Sukač, Roman

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ROMAN SUKAČ

THE FIRST ACCENTUAL LAW IN BALTO-SLAVIC

Hirt's law is now, by communis opinio, considered as one of the first and important accentual laws in Balto-Slavic. The history of the research is not as complicated and controversial as the history of other accentual laws. The reason is that Hirt's law started to be accepted almost from the beginning and incorporated into the conception of classical accentology together with all-purpose Fortunatov-de Saussure's law. Although the data supporting Hirt's law are relatively small (originally included more examples), there have rarely been attempts to controvert the law.

1. History of research

1.1. Hirt's discovery

Hermann Hirt observed in his *Indogermanische Akzent* that "Wenn die Wurzelsilbe stossend war, kann ein Akzentwechsel fortbestehen. Bei Oxytonis wird dann der Akzent in den Kasus mit stossend betonter (kurzer) Endung auf die Wurzelsilbe verschoben..." (Hirt 1895:94, also 165–166). Hirt was not able to explain the fact, thinking that originally the mobilia did not have Akzentwechsel, but originally were paroxytona and only later they became oxytona. His data supporting the law concerned Lithuanian material showing contrastive Stosston accent on the root and on the final syllable (Lith. Apl *súnus* x *dangùs*, Npl *áiškus* x *saldùs*) on the one hand, and comparative Balto-Slavic material juxtaposed with correspondence from other Indo-European languages on the other hand (S-Cr *dȉm* x OInd *dhūmós*, Gr. *thūmós*; Lith. *káulas* "bone" x Gr. *kaulós* "stalk, shaft"; Lith. *tírtas* "bridge" x OInd *tīrthás*; Lith. *výras* "man" x OInd *vīrás*; Lith. *údra* "otter" x OInd *udrā́*.

The bulk of data is broadened in Hirt's Indogermanische Grammatik – Akzent in 1929, where, concerning mainly Lithuanian data, the following definition is adopted:"der Ton wird von der letzten Silbe auf die vorletzte zurückgezogen, wenn diese fallend betont ist" (Hirt 1929:165). This Verschiebung should apply

to the following data: Lith. *ántis* "duck" x OInd. *ātís* (Russ. *útka*, S-Cr. *ȕtva*, Sln. *o̍tva*, PSl. **o̍ty* (?APa), OPr. *anti*s, BS.**an?t-*, Lat. *anas* "duck", OHK *anut* "duck", PIE**$h_2$enh$_2$-t–* (Derksen 2008:387)), Russ. *déver* x Gr. *daḗr*, Lith. *dúmai* x OInd. *dhūmás*, Lith. *dúona* "bread" x OInd *dhāna-*, S-Cr. *gríva* x OInd. *grīvā́,* Lith. *gývas* x OInd *jīvás*, Lith. *ilgàs*, S-Cr. *dȕg* x OInd *dīrghás*, Rus. *járyj* "furious" (PSl. **ě̋rъ* is APc. Derksen 2008:152 thinks that the Greek and Russian forms can be connected only with a certain probability. The reconstruction **ieh$_3$ró–* would be subjected to Hirt's law but it contrasts with the mobility of Russian form. However, the secondary mobility cannot be excluded) x Gr. *zōros* "feurig"; Lith. *kúrpė*, S-Cr. *kŕplje* "shoes" (a derivative from *kr̀pa*) x Gr. *krēpís* "half-boot" (Greek data are probably incompatible. Baltic and Slavic forms (S-Cr. *kr̀pa* "rag, patch", Sln. *kŕpa* "patch", Lith. *kùrpė ,* Latv. *kũ̀rpe* "shoe" lead to the reconstruction of **kúr?p(i)a?* (Derksen 2008:263). Greek cognate is uncertain, see Fraenkel I:318, Frisk II:16-17); Lith *mótė* x OInd. *mātá*, Lith. *óras* "weather, air" (According to Fraenkel II:518, the Lithuanina and Latvian forms (*óras, âra*) belong to the family of Lithuanian *árti*, Latv. *ar̂t* "plough". This would point to the BS. root **ar?–* (Derksen 2008:372)) x OInd. *ārā́d* "from outside", Lith. *pílnas*, S-Cr *pȕn* x OInd *pūrnás*; S-Cr *pȉr* x Gr. *pyrós*, Lit. *rópė*, S-Cr. *rȅpa* x OHG *ruoba* (The original oxytonesis is dubious, cf. Gr. *rhápys*. Other Slavic forms are Cz. *řepa*, Rus. *répa*, Lithuanian has *rópė*, PSL **rě̋pa* is APa, the original form might be **reH-pah$_2$*); S-Cr. *stado* "herd" x OHG *stuot* (Rus. *stádo*, Cz. *stádo,* Slk. *stádo,* PSl. **stȁdo* (APa), other Germanic cognates: OIc. *stóð,* OE *stōd,* PIE **steh$_2$-d^{h}o-m* (Derksen 2008:465)); Lith. *siū́tas*, Rus. *šítyj* "genäht"x OInd *sjūtá-*(Derivatives from PIE**sḭeu̯H–* "sew" (LIV:545), zero grade **sḭuH-*. Adjective oxytone form **sḭuH-tó* is reconstructed according to OInd. form, so Lith. *siū́tas* points to the operation of Hirt's law).

This retraction law is considered the "erstes Gesetz" in Hirt's system, chronologically before the "zweites Gesetz," which is de Saussure's law.

1.2. Towards the pillar of classical accentology

The law was recognised as important both for Slavic and Baltic languages, e.g. by Mikkola 1913:122–123: "Der ursprüngliche Akzent is verschoben gegen den Wortanfang auf die Wurzelsilbe, wenn diese gestossene Intonation hat; eine änhliche Verschiebung hat auch im Litauischen stattgefunden". The data supporting Hirt's law are only adduced without detailed commentaries. The relevant Slavic data are as follows: *dymъ, šitъ, pьlnъ, dьlgъ, čьrnъ, jarъ, byti, griva, nitь*; Baltic data are reflected in Lith. *výras, júostas, vérgas, gývas* and *súnus*.

Just after the data supporting Hirt's law Mikkola adduces the opposite *Akzentverschiebung*: "Der Akzent is im Urslavischen und Baltischen auf die Endsilbe verschoben, wenn diese gestossene Intonation hat und die alte Akzentsilbe kurz oder geschleift intoniert war" (Mikkola 1913:123). The law proposed here is Fortunatov-de Saussure's law and both laws soon became the key complementary laws in classical accentology.

As classical accentology in the 1st half of the 20th century operated with Fortunatov-de Saussure's law as a universal law for explaining every rightward shift of accent in Slavic, it is no wonder that Hirt's law started to be considered as a mirror law to Fortunatov-de Saussure's law, as for example in the accentological conception of Lehr-Spławiński 1928.

Hirt's law was incorporated into Lehr's system of stress shifts. Hirt's law is explained as retraction of stress on the acute syllable, de Saussure's law as an opposite stress shift. The two laws easily explain stress on on any combination of acute and circumflex syllables.

For example, stress remains on the acute syllable but undergoes shift if the syllable is short or circumflex. A similar situation can be observed in verbs like S-Cr. *bȉti* x *nèsti* which according to Lehr-Spławiński show the difference between acute and non-acute root syllable because of Rus. *nestí* that shows end-stressed accent.

The retraction of stress to an acute syllable should also be reflected by examples like the Latvian Stosston in *bût.*

Lehr-Spławiński thinks that if the root syllable is short and circumflex, stress is on the suffix Rus. *žezló, grebló, seló, vesló, čisló* , S-Cr *sèlo vèslo, číslo*, Rus. *stol-stolá*, S-Cr. *stô-stòla*, if the root syllable is long and acute, stress is on the root – Rus. *sálo, máslo, dělo*, S-Cr. *sȁlo, mȁslo, djȅlo* (Lehr-Spławiński 1928, 89–90).

Hirt's law was also used to explain the accent differences in the l-participle – Rus. *neslá, nesló, peklá-pekló, plelá-pleló, moglá-mogló*; Čak. *neslȁ, nesl̀o, peklȁ, pekȍl, plelȁ, plel̀o, pomoglȁ, pomogl̀o* but Rus. *krála-králo, klála-klálo, grýzla, grýzlo*, Čak. *krȁla, krȁlo, klȁla, klȁlo grȉzla, grȉzlo*. Lehr considers neuter forms as original PSl oxytona which were preserved if the syllable was short or circumflex. On the other hand – they were barytonised if the preceding syllable was long and acute. Forms like Rus. *bylá, býlo;* S-CrPosav. *bȉo, bíla*, *bîlo*, Rus. *pilá, pílo;* S-CrPosav. *pȉo, píla, pîlo* – neuter shoud have acute but has circumflex in S-Cr. The difference between S-Cr. *píla, brála* and Rus. *pilá, bralá* was explained by de Saussure's law which did not operated in neuter S-Cr *bîlo, pîlo*, Rus. *býlo, pílo* (van Wijk 1923). According to Lehr's conception all those forms were oxytonas undergoing retraction **bylъ́, bylá, byló* and again, stress moved from short or circumflected syllables and remained on acute ones. So S-Cr.Posav. *bîlo, dâlo, brâlo* must be secondary.

Similarly, Rus. *travá, chvalá, golová*, where Nsg is *-á* because the syllable is acute, thus also Lith. *golvá,* but Lith. Asg *gálvą,* Latv. *galv̂a*. Later, analogical levellings were possible *grivá/grívy >gríva/grívy.*

As for masculines and neuters – Lehr does not see any acute endings apart from N-Apl neuters; endings were only short or circumflexed, therefore stress retracted in all the paradigm like S-Cr *dȉm, dȉma.* Analogically – stress retracted and was levelled at feminines, like in l-participle S-Cr d*ȕg-dȕga-dȕgo*, original state is preserved in Rus. *polón, polná, pólno.*

So the type *bȉo-bíla-bîlo* is more original than *krȁo-krȁla-krȁo,* whose feminine form is result of later levelling on the model of the masculine and neuter. As

for relative chronology, Lehr considers Hirt's law as a Proto-Slavic phenomenon concurrent with de Saussure's law.

