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LITH. rìsti, rìta “ROLL”, OCS -rēsti, -rēštə “FIND” AND THE PIE ROOT *ret- IN BALTO-SLAVIC

Abstract. Lith. rìsti, rìta “roll” (Latv. rìst, ritu), rìěsti, rìěčia “bend” (la. rìest, rìěšu) and Sl. *rē̆sti, *rē̆l(j)ə, *rē̆tə “find” derive from the PIE root *ret- “roll” (cf. OIr. rethid “runs”; Lith. rãtas, OHG rad, Lat. rota etc. “wheel”). We can reconstruct a PIE Narten present *rēt̆-ti/*rēt̆-ŋti that in Balto-Slavic was thematized into *rēt̆-e/o and acquired a zero-grade aorist-infinitive stem *ʒt̆- > *irt̆- → *rit̆- (with metathesis on analogy with pres. *rēt̆-). The complex rebuilding of the present stem in Sl. *rē̆-n-t-(j)ə/e/o- depended on the semantic development “roll” > “run” > “find”. In Baltic the unusual ablaut pattern *rēt̆-e/o- : *rit̆- was rebuilt as regular *reit̆-e/o- : *rıt̆-. At a later stage of the development of the Baltic verb it split into the two primary verbs *risti, *rita and *reisti, *reitja.

Keywords: Baltic; Slavic; Indo-European; historical morphology; verb; ablaut.

1. To stress the importance of etymology in the research of Professor Smoczynski is almost redundant considering the fact that he has authorized an etymological dictionary of Lithuanian himself (2007). Among the guidelines one can discern in Smoczyński’s approach to etymology I would highlight the following ones, if only because they stand in sharp contrast with much of the traditional work in this area (including Fraenkel’s dictionary): almost systematic avoidance of root-enlargements, general preference for inner-Baltic accounts, regular comparison with Slavic, full attention to ablaut (which actually provides the ordering principle of Smoczyński’s dictionary), as well as to the creation of Baltic neo-roots. In this modest contribution I will try to exemplify the potential of these principles for research on Baltic etymology and morphology.

In the late thirties André Vaillant (1939, 25) proposed that OCS -rēsti, -rēštə, -rētə “find” continues the primary verb of the root *ret- (OIr. rethid “run”), which is well known as the source of one of the Indo-European words
for “wheel” (Lith. rātas, Lat. rota, etc.). Following a traditional etymology that is no longer generally favored he further included Lith. risti, rīta “roll”, riēsti, riēčia “curve, bend” in the set. Vaillant’s etymology never acquired a broad acceptance and the details have to my knowledge never been worked out in detail. In this article I will try to show that it is indeed correct and that, in addition, it has a considerable interest for the reconstruction of the Balto-Slavic verbal system and its development in Slavic and, especially, Baltic. Before presenting my scenario (§ 6–11), I will discuss the data and alternative accounts of Lith. risti, riēsti (§ 2–3) and OCS -rēsti (§ 4–5).

2. The Baltic material clusters around two independent primary verbs:

2.1. Lith. risti, rīta (dial. reñta), rito (dial. rītē) “roll (tr./intr.)”, Latv. rist, rītu, rītu “id.”.

The Eastern Aukštaitian ė-preterit rītē is a well-known innovation affecting zero-grade thematic presents. Considering its isolation, the very rare present reñta must be an occasional analogy on the model of the type krišti, kreñta “fall”. We can thus safely reconstruct a Baltic paradigm *risti, *rīta, *rītā. In both Lithuanian and Latvian, the basic meaning is “to roll”, used both transitively and intransitively. In the latter case we often find the reflexive Lith. ristis, Latv. ristiēs. Other meanings presented in LKŽ 11, 684ff. (“run”, “wrestle [refl.]”, etc.) are easily understood secondary developments.

