ \**tušamti* < Baltic, although the common Baltic protoform cannot be reconstructed, cf. Lithuanian *tūkstantis*, var. *tukštantis*, besides Old Lithuanian (Postilla 1599) *tūstancios* gen.sg. ‘1000’ ~ Latvian *tūkstuôt(i)s* ~ Old Prussian acc.pl. *tūsimtōns* id. (Thomson 1890, 232–233; Blažek 1999, 315–316; Grünthal 2012, 335).

5.3. The fact that the donor language of the borrowings analyzed in §§ 2 & 3 did not differentiate *š* originated via Lex *RUKI* from IE \**s* and *š* < IE \**ś* implies that it was some stage of early Baltic after the separation of Slavic from the Balto-Slavic continuum (c. 14<sup>th</sup> cent. BCE), where these reflexes are distinguished, and before the separation of the predecessor of Latvian (c. 600 CE), where the change \**ś* > *s* was realized. The presence of the Baltic borrowings in Saamic can be explained in several ways: (i) Baltic → Finno-Saamic; (ii) Baltic → Saamic; Baltic → Finnic → Saamic, which do not exclude one another (see Hofírková, Blažek 2011, analyzing 42 probable Baltic loans in Saamic in detail, 8 of them without any counterparts in Finnic), while the Baltisms in Mordva and Mari are easier explainable as results of independent contacts (cf., e.g. Suhonen 1988, 614; Grünthal 2012, 336), confirmed by the Baltic toponyms in the basin of the upper and middle stream of the Volga (cf. Vaba 1983, 139) and chronology of disintegration of both Balto-Slavic and Finno-Ugric (see **Appendix**), than the influence of Balto-Slavic, which would have distinguished both sibilants.

**Note:** The abbreviations of dialects of the Finno-Ugric languages follow the quoted sources.

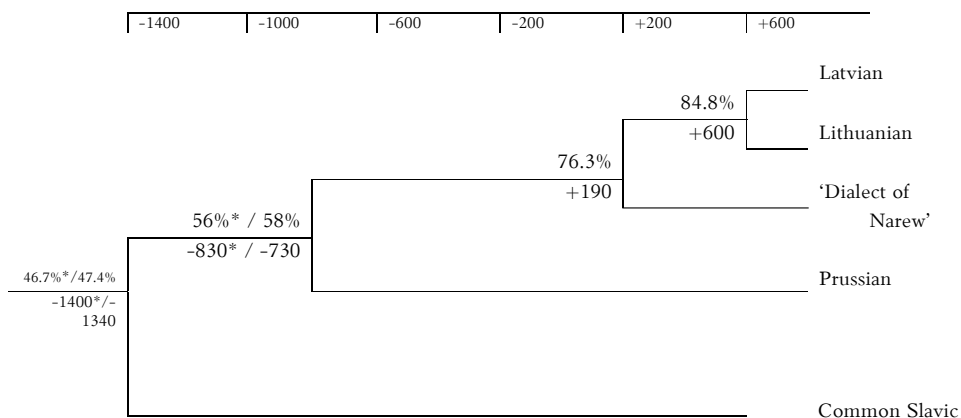
## Appendix

### A. Disintegration of Finno-Ugric (Blažek 2012, 34)



**\*Note:** The lexical data were collected in the end of the 19<sup>th</sup> century by Paasonen (Mordva) and Munkácsi (Mansi), so the calculated dating of disintegration should be postponed c. one century to the past.

## B. Disintegration of Balto-Slavic (Novotná, Blažek 2007, 205)



**Note:** The asterisk \* means that 'Narewian' is also taken in account.

## ***RUKI* DĒSNIS BALŲ KALBOSE IŠ SENŲJŲ BALTIŠKŲ SKOLINIŲ FINŲ KALBOSE PERSPEKTYVOS**

### *Santrauka*

Straipsnyje iškeliami argumentai, pavirtinantys visišką Pederseno dėsniu, dar vadinamo *RUKI* dėsniu, veikimą visose pozicijose baltų prokalbėje (ar kuriame nors jos dialekte). Išvada formuluojama remiantis senųjų baltų kalbų skolinių finų kalbose analize.

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