The two important accentual laws in Slavic meant that in cases where Hirt's L and FS law did not operate, we should find the original ictus. That claim with detailed account about Hirt's law can be found in Shevelov 1965:46–55 who also extended Hirt's law to the retraction of stress to prefixes, like SC *návada, náuka.*

Van Wijk was quite dubious about the existence of Hirt's law was in his 1923 publication on Balto-Slavic accentology. Van Wijk considered Hirt's law "viel unsicherer als das de Saussuresche Gesetz" (Van Wijk 1923:55) and pointed out that in the law there are a many pitfalls. Most problematic are Hirt''s data concerning oxytona and barytona in Lithuanian – *súnus* x *dangùs* or Nsg *galvà* – Asg *gálvą*). This means that not all retractions are to be included into Hirt's law which applies on an very limited data. Van Wijk did not refuse Hirt's law completely but accepted the former limitation admitting that it stands "auf sehr schwachen Füssen." (Van Wijk 1923:56).

Arumaa and Shevelov's works were also influential. Both authors dealt heavily with Proto-Slavic grammar. From the accentological point of view, they remained in the framework of classical accentology, ignoring Stang and sticking to the conceptions of metatony and Fortunatov-de Saussure's law. Arumaa was very careful about the validity of Hirt's law (Arumaa 1964 I: 202). He quotes just two examples where the law operates – Lith. *dúmai* and *výras* and mentions Illich-Svitych's solution, but does not see any connection with laryngeals (see below). Arumaa did not bring anything new to the understanding of Hirt's law.

Shevelov in his monumental publication on Proto-Slavic phonology (Prehistory of Slavic, Columbia university press 1965) also accepted both Hirt's law and de Saussure's law as complementary laws. For Shevelov, Hirt's law means "stress retraction from falling pitch syllable onto the preceding rising pitch" (Shevelov 1965:49).. Data adduced as a support for the law are comparative and concern both Slavic and Baltic data: S-Cr. *màti,* Lith. *mótė* x OInd. *mātáram*; S-Cr. *pȕn*, Lith. *pìlnas* x OInd *pūrnás*; S-Cr. *pján* "drunk" x OInd *pyānás*; S-Cr. *dȕg* "long", Lith. *ìlgas* x OInd. *dīrghás*; S-Cr. *krȁva* x Gr. *kera(F)ós* "horned"; S-Cr. *jȁto* "herd" x OInd. *yātám* "way"; S-Cr. *bȉti* "be", Lith. *búti* x OInd. *bhū́tis*; S-Cr. *zr̄no*, Lith. *žìrnis* x OInd. *jīrnás* "ground"; S-Cr. *vȉdra*, Lith. *ùdra* x OInd *udrás;* S-Cr. *grȉva*, Latv. *grīva* x OInd. *grīvā́;* S-Cr. *dȅvēr* "brother-in-law" x OInd. *dēvā́,* Gr. *daḗr* < **daiFḗr*. According to Shevelov, a small number of examples does not invalidate Hirt's law. The number of counterexamples is small and when they do occur, they have falling intonation: S-Cr. *mêso* x OInd. *māmsám;* S-Cr. *svêt* "light", "holy" x OInd. *śvētás* "shine", *śvāntás* "prosperous"; Rus. *górod* x OInd. *grhás* "house"; S-Cr. *pȍd* "floor", Lith. *pãdas* x OInd *padám* "step", Gr. Gsg *podós* "foot". Unclear is Shevelov's claim that acute is motivated by the loss of laryngeal, but there is a lack of rigid correspondence and haphazard distribution, so it cannot be upheld (Shevelov 1965:51). According to Shevelov, Proto-Slavic had a tendency to stress the root and not the ending in disyllabic words which had root vowels with acute. This leads him to the reformulation of both laws which

traditionally were interpreted as the shift of stress from circumflexed to acute syllables: both Hirt's law and Fortunatov– de Saussure's law arose in Proto-Slavic because of the rise of a new free stress. This new stress was no longer bound to a certain syllable but at the same time it was not completely free because stress and pitch distribution became interdependent. Therefore, both shifts are actually conditioned by acute syllables (Shevelov 1965:71).

1.3. Czech linguists

Czech linguistic tradition remained on the position of classical accentology but the classical classical interpretations were often distorted. Komárek (1958:28–29) calls the retraction of stress to initial acute syllable Pedersen's law. He neither explains the origin of acute nor the cause of stress retraction. Komárek also thinks that Hirt's law is only a Slavic phenomenon and places it chronologically into Late Proto-Slavic. Baltic data are therefore ignored.

Hirt's Law is accepted by Lamprecht (1987:79–80) and taken as a Late PIE phenomenon. Lamprecht takes acute intonation as of laryngeal origin, thus reconstructing **duH-mo-s.* Nevertheless, Lamprecht does not consider the law as important as Fortunatov– de Saussure's Law and is even willing to take it's non-existence. No reference is made to Illich-Svitych and Kortlandt, although the works of both authors are included in the final bibliography.

1.4. Moscow accentological school

As Illich-Svitych established in his classical work (1963/1979), Baltic and Slavic nominals with long roots correspond to PIE mobilia-oxytona. Due to the presence of non-apophonic root length caused by the presence of a laryngeal, stress retracted to the root syllable. Illich-Svitych adduces numerous examples where Hirt's Law should operate. There are 23 Baltic and 8 Slavic examples. Illich-Svitych juxtaposes both Baltic and Slavic data with other Indo-European oxytona cognates. Baltic data are especially useful because dialectal material is also included (Illich-Svitych 1979:57–64; 135–137).

Baltic examples include: Lith.*dúona* "bread", Latv. *duõna* x OInd. *dhānā́s*; Latv. *grĩva* "river mouth" x OInd. *grīvā́;* Latv. *kraũka* "phlegm x PGm. **hroʒṓ* "snivel", OE *hrōg*; Latv. *snāte* "linen shawl, cape" x PGm.**snoðṓ* "ribon", OE. *snōd*; Lith. *výras* "man" (AP1), Latv. *vĩrs*, OInd. *vīrás;* Lith. *dū́mai* (Pl.) "smoke" (AP1), Latv. *dũmi* (Pl.) x Gr. *thūmós* "life force", OInd. *dhūmás* "smoke"; Lith. *káulas* "bone" (AP1), Latv. *kaũls* x Gr. *kaulós* "stalk, core"; Lith. *tìltas* "bridge" (AP1/AP3), Latv. *til̃ts* x OInd. *tīrthám* "ford"; Lith. *pìlnas* "full", Latv. *pil̃ns* x OInd. *pūrṇás* "full"; Lith. *ìlgas* "long", Latv. *il̃gs* x OInd. *dīrghás* "long"; Latv. *ãtrs* "quick, sharp" x PGm.**ǣðráz,* OHG. *ātar* "quick"; Latv. *jũts* "fork in the road, tendon" x OInd. *yūtís* "joining"; Latv. *znuõts* "son-in-law", x OInd. *jñātís* "close relative"; Lith. *úosis* "ash-tree" (AP1) x Gr. *akherōís* "silver poplar"; Lith. *sūnùs* "son" (now AP3 but originally immobile in OLith.) x OInd. *sūnús;* Lith.

véjas “wind”, Latv. *vẽjš* x OInd. *vāyús* “wind”; x Lith. *piemuõ* “herdsman” (now AP3 but originally immobile in OLith.) x Gr. *poiḿēn* “shepherd”; Latv. *liẽmenis* “swampy lowland” x Gr. *leimṓn* “damp meadow”; Lith. *mótė* “mother” (AP1); Latv. *mãte* x OInd. *mātā́-*; Lith. *díeveris* “brother-in-law” (AP1), Latv. *diẽveris* x OInd. *devā́–* “husband’s brother”, Gr. *dāḗr* “brother-in-law”; Lith. *mė́nuo* “month” (AP1) x Latv. *mẽness* x PGm. **mǣnṓþ,* Goth. *mēnōþs*; Lith. *pūrai* “winter grain crops” (only Žemaitian with metatony), Latv. *pûri* “winter crops” x Gr. *pūrós* “wheat”; Lith. *koryš̃* “honeycomb” (now AP4) x Gr. *kēríon* “honeycombs, wax” (< *kērión* due to Wheeler’s law).

Slavic data comprise **grĭ́va, *dy̆́mъ, *py̆́rъ* (S-Cr. *pȉr* “spelt”, Cz. *pýr* “couch-grass” x Gr. *pūrós* “spelt”, **játo* “flock” (S-Cr. *jȁto*, Sln. *játo* x OInd. *yātám*), **mắti, *dl̆́gъ* “long” (S-Cr *dȕg* x OInd. *dīrghás*), **pl̆́nъ* “full” (S-Cr. *pȕn* x OInd. *pūrṇás*); **dĕ́verъ* “brother-in-law” (S-Cr. *dȅvēr*).

As is evident from the above, Lithuanian forms belong to the barytone AP1 accentual paradigm, the corresponding Latvian forms have circumflex and Slavic form show acute.