Most derivatives are essentially unremarkable: iter. ritéti/rytėti, -a/-ėja “roll (usually intr.)”, rietėti, riēta “roll (intr.)”, caus. ritinti, -ina “roll (tr.)”, ritėnti, -ėna “id.”. Some nominals: ritinis/ritinēs, ritiniūs “roll, scroll; cylinder”, ritulūs “roll; ball”, Latv. ritulis “id.”, ritenis “wheel”. Of more potential interest are the following two groups of derivatives:

i) neo-root rís-, mostly associated with the swiftness of horses: rīstas “fast (horse)”, rīščiā “trot”, rīstē, rīstis “id.”, risnōti, -oja “trot”, risčiōti “id.”.1 See below for some Slavic comparanda (§ 4);


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1 I prefer assuming a neo-root rís- < *rit-t° (as per Vaillant 1966, 185; Smoczyński 2007, 517) over a semantically problematic connection with Gmc. *rīsanq “rise, get up” (Go. -reisan, OE rīsan etc.; e.g. Fraenkel, 738; Vasmer 2, 524).
267

89212; 2007, 517) assumes an alternative zero grade rut- < *rt- beside
the more widespread rit-. In my view we are probably dealing with an
occasional assimilation *ritu° > *rutu° (cf. ritulys, with essentially the
same meaning) that developed into a modest word-family of its own.2

2.2. Lith. riësti, riëčia (riëta), riëtè “curve, bend; warp (tr.)”, Latv. riest
(riezt), riešu/riëžu, rietu/riedu “ear, bud; shed (tears); warp; sieve; spread (tr./
intr.)”.

These verbs present us with a more complicated picture than Lith. risti/
Latv. rist. The Latvian variants ries-, riez- are well-paralleled innovations,
whereas riéd- is almost certainly due to contamination with the family of Lith.
riedēti “roll”, cf. ME 3, 547. The Lithuanian dialectal present riëta is poorly
represented in the LKŽ 11, 562ff., mostly in Northern Žemaitian. I am thus
inclined to assume that it represents an occasional innovation rather than
an archaism. The basic meaning of Lith. riësti, riëčia is “to bend (tr.)” (with
many secondary and contextual meanings), the intransitive being regularly
expressed with the reflexive riëstis except in the meaning “to grow, branch”.
The semantics of Latv. riest, riešu is essentially compatible with that of Lith.
riësti, riëčia, with the difference that it can be both transitive and intransitive.

Derivatives of Lith. riësti/Latv. riest are essentially irrelevant for
etymological purposes: iter. raitûti, raîto “bend”; riëstas “curved”, riëtena
“whitlow; knotweed”, reîtkus “kind of weaver’s comb”, and some others.

2.3. The original identity of Lith. risti/Latv. rist and Lith. riësti/Latv.
riest has never been in doubt, most authors assuming that both verbs arose
through paradigm split from earlier pres. *reit-a- : pret. *rit-a- (e.g. Endzelin
1923, 671; Stang 1942, 114; LIV, 700). This is reasonable enough and will
not be challenged in what follows. As for the semantics of the Baltic root
*reit-, I believe it is most naturally glossed as simply “to roll (intr.)”, from
which “bend”, “warp”, “run”, “ear”, etc. are easily understood secondary
developments. The transitivity of the primary verbs in Lithuanian and
Latvian ([almost] exclusive only in Lith. riësti, riëčia) is also easily understood
as secondary, perhaps through polarization vis-à-vis the redundant addition
of the reflexive marker to the original intransitive verb.

2 In view of the close semantic agreement of Lith. rutulys, Latv. rutulis with other
derivatives of risti it seems ill-advised to look for alternative, extra-Baltic etymologic
connections (e.g. Fraenkel, 753).
The picture is further complicated by the synonymous and rhyming family of Lith. *riedéti, rięda “roll (intr.)” (ridéti, rida “id.”, caus. ridénti, rięna “roll (tr.)”, etc.), with which it was partly contaminated. Thus, for instance, it is conceivable that derivatives like Lith. *ritéti, rietéti or riténti reflect a contamination of both roots rather than being straight derivatives of *risti (as tacitly assumed above). Be that as it may, the existence of *riedéti, rięda does not seem to have any bearing on the question to which we now turn: the etymology of Lith. risti/Latv. rist and Lith. rięsti/Latv. rięst.