Illich-Svitych explained Balto-Slavic barytonesis as the retraction of stress to the root syllable which contained a long and non-apophonic vowel, a long resonant or a long diphthong (Illich-Svitych 1979:63). This means that the syllabic sequences should be CV̆H– > CV̄– or CRHC– > CR̥C-. Or, the root sequence had to contain a consonantal laryngeal which should cause the lengthening of a preceding vowel. On the other hand, nominals containing vocalic reflex of a laryngeal (schwa) show Balto-Slavic mobility, so the sequence CV̆(R)ə– does not cause the stress retraction (this is the contrast of **griH.u̯á* and **tenə.u̯ós.* It is quite improbable that Old Indic, Greek and other IE languages showing oxytona or their reflexes should record the rightward shifting of stress because there is no common syllabic element which would cause such shift. On the other hand, Balto-Slavic retraction seems quite logical because all the words showing Balto-Slavic barytonesis in contrast to other IE-languages oxytonesis have one common syllabic structure – CV(R)H-. This is the most important result of Illich-Svitych’s analysis.

Dybo, as the main figure of MAS, also incorporated Hirt’s Law into the conception of Balto-Slavic accentology (Dybo 1981:17). The total list of nominals undergoing Hirt’s Law is about twenty, but Dybo’s data are limited to juxtaposing certain Baltic and Slavic forms with other Indo-European cognates. Most of the data are taken from Illich-Svitych but without reference to dialectal material and secondary development. The reconstructed forms mostly do not contain laryngeals (I hereby adduce Dybo’s etymologies, for the fuller discusion on etymological forms see below): Lit. *dúona,* Latv. *dúona* x OInd. *dhānā́s,* PIE**dhōnā́*; Latv. *grĩva,* PSl.**grĭ́va* x OInd. *grīvā́,* PIE**grīvā́*; Latv. *snãte* x PGm. **snōðṓ*, PIE**snātā́*; Lit. *váras,* Latv. *vĩrs* x OInd. *vīrás,* PIE**vīrós;* Lit. *dū́mai,* Latv. *dũmi,* PSl **dy̆́mъ*, OInd. *dhūmás*, PIE. *dhūmós*; Lit. *káulas*, Latv. *kaũls* x Gr. *kaulos,* PIE. **kāulós*; Lit. *tìltas*. Latv. *tiļ̃ts* x OInd. *tīrthám,* PIE. **tl̥̄tHóm;* Latv. *jũts,* x OInd. *yūtís,* PIE **i̯ūtís;* Latv. *znuõts* x OInd. *jñātís,* PIE **g’nōtís;* Lith. *úosis* x Gr. *acherōís,* PIE **ōsís*; Lith. *sū́nus* x OInd. *sūnús,* PIE **sūnus*; Lith. *vė́jas,* Latv.

vẽjš x OInd. *vāyús*, PIE. *u̯ēi̯ús;* Lith. *píemuõ* x Gr. *poimḗn*, PIE **pōimḗn*; Latv. *liẽmenis* x Gr. *leimṓn*, PIE **lēimṓn*; Lith. *mótė,* Latv. *mãte,* PSl. **máti* x OInd. *mātā́-*, PIE **mātḗr*; Lith. *díeveris*, Latv. *diẽveris,* PSl. **dě̋verъ* x OInd. *devá́,* Gr. *daḗr,* PIE* *dāi̯u̯ḗr*; Lith. *mė́nuo* x PGm. **mæ̃nṓþ;* Lith. *pũrai*, PSl **pў̋rъ* x Gr. *pyrós,* PIE **pūrós*; Latv. *ãtrs* x PGm.**æ̃ðráz* , PIE **ētrós*; PSl **jắto* x OInd. *yātám,* PIE. **i̯ātóm.*

Lithuanian forms having acute are of AP1 or secondarily AP3 paradigms, those having circumflex underwent metatony. The responses in other Indo-European languages suggest the original oxytonesis, which is also reconstructed in PIE forms. But this presupposes that before application of Hirt's Law, all nominals had to be oxytonised and accentually levelled in a paradigm. As we will see, it need not be so because it requires a highly improbable level of analogy. Dybo himself seems to understand it because he points to the anomalous reversal of the Lithuanian nominals from AP1 (where the were due to Hirt's Law) to AP3. Dybo is willing to accept that Hirt's Law caused a sort of mixed paradigm where some cases followed retraction and some not, e.g. *pílnas* and *ílgas. The* question now remains why the accent retracts leftwards. The answer is of course that the acute root (caused by the presence of a laryngeal which is hardly ever reconstructed by Dybo) is dominant and has the tendency to keep the accent. The cavecat visible here is why such dominancy cannot be observable in Old Indic where the oxytona have their accent unshifted.

Hirt's Law also operated in verbs where the retraction occurred if the pretonic syllable was originally formed by a long monophthong, long sonant or long diphthong. The example of it can be the infinitive form of the verb "give": PIE **dō-tei* (IEW:223), PSl **datь́, dajatь́,* after Hirt's Law **dắti, dajắti*. Retraction also operated in 1sg, 2nd and 3rd pl aorist: **dắsъ, dajắsъ; dắste*, *dajắste; dắsę, dajắsę* (Dybo 1981:239). Other verb with Hirt's Law retraction are PSl. **pĭ̋ti*.

Hirt's Law is also responsible in some forms of APc verbs (those having long monophthong or sonants in the root), e.g. in infinitive: **klắsti, grў̋zti* but present **klâdǫ, kladetь́, grŷzǫ, gryzetь́* (Dybo 1981:252–253).

1.5. Skljarenko's solution

Hirt's law was also dealt by V.Skljarenko, whose interesting works are almost unknown among accentologists because they are written in Ukrainian and are very difficult to obtain. Skljarenko 1990, 1998 rejected Hirt's law as stated by Illič-Svityč. According to Skljarenko the connection of apophonic length and stress retraction can be supported by **pēda, *jâje, *nâgъ.*

Skljarenko's conception of Balto-Slavic intonation differs from other approaches. Skljarenko's posits two kinds of intonations for Balto-Slavic. Long final syllables had "odnoskladovaja intonacija", short syllables had "dvoskladovaja" intonacija. Acute is defined as "vyschidnospadna intonacija" – tone rising on the first mora of a long vowel and falling on the second mora with concomitant tonic and dynamic peak. Such culminativity was in Proto-Slavic, Proto-Latvian,

and Proto-Prussian, while in Proto-Lithuanian the tonic and dynamic peak were at the beginning of the first mora. Slavic circumflex is defined as the tone fall on the first mora of a long vowel or diphthong or just a tone fall on the short vowel.

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Skljarenko assumes that Early Balto-Slavic disyllabic mobilia with long root vowel had "odnoskladova intonacija" both in barytone and in oxytone forms. This led to generalisation of "odnoskladova intonacija" to the whole paradigm with short endings. Skjlarenko's explanation of Hirt's law is basically the same as the interpretation of Lehr-Spławiński – stress was retracted from oxytones with "circumflex" (dvoskladova intonacija) or from short vowels with odnoskladova intonacija. The target syllable was the leftward acute syllable (odnoskladova intonacija on long syllables).

Skljarenko 1990, 1998 rejected Hirt's law as stated by Illič-Svityč. According to Skljarenko the connection of apophonic length and stress retraction can be supported by **pēda, *jâje, *nâgъ*.

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1.6. Dutch accentological school

The ranking of Hirt's law within the chronology of changes from PIE to Baltic and Slavic was established by Kortlandt (Kortlandt 1974, 1975, 1977, 1983/1994/2002). Hirt's law should take place in Late Balto-Slavic after the loss of PIE accentual mobility, Pedersen's law, and barytonesis and oxytonesis of thematic stems. Barytonesis is the analogical retraction of stress to vocalic stems in case forms where Pedersen's law applied, thus seen in Asg Lit. *ãvį* "sheep", *sū́nų* "son" (Kortlandt 1983/1994/2002:4, quoted from 2002 version). Oxytonesis means that the stress shifted from an inner syllable to the rightmost end of the word in a paradigm with end-stressed forms, seen in Lith. Isg *sūnumì* "with the son" or Ipl *žiemomìs* "with women" (Kortlandt 1983:4). Apart from notorious examples like "smoke", Hirt's Law should also operate in some polysyllabic cases form or *-eH* stems. Those are reflected in, e.g., Slovene Dpl *goràm* "mountains" and Lpl *goràch*. Here the stress should be retracted from the ending to the preceding syllable which ended in a laryngeal. Another example can be observed in Lith. Dpl *galvóms* and should also operate in Lpl and Ipl, but we do not find medial stress here due to the analogical transfer of final stress from other flexion types: *galvosè, galvomìs*.

Hirt's Law did not operate if:

– the laryngeal followed the second component of a diphthong. The example of it is Latv. *tiêvs* "thin" <*$tenh_2u\acute{o}s$ (Reconstruction by Kortlandt (1975:3;1983:5), slightly modified by me). This means that the laryngeal probably was not part of a syllable coda but formed a complex onset of the stressed syllable, so *$ten.h_2u\acute{o}s$. Therefore, no retraction occured.
– there was a lengthened grade vowel in pretonic syllable
– in the pretonic syllable was a long vowel from vrddhi formation. Tis is reflected in S-Cr. *mêso* "meat" <*$m\bar{e}ms\acute{o}m$ (Kortlandt 1983:5) or *jâje* "egg" <* $h_2\bar{o}ui\acute{o}m$ (Kortlandt 1983:5). It is clear that no laryngeal in the pretonic coda position occured.
– the pretonic syllable contained a laryngeal in syllable onset. This can be observed in Rus. feminine l-participle *pilá* with ending stress. Kortlandt (1975:3) reconstructs the form **pHiláH.*
– there was no laryngeal in the root. An example of this is Rus. feminine l-participle *rodilá* < **rodiláH* (Kortlandt 1975:3).

From the analysis above it follows that in Late Balto-Slavic the laryngeal was still a full segmental phoneme. Phonetically it was probably glottal stop because the accentual results of laryngeal presence are the same as the ones with preglottalic consonants – and this is later acute intonation.

The laryngeal origin of acute according to Kortlandt's theory is accepted by Driessen 2003:352–353 for the explanation of acute intonation in Lith. *áuksas* "gold". The word belongs to AP1 > AP3 and Driessen regards *áuksas* and Lat. *aurum* "gold" as cognates (also accepted by de Vaan 2008:63). Because the traditionally reconstructed form **h$_2$éuso–* or **auso–* (IEW:86) with a short diphthong does not explain acute intonation in Lithuanian (Dehnstufe would give circumflex, but there was no long **ā*-grade in PIE), Driessen proposes a reduplicated form **h$_2$éh$_2$uso–* from the root **h$_2$eus–* "to shine with a reddish glow", **h$_2$u̯es* "hell werden" (LIV: 292, NIL :357). Driessen's reconstruction is also accepted by NIL: 358. Latin *aurum* is a neuter but Balto-Slavic forms are masculine (also Old Prussian *ausis*). This situation strongly supports Illich-Svitych's hypothesis that PIE barytone neuters (the gender is preserved in Latin) became masculines in Balto-Slavic. This means that the PIE form was originally barytone, not oxytone. Therefore, Hirt's law could not have occurred, even though the root structure is HVH-. This brilliant reconstruction not only supports Illich-Svitych's and Kortlandt's theories, but it also shows how accentology can help with the reconstruction of original forms.

1.7. A laryngeal must be in coda

In his criticism of Illich-Svitych's and Kortland's modus operandi, Rasmussen narrowed the function of Hirt's law (Rasmussen 1985/1999): the retraction of stress is restricted to words containing a consonantal laryngeal; a laryngeal must be non-syllabic in anteconsonantal position. Rasmussen also revised the corpus of words traditionally assumed to undergo Hirt's law and corrected their etymologies – both nominals and verbs.

1.8. Different view of Kim: Hirt's and Dybo's laws

A very radical view of the whole system and evolution of IE and BS accentology was taken by Kim 2002 (with the largest part about Hirt's law ever written). Using the procedures of metrical and bracket theory applied by Halle on IE accentuation together with methods of historical linguistics, Kim argues that the thematic vowel, especially in o-stems, was underlyingly unaccented. Barytone stems were, therefore, also unaccented with default initial stress. Oxytone stems were underlyingly postaccenting.

BS system of underlyingly accentend and unaccented morphemes therefore continues that of PIE.

Kim distinguishes four Pre-Proto-Slavic combinations of accentuation and stem-vowel intonation – accented acute, post-accenting circumflex, unaccented acute and unaccented circumflex (Kim2002:117–118). The contrast between unaccented acute and circumlex should be seen in S-Cr. *grȉsti* and *trésti*, where the former (containing acute) underwent Hirt's law while in the second form the distinction between acute and circumflex were neutralised (Meillet's law).

According to Kim, it is puzzling that Slavic languages have three accentual paradigms (a, b, c) while Lithuanian has only two (before the operation of de Saussure's law). On the other hand, Old Indic and Greek contrast only barytones and oxytones in o-stems and -*eh*$_2$-. Kim argues that those o-stems were underlyingly unaccented and post-accenting, while -*eh*$_2$– stems were underlyingly accented and unaccented. Of course, Kim admits that we do not have parallels in Balto-Slavic where we do not see barytonesis and oxytonesis in vocalic stems and relics of mobility in consonantal stems (as in Old Indic and Greek). Balto-Slavic innovated mobility (which is a long time problem in Balto-Slavic accentology).

Kims research results are in direct opposition to those made by Illich-Svitych's:

To sum up: according to Kim, PIE o-stems were unaccented (barytona) and postaccenting (oxytona); -*eh*$_2$-stems were accented (barytona) and unaccented (oxytona); BS barytone o-stems are continued by unaccented stems of APc in Slavic, oxytone stems underwent a split – they continue by postaccenting stems APb if the nucleus of the syllable preceding the thematic vowel does not end in a laryngeal; if it ends in laryngeal, stress is retracted by Hirt's law.

Now the problem with Slavic APb raises – Kim is puzzled why this law operates only in Slavic, why it allegedy was not functional in West Slavic (this is the idea of Garde 1976). Together with the claim that postaccenting and unaccented stems were originally oxytona, "the forward shift postulated by Dybo fails to account for a curous and hitherto insufficiently acknowledged peculiarity of BSl. accentual reconstruction" (Kim 2002:129). It means that Dybo's law is considered unnecessary. Kim disputes Illich-Svitych's and Dybo's etymologies of words that should undergo Dybo's law as questionable and controversal. Also, his counterargument against Dybo's law is the massive morphological remodeling of PIE words in Balto-Slavic. It means that forms continuing from PIE to Balto-Slavic have no value about the original PIE accent. However, Kim support his claim only in two *-*tēr* words that underwent thematisation: **méh*$_2$*tēr* and **bréh*$_2$*tēr* (Kim 2002:130–131). But those examples (apart from varied accentual reconstruction of **méh*$_2$*tēr*) are stressed on the root in PIE and have APa in Slavic and API in Lithuanian – so the thematisation here does not influence the position of accent.

Moreover, Kim claims that PIE accentual system is a misconception taken by Illich-Svitych – that PIE had dichotomy between barytone and oxytone-mobile paradigms. Kim is right that this projection was taken by Illich-Svitych according to Old Indic and Greek state but should he use Kortlandt's chronology he would understand that mobility is secondary in Balto-Slavic. Kim completely omited the explanation of Balto-Slavic mobility. Instead of it, he claims that PIE oxytones continue to Balto-Slavic. However, he again backs his claim on a limited bulk of examples, like PSl. **žena* (APb) and **vъdova* (APb). Also, Old Prussian *deiws* and *widdewa* which are claimed to be columnal oxytona (Stang 1966:172–3, 300). Just those two examples are considered by Kim as a proof for columnal oxytonesis of o– and a– stems in Baltic and also in Russian and Serbian-Croatian. (Kim 2002:147).

On the one hand, massive remorphologisation should have obliterated the old accentuation, on the other hand, the same remorphologisation had no effect on preserving old oxytona. The solution is simple, for Kim:where we find former post-accenting stems with acute intonation, those stems underwent Hirt's law and now have acute on the stem-final syllable. Hirt's law is therefore "a reversed Dybo's law" while Dybo's law itself is useless in Slavic (Kim 2002:133). This is very serious misunderstanding of the conditions of Dybo's law. Dybo's law does not require the specified intonation of the target syllable while Hirt's law operates only when the target syllable ends in a consonantal laryngeal.

Kim also thinks that Hirt's law played a minor role in historical studies of Balto-Slavic accentology and was used as "an explanation of isolated diachronic peculiarities" (Kim 2002:134). Actually, the entire classical pre-Stang accentology is based on two laws: Hirt's law and Fortunatov-de Saussure's law.

Kim argues that the features of PIE nominal system of columnal stress on one hand and strong and weak cases on the other hand continues to BS. Pre-PSl had, according to Kim, just one immobile accentual paradigm which was post-accenting and part of it is formed by oxytona continuing from PIE. That single paradigm split to APa and APb (with and without Hirt's law retraction (Kim 2002:135–136). APc should therefore continue PIE barytona (that they also underwent remorphologisation does not obviously matter). Kim adduces PIE o-stems barytona formerly unaccented and post-accenting that should have surived as unaccented barytona APc: **gojь, logъ, sъnъ, vьlkъ, vozъ, zǫbъ* (Kim 2002:136).

PIE oxytone o-stems (postaccenting) splitted to APb (postaccenting) or APa (if root syllable ended in laryngeal and underwent Hir't law).

So – PIE barytona o-stems unacceted + post-accenting > PSl APc; PIE oxytona o-stems (postaccenting) > APb.

The problem obviously remains how PIE post-accenting acute stems that survived in Old Prussian became unaccented in Balto-Slavic. Hirt's law caused that post-accenting acute stems ending in stem laryngeal became stem accented and acute (Lith. AP1, Slavic APa), unaccented acute and unaccented circumflex stems gave Lith. AP3, AP4 and Slavic APc. Post-accenting acute stems that did not have final stem laryngeal and did not undergo Hirt's law underwent various retractions from word final syllables, like Lith. *diẽvas*.

As far as I know, Kim's proposals have not encountered any reaction at all. Partially this is because his dissertation is hardly known among scholars. Should it become more familiar, the reactions would be negative because Kim's solutions are based on misunderstanding of some Balto-Slavic accentual concepts.

2. Paradigmatic reconstruction

Several problems have still remained unexplained. The PIE accentual distribution has been regarded as follows: athematic nomina should have been acrostatic, proterokinetic, hysterokinetic and amphikinetic, as succesfully established

by workers of Erlangen school and their followers. Their continuing research in internal derivation and transition between paradigms also promise new views of early BS accentuation. Thematic nomina are considered to be accentually distributed between barytona and oxytona. The most coherent explanation of how those paradigms developed to Baltic and Slavic accentual distribution was made by Kortlandt (Kortlandt 1974, 1975, 1977, 1994). After the loss of IE mobility, mobile patterns should merge into a single laterally mobile class. Pedersen's law should cause the retraction of stress from internal syllables in mobile paradigm; this should be limited to the flexion of polysyllabic consonant stems (the commonly used example is the PIE word for "daughter"; see also Rasmussen 1985, 1992 for a similar view). Then, barytonesis (analogical spreading of stress retraction to vocalic stems in cases where Pedersen's law applied) and oxytonesis (stress shift from an internal syllable to the ending in end-stressed forms) applied. Following this, Hirt's law is assumed to apply.