3. We can distinguish two main etymologies:
   i) from the root *ret- of Lith. rãtas, Lat. rota, etc. “wheel”. This etymology was popular in the past, but has been generally disfavored in more recent literature. Since it is the one I will argue for in this article, I postpone discussion until § 6;
   ii) Lith. *risti, rita and rięsti, rięcia are to be directly equated with Gmc. *wrīpanq “twist” (ON rída “turn, ring, tie”, OE wrīdan “twist, writhe”, OHG rīdan “wind, turn”). First proposed by Lidén (1899, 4), this is the etymology favored in most reference works (e.g. LIV, 700) and by now it can be confidently qualified as standard.4

Reasonable as it may seem at first sight, the connection Lith. risti ~ Gmc. *wrīpanq is not without problems. As already noted by Stang (1972, 45), Lidén’s law (PIE *urE- > Bl.-Sl. *rE-) is supported by the absence of initial †vr- in Baltic and Slavic, but none of the examples is probative beyond reasonable doubt. The semantic fit is not perfect. Since Baltic clearly points to an original meaning “to roll (intr.)”, one has to assume a complex semantic development “to roll” > “to bend” > “to twist” in Germanic. This is not unconceivable (the notions “to turn”, “to wind”, “to roll” strongly intermingle in the languages, cf. Buck 1949, 664ff.), but not particularly attractive either. Finally, the putative root *ureit- would be limited to Baltic and Germanic alone. This is not by itself a serious objection, but once one

3 Lith. riedéti is usually related to Gmc. *ridanq “ride, drive” (ON rída, OE ridan, OHG rītan), OIr. réidid “ride” (e.g. IEW, 861; LIV, 502), which is far from obvious from a semantic point of view. See Fraenkel, 687f.; Smoczyński 2007, 514, 517, for other, by no means better suggestions.

4 E.g. ME 3, 532; Fraenkel, 731; Kroonen 2013, 597; Derksen 2015, 381, among others. Authors like Seebold (1970, 568), Stang (1972, 45) or Smoczyński (2003, 89212; 2007, 515, 517) give it only hesitantly.
includes OCS -rěsti, -ręštǫ “find” and some other Balto-Slavic material in the set (see below) I believe an etymology joining Baltic and Slavic under a well-established PIE root is to be given preference over an exclusive Balto-Germanic comparison.

None of these objections is conclusive, but the confidence with which this etymology has been met in the literature seems to me somewhat undeserved.

4. Slavic *-rěsti, *-rěł(j)ǫ, *-rěł(j)etъ AP a, aor. *-rětv, *-rěte “find”: OCS ob-, sъ-rěsti, -ręštǫ, SCr. srěsti, srět(n)ēm, (dial.) obrěsti se, Slvn. dial. ob-rěsti, -rětem, s-rěsti, Ru. ob-restí, -retu/-rjášču.

I refer to Vaillant 1966, 183ff. for more information on the reflexes of *-rěsti in the Slavic languages. The few derivatives of Sl. *-rěsti are unremarkable and need not be detailed here (OCS -rětati, -ajǫ [impf.], obrětenije “finding”, etc.). The most interesting case is OCS ristati, rištǫ, ORu. ristati, rišču “run”, OPol rześcią “at a trot” (< *rụstįǫ), which evidently recalls the family of Lith. risčià (§ 2.1). See below § 10.

The paradigm of OCS -rěsti, -ręštǫ, -ręštę is unique. Leaving the je-present aside, it is evidently on a par with OCS sěsti, sędǫ, sędъ “sit down”, leštį, lęgǫ, legъ “lie down” and must thus continue the original morphology of the Balto-Slavic anticausative-inchoative class of verbs. We will return to these issues below (§ 10), after examining the etymology of OCS -rěsti, -ręštǫ.