This sequence of events, which is important for the starting point of the application of Hirt's law, has recently and independently been challenged by Klingenschmitt and his followers (e.g. Klingenschmitt 1994, Schaffner 2001), Kim 2002 and Olander 2004, 2006. I agree with Olander's claim that analogical "laws" like Pedersen's, which are supposed to operate in Early BS and at the beginning of Late BS, are complicated and unnatural. More acceptable is to consider the continuation of phonologically unstressed (root stressed) and thematic stressed paradigms in vowel stems (as tacity assumed by Olander), and the continuation of accentual distribution of thematic stems from PIE. Olander explains the further mobility of those stems by establishing the mobility law (rejected by Kortlandt 2006).

3. Reflection on the data

When checking the small IE corpus of nominals thought to have undergone Hirt's law, the accentual reconstruction does not quite hold water. The reconstruction of thematic oxytones is clearer:

1) Latv. *jũtis* "fork", Lith. *jáutis* "ox", Balt.**jūʔtis*, OInd. *yūtíh* "union, junction", a derivative from the root *yav–* (KEWA 1964:25, EWA II:402), actually an abstractum from *yáuti, yuvā́*ti, Av. *yūitiš*; original root **i̯eu̯–* (IEW:507, LIV: 314), ablauted derivativee **i̯ū-ti–* (IEW:508), Latv. *jũtis* and Lith. *jáutis* connected by Smoczynski (2007:231); orig. PIE form **i̯ūtís* (Illich-Svitych 1975:59), **i̯uh-tí* "joint" (Rasmussen 1985:172).

2) S-Cr. *jȁto*, Sln. *játo* "flock", *játa* (collective), Blg. *jato*, Rus. *jat* "shoal of fish", Blg. *játo,* PSl *jắto* (APa), derivative from **jati* "go", OInd. *yātám* "progress"; PIE root **i̯eh*$_2$ – "go" (LIV 309–310), **i̯ah*$_2$*-tó-m* (Rasmussen 1985); **i̯ah*$_2$*-tó-m* > **i̯eh*$_2$*-tód* Derksen 2008:154.

Further references: Illich-Svitych 1976:136; Bezlaj 1976:271, Schuster-Šewc 1980/7:262; Gluhak 1993:291, Boryś 2008:207, Snoj 2003:236.

3) Lit. *dúona*, Latv. *duõna*, Balt.**dṓnā* (Smoczyński 2007:134):, OInd. *dhānā́h*"store for corn", Av. *dānō.karš(a)* "Getreidekörner schleppend", TochB *tāno* "seed, grain", PIE **dhṓnā* (Illich-Svitych 1979:57), **d^{h}oh-ná-h_2* (Rasmussen 1985, Smoczyński 2007:134)/**d^{h}oH-néh$_2$* (KEWA 2: 98, EWA I: 787, Adams 1999:286), **d^{h}oh$_1$-nah$_1$* (NIL 125).
Further references: IEW:242; Fraenkel:111.

4) Ru. *dólgij*, S-Cr. *dȕg*, Sln. *dôlg*, Cz. *dlouhý*, Pol. *długi*, USorb. *dłuhi*, OCS *dlъgъ*, PSL **dl̋gъ* (APa); Baltic forms *d– >0: Latv. *īlgs*, Lit. *ìlgas,* OPrus. *ilga*, PBalt. **īlgas*, BS.**dīlga* (Smoczyński 2007:218–219), OInd. *dīrghá–* "long", Av. *darəga*, OPers. *darga*, Hitt. *talugai*, Gr. *dolichós* "long", Lat. *longus,* PGmc **lang,* Goth. *laggs*, Germ. *lang*, Eng. *long* < **(d)long^{h}o-*, originally from **del(h)-g^{h}–* (Snoj 2003:117); PIE **dl̄ghós* (IEW:197, Illich-Svitych 1979: 58,136), **dḷhg^{h}-ó-s* (Rasmussen 1985), *dḷh$_1$g^{h}ó–* (EWAi I:728). Kloekhorst (2008:820) and de Vaan (2008:348) suggest that there are various form of the same root reflected in IE languages: Gr. *dolichós* < **dolig^{h}o*; Gothic and Latin form (with nasal infix) from < *dolih$_1$g^{h}o*; OInd., Av., OCS and Baltic forms from **dlih$_1$g^{h}ó* while Hittite *talugai* <**taluki*<**dólug^{h}i*. Both authors consider the form a part of a petrified pair of the English *high and dry*, *safe and sound*, the first part was probably **de/ol(h$_1$)–* observed in PSl **dьlь*, Cz. *dél* "length", *dlít* "remain, rest", the second part is reduced to **-g^{h}-*.
The root is also observable in Latin *indulgeō* "be indulgent", originally a compound verb of the form **en-/n-/endo– +-dVlg–* (de Vaan 2008:302); LIV:113 doubtly connects Latin *indulgeō* with essiv form **dlg'^{h}-h$_1$i̯é* from **delg'^{h}–* "get fixed", de Vaan (2008:302) reconstructs **dlg^{h}-eh$_1$*, probably original stative, but see detailed discussions there.
Further references: Boryś 2008:114, Schuster-Šewc 3:159, Vasmer I:524–525, Derksen 2008:133, ESJS 3:135–136. Fraenkel I:183–184, Lehmann 1986:224.

5) Ru. *gríva*, S-Cr.*grȉva*, Cz. *hříva*, Slk. *hriva,* Pl. *grzywa*, USorb. *hriva*, LSorb. *griwa,* Rus. *gríva*, Latv. *grīva*, BS **grí?wa?* (Derksen 2008:189), OInd. *grīvā́;* PIE **grīu̯ā* (IEW:475) **griHu̯áH* (Kortlandt 1975:22), **g^{w}rih$_3$-u̯áh$_2$* (Rasmussen 1985), **g^{w}ríh$_3$u̯ah$_2$* (Snoj 2003:191), *g^{w}riH-u̯eh$_2$* (Derksen 2008:189).
Further references: Vasmer I:458, Boryś 2008:187, Skok 1971:I:620, Schuster-Šewc 1975/5:343, Bezlaj 1976:I:177, Gluhak 1993:247, ESJS 4:203.

6) Latv. *snãte* "linen cloth", s-less form also *nâts* "linen", OE. *snōd* "hood", Eng. *snood* "headband, snood", OIr. *snāth*, OBret. *notenn*, MoBred *neud* <PCelt.**snāto–* "thread" , PCelt. form from **snh$_1$to–* which is a derivative

from the past participle, the root shortening due to the Dybo's law (in Italo-Celtic), the Latvian form with o-ablaut *$snoh_1to$– (Matasović 2009:348-349); *PIE form*$snah\text{-}táh_2$ (Rasmussen 1985), original root *(*s*)$nē$-/(*s*)$nēi$– "put threads together" (IEW:973), *$sneh_1$– "spin" (LIV:571), also observed in Lat. *neō, nēre*.

7) Lit. *sūnùs* (AP1>AP3), "son", OPr. *soūns*, OCS *synъ*, Rus. *syn*, Cz *syn*, Slk. *syn*, Pl. *syn*, S-Cr. *sîn-sîna*, Sln. *sîn-sîna*, PSl. **sy̑nъ* (APc) Balt.*sū́nus* (Illich-Svitych 1979:59), BS. **súʔnus* (Derksen 2008:483), OInd. *sūnús*, Got. sunus, TochB *soy*, Toch A *se* < PToch **sūyu*– < **suhyu*-, the same root but a different derivative suffix; the original root is **suH*– (NIL:686-690), a derivative from **seu*-; PIE form **sūnús* (IEW:913), **suh-nús* (Illich-Svitych 1979:59, Derksen 2008:483. NIL:686).
Final stress in Balto-Slavic was restored at that time, relics of initial stress due to Hirt's law can still be seen in Old Lithuanian *sū́nus*; Matasović 1997:137, 144 (Note 35) thinks that Hirt's law and analogical mobility spreading (due to the Pedersen's law) occured together, therefore we observe mobile paradigm in Lithuanian.
Further references: Boryś:590, Vasmer II:817-818, KEWA 3:494, EWA II:741, Gluhak 1993:547, Snoj 2003:655, Fraenkel II:941.

8) Lit. *tìltas*, Latv. *tiļ̃ts*, "bridge", Balt.*tḯlta*, OInd. *tīrthám*, actually a substantivised adjective *tlh_2tó*-, PIE *$tl̄tHóm$ (Illich-Svitych 1979:58) *$tlh_2\text{-}t^hó\text{-}m$ (Rasmussen 1985)/*$tṛh_2\text{-}th_2\text{-}ó$ (EWAi I:650); original root *$telh_2$– (LIV:622), related to Lat. *lātus* (to tollō, tollere "pick up" and Gr. *tlētos* "enduring, steadfast".
Further references: Fraenkel II:1094, Smoczyński 2007:678, de Vaan 2008:621-622.

9) Lit. *úosis* "ash tree" , Latv. *uôsis*, OPr. *woasis,* PBalt.*ṓsis (Illich-Svitych 1979), *$ṓs\text{-}i̯o$– (Smoczyński 2007:705), *$oʔs\text{--}i̯o/en$ (Dersken 2008:29); Gr. *oksýa* "beech"PIE *ōsís (Illich-Svitych 1979), *$(H)ōsi̯^*$– (Blažek 2001:50).
There are different suffixes in individual branches to the PIE root *$ōs$– (IEW: 782), *$Heh_3\text{-}s$ (Derksen 2008:29, de Vaan 2008:435). The suffix *-*Vno*– can be observed in Latin *ornus* (because of rotacisms); the suffix *-*no*– in PCelt. **os-no*, OIr. *uinnius*, Wesh *onn*, MBret *ounn* (Matasović 2009:300-301, who does not accept the *Heh_3– reconstruction and considers the Lithuanian acute as a secondary vrddhi formation); the *-*en*– suffix in PSl **ǎsenь/ǎsenъ* (APa), Cz. *jasan*, Slk. *jaseň*, OPl. *jásień*, USorb. *jaseń*, Rus. j*áseń,* S-Cr. *jȁsēn-jȁsena*, Sln. *jásen-jasẹ́na*. The suffix *-*ko*– in Germanic: OIc *asker*, Engl. *ash.*
Further references: Frisk II:400, Gluhak 1993:290, Vasmer IV:564, Fraenkel II:1167, Boryś 2008:213; Schuster-Šewc Wort: 431.