5. Unlike the case of Lith. risti/riěsti one cannot speak of a standard etymology of OCS -rěsti, -ręštǫ. Leaving aside Vaillant’s derivation from *ret- (which has always occupied a marginal position among the preferred accounts of OCS -rěsti, -ręštǫ), most authors have embraced one of the three following proposals (cf. ĖSSJ 29, 75ff.):

i) with Gk. ἐὑρίσκω, aor. ἐὑρόν “find”, OIr. pret. ·fúar, pass. ·fríth (suppletive pres. fogabim “find”) (PIE *uřēh₁-, LIV, 698), as first proposed by Brugmann (1912, 379ff.);

ii) with Lith. râsti, rânda, Latv. rast, rūodu “find”, an idea that was already popular in the 19th century;

iii) with Lith. su-rěsti, pret. sū-rěčiau “seize”, as proposed by Bezzenberger (1901, 168).

These etymologies are not necessarily regarded as mutually exclusive. Several authors combine i) and ii) (e.g. Klingenschmidt 1978, 6f.), ii) and

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iii) (e.g. Vasmer 2, 244), or even i), ii) and iii) (e.g. Snoj 2003, 691). It must also be observed that they are frequently given with some hesitation, no doubt reflecting the fact that they are all problematic.

To begin with the material that is most easily dismissed, Lith. su-rėsti, sū-rėčiau are only known from Bezzenberger himself (1882, 163), who heard them in the village of Priekulė near Klaipeda. There is no reason to doubt Bezzenberger’s testimony, but material of such an isolated dialectal status is more likely to reflect an idiosyncratic neologism than a strong archaism. Leskien apud Brugmann 1912, 381¹ plausibly suggests that we are dealing with su-riësti “curl up, bend” (misheard by Bezzenberger?) “und eine ähnliche Übertragung verliegt wie in unserm volkstümlichen Ausdruck einen (ordentlich) einwickeln = betrügen”. Be that as it may, Bezzenberger’s su-rēsti cannot be used.

Derivation from *uřeh₁− is only possible if one takes the further step to assume a root-enlargement *uřeh₁−t− only for Slavic. If Lith. rāsti, rañda is included in the picture, one is forced to assume a parallel root-enlargement *uřeh₁−d(h)− for Baltic as well.⁶ Although this is to some degree a matter of taste, I fully share Smoczyński’s reluctance to operate with root enlargements, as it entails using a device that we cannot control. Leaving this methodological issue aside, I would like to add just a couple of observations. First, it suffices to take a look at Buck’s material s. v. “find” (Buck 1949, 765f.) to observe how easily this notion is lexically renewed. Although the root *uřeh₁− is surely the best candidate for being the Indo-European verb “to find”, this doesn’t a priori force us to believe that OCS -rěsti, Lith. rāsti must be derived from *uřeh₁− through ad hoc root enlargements. Second, the morphology of Sl. *-rěsti, *-rět(j)ǫ, *-rětъ is in my view not directly clarified by this etymology. The issue has hardly ever been addressed by proponents of this etymology. The only exception known to me is Klingenschmitt (1978, 6f.; 2008, 188f.), who tentatively reconstructs pres. *rant− < *uṛa₁−n−t− : aor. *rēt− < *uřeh₁−t−, with generalization of the vocalism of the aorist.⁷ Klingenschmitt’s

⁶ Most Balticists relate Lith. rāsti, rañda to OCS rodъ “race”, rodīti, Latv. radīt “give birth” (e.g. Fraenkel, 701; Smoczyński 2007, 500).
⁷ I’m not sure whether this is relevant in this perspective, but it is perhaps interesting to note that the root *uřeh₁− almost certainly did not build a present in the parent language: OIr. pret. ·fūar is part of a suppletive paradigm, Gk. εὑρίσκω is evidently late and still very rare in Homer.
reconstruction entails a well-known Indo-European pattern (active-transitive) root aorist: nasal present of the type *kʷréih₂-t : *kʷri-né-h₂-ti “buy”. This paradigm type is very rarely preserved in Germanic and Balto-Slavic (e.g. ORu. kriti, kronju “buy”), where we find instead a productive class of derived anticausative-inchoative thematic nasal presents. It is within this “Northern Indo-European” class that the morphology of Sl. *-rěsti, *-rět(j)ǫ should be accounted for, not as relics of well-formed Indo-European paradigms. This fact almost automatically implies two things: i) we are dealing with a Balto-Slavic anticausative-inchoative verb, ii) the transitive meaning “to find” must be somehow secondary.