10) S-Cr. *pȉr*, Sln. *pîr*, Cz. *pýr*, Slk. *pýr,* Pl. *perz*, Ru. *pyréj*, PSl **pȳ̋rъ* (APa), Lit. *pū́ras* (AP1) "grain measure ", Latv. *pûri* "winter corn", *pũrs* "corn measure", BS **puʔro–* (Derksen 2008:425), GrHom. *pȳrós* "wheat", OE. *fyrs* "spelt", OInd. *pūrá* "cake", PIE **puh$_1$-ró–* (Rasmussen 1985).
Further references: Bezlaj 3:39, Vasmer 3:419, Fraenkel 671, Frisk II:631, KEWA II:322-323, Boryś 2008:421.

11) Ru. *dym*, S-Cr. *dȉm*, Sln. *dìm*, Cz. *dým*, PSl. **dy̋mъ* (APa), Latv. *dũmi*, Lit. *dū́mai*, OPrus. *dums*, PBS **dúʔmos*, (Derksen 2008:132), PBalt **dū́mai*, (Illich-Svitych 1979-58), OInd. *dhūmá-*, Gr. *thūmós*, Lat. *fūmus*, PIE **dhūmós* (Illich-Svitych 1979-58), **d^{h}uH-mós* (Derksen 2008:132), Rasmussen 1985, **d^{h}uh$_2$-mó* < **d^{h}u̯eh$_2$–* (Casaretto2004:380, LIV 188); from the root **d^{h}eu–* (IEW 261).
Latin *fūmus* < PIt. *fūmo–* < PIE **d^{h}uh$_2$mó* is an exception to Dybo's law in Latin, long "*ū*" is explained by annalogy and **-h$_2$–* is reconstructed according to Hittite forms *antuwahhaw* "human", *tuhhae–* "cough" (de Vaan 2008:249). The root form **d^{h}uh$_2$–* with **-yo–* suffix is also observed in PCelt. **dwīyot–* "smoke", OIr. *dé* (Matasović 2009:111).
Further references: KEWA I:109, EWA I: 795, Smoczyński 2007:132, Snoj 2003:110, Boryś 2008:136, Vasmer I:558, Bezlaj 1:101, Fraenkel I:110, Frisk 694, Gluhak 1993:196.

Other forms of thematic stems as well as athematic stems are not straightforward:

12) Latv. *znuôts* "son-in-law, sister's husband, wife's brother", Lith. *žéntas* "son-in-law"(AP1), OCS *zętь* "bridegroom", S-Cr. *zȅt* "son-in-law", Ru. *zjaťь*, Cz. *zeť*, Pl zięć, PSl. *zę̋tь* (APa), Balt.**žnṓti* (Illich-Svitych 1979:59), BS **žénʔtis/tos* (Derksen 2008:544); Fraenkel:1301 refused the connection of *žéntas* with *zętь*, OInd. *jñātís*, Gr. *gnōtos* "relative", PIE etymology varies: IEW:373-374 **g'enətos* >Lith. *žéntas, *g'enətis* >OCS *zętь*, **g'nō–* in OInd. *jñātís* and Gr. gnōtós; **g´nōtís* (Illich-Svitych 1979:59),**g´noh$_3$-tí* (Rasmussen 1985:172); Gluhak (1993:695) derives Lith. *žéntas* from **g'en-to-s* and Latv. *znuôts* from **g'nō-to-s*, both forms ablauted from **'gen-t-*, a derivative of **g'enh$_1$–* "produce" (LIV:163) ; Derksen (2008:544) reconstructs **g´enh$_3$-to/ti* and accepts connection of *žéntas* and *zętь* and the derives the Latv. *znuôts* from **g´neh$_3$-to-*; Bezlaj (2005:406)reconstructs **g'enh$_1$ti-*; Snoj (2003:853) derives Gr. *gnōtos* "kinskman", Latv.*znuôts* and OInd. *jñāti* from the zero grade form **g'n̥h$_1$tó–* NIL (136-139, 154) has also different etymologies: **g´emH-to/ah$_2$* for Lith. *žéntas*, **g´m̥H-t-i* for OCS *zętь*, Rus. *zjátь,* S-Cr. *zȅt* (from the root **g'emH–* "marry"); **g´noh$_3$-ti* > OInd. *jñāti-*, *g´n̥h$_3$-tó* > Gr. *gnōtós* and **g´noh$_3$-tó* > Latv. *znuôts*, everything from the root **g'neh$_3$–* "recognize". Two or three roots of the same structure might have contaminate here.; Viredaz 2002:169 distinguishes four BS types: **žnṓtis* > Latv. dial. *znuõtis*; **žnṓtas* >Latv. *znuõts; *žéntas* > Lith. *žéntas, *zénti* > PSl. *zę̋tь*, the original root **g'enh$_3$/g'neh$_3$* in oxytona**g'neh$_3$tí, g'n̥h$_3$tó–* but he does not mention Hirt's law.

Further references: EWAi:585-586, 601; Vasmer II:112, Boryś 2008:740.

13) Latv. *vẽjš* "wind", Lit. *vė́jas* "wind", PBalt. **vė́jus* (Illich-Svitych 1979:59); Smoczyński 2007:730 derives *véjas* from the root véj-, a form from *vė́ti, vė́ja, vė́jo* "blow", reflected in OInd. *vā́ti,* OHG *wā(h)en,* OCS *vějati;* further cognates OInd. *vājús*, Av. *vaiiu*, PIE **u̯ēi̯ús* (Illich-Svitych 1979:59) ,**h₂u̯eh₁-i̯ús;* (Rasmussen 1985, EWA II:544), the verbal root **h₂u̯eh₁–* "blow" (LIV:287).
Further references: Fraenkel II:1216, KEWA 3:190-191, IEW:82-83.

14) Ru. *pólnyj* "full", S-Cr. *pȕn*, Sln. *pôłn,* Cz. *plný*, Pl. *pełny*, USorb. *połny*, PSl. **pъ̏lnъ* (APa), Latv. *pìlns*, Lit. *pìlnas*, PBalt. **pī́lnas* (Illich-Svitych 1979:58), **pī́lna <plh₁-nó* (Smozcyński 2007:459), **pílnos* (Derksen 2008:426); further cognates OInd. *pūrṇá-*, Av. *pərəna,* Lat. *plēnus*, OIr. *lán*, E. *full*; PIE **pl̥nós* (Illich-Svitych 1979:58); **pl̥h-nós* (Rasmussen 1985). Some authors also think about different reconstructions: KEWA II:324 posits **pl̥ə-nó–* > OIr. *lán, *pl̥-nó–* > Av. *pərəna*; Schaffner (obviously under the influence of Klingenschmitt) reconstructs the oposition **pl̥h₁-nó* (oxytone verbal adjective from *pelh₁-/pleh₁,* also EWAI:156) >**pĺ̥nó/*pəl̥nó/ *pil̥nó* > **pī́ lnó*> **pílna*> Lith. *pìlnas*, OInd. *pūrṇá,* contra **pĺ̥h₁-no* > *Psl *p´ъ́lnъ* > S-Cr. *pȕn*, R. *pólnyj* (Schaffner 2001:336, cf. also Forssman 2001:27); the original root might be root aorist form **pleh₁–* "fill, become full" (LIV 482, de Vaan 2008:472-473).
Further references: Bezlaj 3:82, Fraenkel I:592, Gluhak 1993:512, Lehmann 1986:131, Snoj 2003:541.

15) Lit. *piemuõ* (AP3 < *píemuo* AP1), Gr. *poiḿēn*, PBalt. **pṓ́imōn/pḗ́imōn*, according to Fraenkel I:585 considers the Lith. vocalims *ie* <**ei* analogicaly introduced according to forms like *píesas* "feed"; PIE **pōiḿēn* (Illich-Svitych 1979:60), **poi̯h₂-mḗn* (Rasmussen 1985), reconstructed by Schaffner as hysterokinetic: Nsg **poi̯h₂-mḗ(n),* Gsg **poi̯h₂-mn-és*, with Laryngeal metathesis *poih₂– <poh₂-i–* (Schaffner 2001:89-90); Laryngeal metathesis, resyllabification and the following laryngeal lost with compensatory lengthening is also posited by Smoczyński 2007:454: **po.h₃i-men > *pa.Hi.men > *pai̯H.men >*pāi̯.men > piemuõ.*
Further references: Frisk I:573.