In brief, any attempt to establish a connection between OCS -rěsti, -ręštǫ and either Gk. εὑρίσκω or Lith. rąsti is unlikely to provide firm results. It is thus understandable that this verb is frequently regarded as a locus desperatus of Slavic etymology.

6. The results achieved so far can be summarized as follows. The traditional inner-Baltic identification of Lith. rìsti, rìta “roll” and rìěsti, rìěčia “bend” is most probably correct, the original meaning being “to roll (intr.)”. The now standard etymology entails an exclusive comparison with Gmc. *wriþanq “twist”, which is conceivable, but not unobjectionable. OCS -rěsti, -ręštǫ “find” lacks a satisfactory etymology altogether. We can now return to our point of departure: Vaillant’s derivation of OCS -rěsti and Lith. rìsti, rìěsti from PIE *ret-.

As already observed (§ 3), the idea that Lith. rìsti, rìěsti are primary verbs to be compared with OIr. rethid “run” was quite widespread up to the first decades of the 20th century. Curiously, most authors quoted only Lith. rìsti, rìta “roll”, but not rìěsti, rìěčia “bend”. In this way they avoided the most obvious problem that this etymology encounters (the Baltic root was *reit-!), and Fraenkel’s main argument to dismiss it (731). Nor was the morphology of rìsti, rìta (and rìěsti, rìěčia!) usually discussed. Bl. rit- evidently implies something like *jt- > *irt- → rit-, which in turn has two further implications: i) there must have been a robust full grade *ret- in the paradigm in order to motivate the metathesis *irt- → rit-, ii) at a still earlier stage there must have

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8 See Gorbachov 2007 for a full-scale study. My own views are presented in Villanueva Svensson 2011a.

9 E.g. Waldę-Pokorný 2, 368; LEIA, R-23; IEW, 866. References to older literature in Liden 1899, 4.
been a place in the paradigm where the zero grade *ṣt- was firmly established. As for Lith. riesti, riečia, it evidently requires a secondary ablaut *rit- → *reit- within Baltic. But riesti, riečia is a primary verb, not a secondary derivative of risti, rita. There must thus have been a powerful reason in Baltic to build a secondary full grade *reit- to a zero grade *rit-. I will return to these issues below. For the moment it will be enough to observe that they have not been properly addressed in the literature.

Matters became more complicated – and interesting – when Vaillant (1939, 25; 1966, 184f.) included OCS -rěsti, -ręšťq in the set. As already observed, it never acquired a broad acceptance. It was accepted by Stang (1942, 54), Mikkola (1950, 84f.) and, more recently, Blažek (2009, 46f.). In Villanueva Svensson (2011b, 23, 30; 2012–2013, 51f.; accepted by Jasanoff 2012, 129) I took up Vaillant’s etymology and argued that *ret- made a Narten present *rēť-s-ti/*rēť-ņti in the parent language. This is the source of the long vowel of Sl. *-rěsti, *-rěť(j)q. At that time I had not yet come to appreciate the importance of the Baltic material, which makes it necessary to tackle the whole issue anew.

7. The PIE root *ret- is well known as the source of one of the PIE words for “wheel” *rót-o-, coll. *rot-eh₂- (Lith. rātas, OHG rad, OIr. roth, Lat. rota, Ved. rātha-). With a couple of exceptions (on which see infra), the material given in NIL, 575ff. are either transparent derivatives of the noun for “wheel; chariot” or inner-Celtic derivatives of the primary verb OIr. rēthid “run”. The meaning of this root is given either as “to run” or as “to roll”. The choice of “to run” is borne out by two arguments: i) this is the meaning of the verb in Celtic, the only branch that has preserved the PIE primary verb with certainty; ii) words for “wheel” typically derive either from verbs meaning “to run” (e.g. Gk. τρέχω “run” → τρόχος) or from verbs meaning “to turn” vel sim. (e.g. *kʷeh₁- “turn” → *kʷ-e-kʷl[h₁]-o-). The second argument is probably false. As shown by Letoublon and de Lamberterie (1980), the original meaning of the root *dʰregʰ- was “turn”, still preserved in τρέχω in