16) Lit. *mė́nuo*, Latv. *mēness* "moon", *mēnesis* "month", OPrus. *menig*, OCS *mĕsęcь*, Cz. *měsíc*, Slk. *mesiac*, Pl. *miesiąc*, S-Cr. *mȅsēc*, Sln. *mę̑sec*, PSl **mě̋sęcь* (APa), BS. **meʔn (e)s*, Proto-Slavic form from *meh₁n-s(e)n-ko* (Derkesn 2008:312-313); OHG *mānōd*, Got. *mēnōþs*, Germ.**mǣnṓt*, Gr. *mḗn,* Lat. *mēnsis,* OIr. *mí*, OInd. *mā́s*, TochA *mañ,* TochB *meñe;* PIE**mēnṓt* (Illich-Svitych 1979:60), reconstructed as amphikinetic Nsg **méh₁-n-s*, Gsg **meh₁-ns-ós* (Beekes 1985:62); similarly Schaffner **méh₁-nō-s: *mə₁ns-és*

(Schaffner 2001:83-84) and Rieken **méh$_1$-nō-t(s): *m(e)h$_1$-ns-és* (Rieken 1999:62); EWA II:352 reconstructs PIIr. **maHas < meh$_1$-ns,* e-grade in suffix **meh$_1$-nes* in Greek, Latin, Gothic, Lithuanian and Tocharian forms; Smoczyński (2007:388) considers the Baltic length from laryngeal influence **meh$_1$-ns <*me.ens <*me.Hens* (the resyllabification and compensatory lengthening), Baltic forms from the **mēn–* reformed from Asg. *mē-nes-in*; the final Lith. *mė́nuo* is a modified form of **mėnuos <*mēnōs* and according to *vanduõ* etc.; de Vaan (2008:373) posits PIt. mēns and Lithuanian and Latvian forms derives from **meh$_1$n-es*, the PIE form **meh$_1$-n-s* with Nsg *meh$_1$-n-ōt*.

17) Latv. *vĩrs*, Lit. *výras*, Balt. **vī́ras*, OInd. *vīrá-*, Av. *vīrá*, Lat. *vir*, OIr. *fer*, Goth. *wair*, TochA *wir* «young» (Latin, Celtic and Germanic brevity is due to the Dybo's law, accepted by de Vaan 2008:681, Matasović 2009:423 and NIL:726, thus **u̯īró > *u̯iro*); PIE **u̯īrós* (Illich-Svitych 1979:58), **u̯ih-rós* (Rasmussen 1985), An alternative explanation to Hirt's law is the stress retraction due to the substantivization of the original adjective, thus Schaffner (2001:331) posits the oposition of **u̯ih$_x$-ró* (adjective) > OInd. *vīrá-*, contra **u̯íh$_x$-ro* (substantive) > Lit. *výras* (Schaffner 2001:331), but see Casaretto for **u̯ih$_1$-ró > výras* (Casaretto 2004:419 +Anm.1359); also Smozcyński (2007:756-757) and NIL:726-729 considers it as an alternative to Hirt's law.
Further references: KEWA 3:238, EWA II:569, Fraenkel II:1258, Lehmann 1986:389:390.

18) Ru. *déver′ – deverjá*, S-Cr. *djȅvēr*, Sln. *dė́vẹ̑r-dėvẹ̑rja*, PSl **dě̋verъ* (APa/c) Lith. *díeveris,* Latv. *diẽveris*, PBalt. *dā́ivē* (Illich-Svitych 1979:90), PBS **daʔiuer* (Derksen 2008:105), Lithuanian forms show AP1 but Slavic forms tend to be mobile (probably secondarily); Fraenkel I:94 considers the Lithuanian root vocalism levelled according to *diẽvas*; Smoczyński (2007:111) explains the long Balto-Slavic diphthong due to the laryngeal metathesis and resyllabification processes: **deh$_2$iu̯er > *da.h$_2$iu̯er >* da.h$_2$i.u̯er > *dai̯h$_2$.u̯er* > PBS**dāi̯.u̯er.*
Gr. *dāḗr*, Lat. *lēvir*, OInd. *devár,* Arm *taygr*; de Vaan 2008:336 reconstructs the PIt. form **dai̯wēr,* with the Latin replacement of "d"by "l" (thus also EWA I:744) and -*ver with -vir due to the influence of *vir* "man"; PIE *dāiu̯ḗr* (IEW 179, Illich-Svitych 1979:90), **dai̯h-u̯ḗr* (Rasmussen 1985); Nsg **deh$_2$i-u̯ḗr*, Dsg **deh$_2$i-u̯r-éi̯*, Asg **deh$_2$i-u̯ér-m̥* (Rieken 1999:266), hysterokinetic, but see Jeong-Soo's argument for amphikinetic reconstruction (Jeong-Soo 2005:19), **deh$_2$i-u̯er* (Derksen 2008:105), NIL:58-60 reconstructs **dai̯u̯ér/dai̯u̯r* and according to Greek and Armenian forms the probable basic form **deh$_2$i-u̯er,* accepted by de Vaan (2008:336) but the derivation from the root **deh$_2$i–* "to distribute" remains doubtful.
Further references: KEWA 2:64, EWA 743-744, Gluhak 1993:200, Bezlaj II:99, Vasmer I:991.

19) Ru. *mať*, S-Cr *màti*, Sln. *máti*, Cz. *máti*, Slk. *mať*, OCS *mati*, PSl *mắti (APa), Latv. *mãte*, Lit. *mótė*, OPrus. mūti, PBS *má?ter (Derksen 2008:303), OInd. *mātā́*, Av. *mātar*, Gr. *mḗter*, Lat. *māter*, OHG *muoter*; Arm. *mayr*, Alb. *motër*, TochB *mācer*, TochA *mācar*, OIr. *máithir*, PIE **mah-tḗr* (Rasmussen 1985); Nsg **meh$_2$tér-s*, Gsg **meh$_2$tr-és*, hysterokinetic (Jeong-Soo 2005:14), Beekes argues for static inflection (Beekes 1985:185), also Snoj 2003:385 and Snoj 2004 reconstruct acrostatic paradigm **mah$_2$tér*, Gsg. *máh$_2$trs;* NIL:457-461 reconstructs **máh$_2$ter* but is not decided whether to posit an original *-*ā*– or *-*eh$_2$*– although Kortlandt's idea of the development of -VH– sequence to acute is accepted. The oxytonesis in OInd. *mātā́* is considered to be taken from *pitá* type. Derksen (2008:303) admits the possibility of Hirts's law but also the fact that the original root stress (and therefore acrostatic paradigm) can be old, because the root stress appears in Greek *mḗter*.
Further references: IEW 700-701, Gluhak 1993:401.

It is obvious that a mixture of nominals of different origin and accentuation underwent Hirt's law. The different mobility of athematics is also difficult to frame into a sort of lateral mobility – the starting point from which Hirt's law should apply. There is also an interesting remark made by Dybo (Dybo 1981:17) who, having observed that u-stems and consonantal stems that underwent Hirt's law returned back to mobility in Lithuanian, suggested that that those forms created a sort of mixed accentual paradigm with retracted forms and forms keeping original ending accentuation.

4. No-strict-oxytonesis hypothesis

We can accept the working hypothesis that original IE accentual frames continued at least up to the time of operation of Hirt's law. It means that some words need could retain their PIE accentual paradigm and could escape Balto-Slavic Pedersen's law. This hypothesis has not very firm grounds, because the corpus of words under examination is small. But Optimality Theory analysis seems to explain more successfully Hirt's law under the premise of the continuance of original accentual distribution. However, another condition must be broken – we must accept the fact that the stress was retracted also from syllables not immediately followed a syllable with consonantal laryngeal – which is against the common understanding of how Hirt's law operates.

5. Anti-optimal paradigms

Frazier has recently dealt with the accentual paradigms of PIE athematic nouns from the point of Optimality Theory (Frazier 2006). She uses a concept of dominant and recessive morphems in a concept of morphology-phonology interface.

Dominant affixes are those that cause deletion of accent rom the base. Any affix that does not bear such specification is recessive by default. Apart from using input-output correspondence also output-output correspondence is used, because from one base different outputs in paradigms can be created. Accented roots are always stressed in the output, unaccented roots yield paradigms with alternating stress, post-accenting roots yield paradigms with stress on the inflectional suffix. Frazier also uses antifaithfulness constraints (Alderete 2001), operating only on the output-output correspondence, which are satisfied by an output which violates a coresspondent faithfulness constraint. Comparisons between members of inflectional paradigms are solved by a theory of Optimal paradigms, which was, however, not developed with intention of explaining differences among members of paradigms due to inflectional affixes (McCarthy 2005). Creating a non-optimal paradigm (¬OP) model to generate multiple candidates simultaneously, Frazier successfuly demonstrates the interaction and ranking of constraints of the types: DEP (A)-do not insert accent, MAX (A)– do not delete accent, NoFLOP (A)– do not shift accent, ALIGN-LEFT – for every stressed syllable, align its left edge with the left edge of the prosodic word, OP-DEP(A)– do not insert an accent into any member of an inflection paradigm, ¬OP-DEP(A) – insert an accent into the stem of a member of an inflectional paradigm created with a dominant affix; similarly OP-MAX(A), ¬OP-MAX(A), OP-NoFLOP(A), ¬OP-NoFLOP(A), $DEP(A)_{ROOT}$, $DEP(A)_{DERIV}$, and show how they control the placement of the stress in all four types of athematic accentual paradigms.

I use the Frazier's concept as a starting point and I try to show that to explain a leftward stress shift we must include a dominant constraint which specifies position of a laryngeal in a root. As for Hirt's law, it is obvious that a target root syllable contains a laryngeal as a part of a coda, which means that this laryngeal is consonantal. I argue that late Indo-European and Early Balto-Slavic generally prefer consonatal (and tautosyllabic) laryngeal than vocalic. As for the case of Hirt's law, the root laryngeal is consonatal and therefore attracts stress.

Therefore, I posit a constraint $*ə_{root}$ (Root laryngeal must be consonantal).

If we accept the working hypothesis that athematic nouns, at least those that underwent Hirt's law, kept their original accentual distribution, we can easily create tableaux for showing the non-dominance of constraints $*ə_{root}$ and ALIGN-LEFT.

Amphikinetic nouns have a root stress in strong cases and an ending-stress in weak cases. The stress is therefore shifted leftward only in weak cases ($R_ə$-root with non-consonantal laryngeal, S-suffix, E-ending, R_H-root with tautosyllabic laryngeal, OPNoFLOP (A) – do not shift stress in any member of the inflectional paradigms):

weak cases of **meH-nōt-s* ;

RSÉ	*əroot	ALIGN-LEFT	OP NO-FLOP (A)
☞$\acute{R}_{H}$SE			*
R_{H}SÉ		*!	
$R_{ə}$SÉ	*	*	

As for hysterokinetics, the stress alternates between suffix and ending. The root is never accented. I accept Frazier's presupposition that hysterokinetics had post-accenting root – otherwise it would be impossible to explain their anomalous accentuation. The leftward stress shift again shows the non-dominance of constraints *$ə_{root}$ and ALIGN-LEFT:

strong and weak cases of the type **maH-tḗr, *daiH-u̯ḗr, *poiH-mḗn*

R_{PA}ŚE R_{PA}SÉ	*əroot	ALIGNL	OP NoFLOP (A)	POST ACC
R_{PA}ŚE R_{PA}SÉ	**!	**		
☞$\acute{R}_{H}$SE $\acute{R}_{H}$SE			**!	**!

Thematic oxytona also have postaccenting root (accepting Halle's proposal):

RŚE	*əroot	ALIGNL	POST ACC
R_{PA}ŚE	*!	*	
☞$\acute{R}_{H}$SE			*!

6. Lubotsky's accent shift

Lubotsky 1992 observed anomalous resistance of Old Indic i– and u– stems derived from roots with a final laryngeal. Those derivatives are oxytonas. There is no retraction of stress although the original root ended in a consonantal laryngeal. Some of the Old Indic i– and u-stems have parallels in Balto-Slavic where the forms underwent Hirt's law: Latv. *jũts*, OInd. *yūtíh*; Latv. *znuõts*, OInd. *jñātís*.

Lubotsky claims that the Old Indic oxytonesis is not of Indo-European origin and he assumes "the laryngeal accent shift". However, the condition of the stress shift in Old Indic is "incomprehensible", because root laryngeals generally attract stress. Concerning this, there is another interesting Lubotsky's hypothesis that laryngeals (which merged into glottal stop in Indo-Iranian) were lost before voiced unaspirated consonant if followed by another consonant (*HDC>DC).

Roots have short medial vowel: **peh$_2$g´*– OInd. *pajrá–* "firm" but Gr. *πήγνῡμι* "make fast". In Indo-Iranian we observe assimilation of a glottal stop (merger of laryngeal) and preglottalised consonants (formerly explained as voiced unaspirated): CeHDC = Ce$ʔ^{ʔ}$*D*C > Ca$ʔ^{ʔ}$*D*C (Indo-Iranian "a") > Ca$ʔ$*D*C. This is Lubotsky's law (Lubotsky 1981).

Lubotsky assumes that the orginal i– and u– stems were barytona and the laryngeal shift operated when the root vowel was followed by a laryngeal (or glottal stop in the above interpretation). We can see that the process is quite opposite to the leftward stress shift in Balto-Slavic. Lubotsky 1992 put his conception on Indo-Iranian laryngeal shift into a broader relative chronology of changes (see Lubotsky 1992:268). The most important result is that all laryngeals merged into a glottal stop in Indo-Iranian (which is the same result as in Balto-Slavic), then the glottal stop was lost before mediae (which are conditions similar to Winter's law in my interpretation), and the laryngeal accent shift followed.

7. Proposed solution

Taking the above mentioned results into consideration, we can easily explain the anomalous resistance of Old Indic i– and u– stems derived from roots with a final laryngeal, as observed by Lubotsky. The fact that the roots having final consonantal laryngeal do not attract stress can be explained by the following preliminary hypothesis: while in Balto-Slavic the consonantal root laryngeal causes the attraction of stress (Hirt's law) and it is undominated from the OT point of view, in Old Indic the constraints *ə$_{root}$ and ALIGN-LEFT are dominated by some other constraints. Therefore, the leftward stress-shift is blocked.

Lubotsky observes that the orginal i– and u– stems were barytona and the laryngeal shift operated if the root vowel was followed by a laryngeal (or glottal stop in the above interpretation). We can see that the process is quite opposite to the leftward stress shift in Balto-Slavic. In Indo-Iranian as well as in Balto-Slavic the original three laryngeals merged into one which was phonetically glottal stop.

The specification of Indo-Iranian laryngeal accent shift only to i– or u– stems is interesting because it presupposes the dominance of the i– and u– suffixes. As Lubotsky remarks , the shift does not occur in a-stems like *kā́ma–* "wish".

In my article on Hirt's law from 2006/2009 (rewritten above) I tried to explain the mechanism of Hirt's law using Optimality Theory (For a general overview of OT mechanisms see e.g. ARCHANGELI, D.; LANGENDOEN, D.T. *Optimality theory. An overview.* Blackwell, 1997; KAGER, R. *Optimality theory.* Cambridge university press, 1999; McCARTHY, J. *A thematic guide to Optimality theory*. Cambridge university press, 2002; McCARTHY, J. *Doing Optimality theory.* Blackwell, 2008.)

Now it seems to me that Hirt's law and Indo-Iranian laryngeal accent shift are opposite mechanisms, althought the latter is specific to i– and u-stems and neither mechanism need be synchronic.

For the sake of convenience I use the structure CVH.S where H means consonantal laryngeal and S is suffix. The constraints involved in accent shift are:

MAX (A) – do not delete accent
DEP (A) – do not insert accent
NOFLOP (A) – do not shift accent
ALIGN-LEFT – for every stressed syllable, align its left edge with the left edge of some prosodic word
ALIGN-RIGHT – for every stressed syllable, align its right edge with the right edge of some prosodic word.
For the discussion of the constraints see Kager 1999, Frazier 2006. I also posited a constraint *$ə_{root}$ – root laryngeal must be consonantal.

In my aforementioned article I tried to explain Hirt's law in whole paradigms but here I limit my analysis to Nsg forms.

As for barytona which did not undergo any accent shift (like Indo-Iranian a-stems), the tableau is as follows:

CV́HS	*$ə_{root}$	MAX(A)	DEP (A)	NONFLOP	ALIGN-L	ALIGN-R
a☞CV́HS						*
b CVHŚ		*	*	*	*	

Candidate (a):
*$ə_{root}$ >>MAX(A), DEP (A), NONFLOP >>ALIGN-L>>ALIGN-R

Indo-Iranian laryngeal shift: barytona > oxytona *d^hurH-*ti*, OInd *dhūrtí-*. To narrow the shift for i– and u– stems I use the S_{SPEC} suffix:

CV́HS_{SPEC}	*$ə_{root}$	ALIGN-R	ALIGN-L	MAX(A)	DEP (A)	NONFLOP
a CV́HS_{SPEC}		*				
b ☞CVHŚ$_{SPEC}$			*	*	*	*

Candidate (b):

*$ə_{root}$ >>ALIGN-R>>ALIGN-L >>MAX(A), DEP (A), NONFLOP

Hirt's law in Balto-Slavic:oxytona > barytona, BS *dúH-mo-*

CVHŚ	*$ə_{root}$	ALIGN-L	ALIGN-R	MAX(A)	DEP (A)	NONFLOP

a☞CV́HS			*	*	*	*
b CVHŚ		*				

Candidate (a):

*$ə_{root}$ >>ALIGN-L>>ALIGN-R >>MAX(A), DEP (A), NONFLOP

Oxytona remain oxytona and do not undergo stress retraction as in Balto-Slavic, *d^huH-*mó*-, OInd *dhūmá-*

CVHŚ	*$ə_{root}$	MAX(A)	DEP (A)	NONFLOP	ALIGN-R	ALIGN-L
a CV́HS		*	*	*	*	*
b☞CVHŚ						*

Candidate (b):
*$ə_{root}$ >>MAX(A), DEP (A), NONFLOP >>ALIGN-R>>ALIGN-L

8. Conclusion

In this paper I proposed the Non-strict oxytonesis hypothesis. This means that some nouns need not be necesarily oxytonesized and could continue from PIE to Balto-Slavic with their original accentual paradigm. I accepted Rasmussen's claim that Hirt's law required the laryngeal in coda position. Such structures attracted stress. In Indo-Iranian, on the other hand, the situation is opposite and roots ending in laryngeal coda do not attract stress. I proposed a new constraint *$ə_{root}$ which prohibits vocalic counterpart of a laryngeal in a root. Hirt's law and Old Indic oxytonesis is then the result of different ranking of *$ə_{root}$ and ALIGN family of constraints which are responsible for the position of stress.

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HIRTŮV ZÁKON V BALTOSLOVANŠTINĚ

Článek se systematicky zabývá Hirtovým zákonem, což je baltoslovanský akcentuační zákon vysvětlující retrakci přízvuku z oxyton na slabiky obsahující laryngálu. . Výsledná intonace je akutová. Autor přehledně popisuje všechna dosavadní vysvětlení Hirtova zákona. Rekonstruovaná data často neukazují na původní oxytonezi, z níž by se při Hirtově zákoně mělo vycházet.. Navržené řešení předpokládá, že některá substantiva si při přechodu z praindoevropštiny do baltoslovanštiny zachovala svá původní akcentuační paradigmata, která podléhala Hirtovu zákonu jako celek. Autor přijímá Rasmussenovo zjištění, že Hirtův zákon vyžaduje, aby cílová slabika obsahovala laryn-

gálu ve slabičné kodě. Poukazuje na Lubotského popis opačného stavu v indoíránštině, kdy stejná slabičná struktura naopak retrakci nezpůsobuje. Pomocí teorie optimality lze popsat oba jevy jako rozdílné interakce konstraintů *$ə_{root}$ a ALIGN

Roman Sukač
Ústav bohemistiky a knihovnictví
Filozoficko-přírodovědecká fakulta
Slezská univerzita v Opavě
Masarykova 37
74601 Opava
roman.sukac@fpf.slu.cz