10 Beside *ret- one often finds the notations *Hret- and *reth₂- (*rethʰ- in the older literature). The reasons for positing *Hret- are unclear to me (perhaps because some authors believe that Indo-European did not possess initial *r-?). Ved. rath°, Av. raθ° are usually explained through a derivational channel coll. *rot-eh₂- → *rot-h₂-o- and do not require *reth₂-.
Homer. In general terms, it seems that words for “wheel” very rarely derive from verbs meaning “to run”. On the other hand, verbs meaning “to turn”, “to roll” very easily develop a secondary meaning “to run” vel sim. (as in Gk. τρέχω itself), a fact that deprives OIr. rethid “run” of any probative force.

Leaving the Balto-Slavic evidence aside, an original meaning “to roll” is virtually proved by the fourth branch in which the primary verb is (indirectly) attested. Lat. rotundus “round” (Vulgar Latin retundus, the form continued in the Romance languages) is universally considered a fossilized gerundive, which by necessity implies a Proto-Italic primary verb *retō. The root vocalism of Lat. rotundus was taken from rota “wheel”, it being unclear whether Vulgar Latin retundus is an archaism vis-à-vis the classical form or a secondary dissimilation rotundus > retundus, as usually assumed. The point to stress here is that the meaning “round” of rotundus makes little sense if *retō meant “to run”, but is unremarkable if it meant “to roll”.

As argued in Villanueva Svensson 2011b, 23, 30; 2012–2013, 51f., there are good reasons to believe that *ret- was a “Narten root”. The best evidence comes from Balto-Slavic. In addition to the lengthened grade of Sl. *-rěsti (which can hardly be explained in any other way), Latv. ruōta “adornment; toy” (< *rōt-eh₂), ruōtāt, -āju “turn, hop” (< *rōt-eh₂-ie/o-) are best interpreted as an archaic collective of the type *kōm-eh₂ (Gk. κώμη “village; district”), and an equally old denominative of the type *nōm-eh₂-ie-ti (Gk. νομάω “handle, wield”), cf. Villanueva Svensson 2012–2013. Sl. *-rěsti, Latv. ruōta, ruōtāt thus continue an archaic derivational channel *rěs-ti/*rět-ŋti → *rōt-eh₂ → *rōtëh₂-ie-ti entirely parallel to *lēg-ti/*lēg-ŋti (Lat. lēgī, Alb. mb-lodhi, TA impf. lyāk “saw” < impf. *lēg-t; cf. Jasanoff 1998, 306f.) → *lōg-eh₂ (Gk. λόγη· καλάμη, καὶ συναγωγὴ σίτου Hsch.) → *lōg-eh₂-ie-ti (Gk. ἐλώγη· ἔλεγεν Hsch., OE lōcian “look”).

The picture that emerges from Balto-Slavic is partially confirmed by Celtic. OIr. rethid “run”, pre-Lat. *retō “roll” < *rēt-e/o- are unremarkable regularizations from PIE *rēt-s-ti/*rēt-ŋti, but OIr. pret. ráith (< perf. *re-) rōt-e?), fut. ressl- (< desid. *rēt-s-?) continue formations that probably belonged to “Narten roots”, cf. Jasanoff 2003, 31, 135. In addition, OIr. ráithe “quarter (of year)”, sam-rad “summer(time)”, gaim-red “winter(time)”,


273
MW *gaeafrawd* “id.” < PCelt. *rāto− < PIE *rōt-o- may be directly equated with Latv. *ruōta.

8. It is thus reasonable to assume that Balto-Slavic inherited a Narten present *rēt−ti/*rēt-ṇti meaning “to roll” (in addition to some other contextual meanings). The position of the Narten presents in the (pre−) PIE verbal system is still disputed. Descriptively, they appear in one of the following environments:

i) the Narten present is the only primary verbal formation we can reconstruct, e.g. *h₁ės−/*h₁ēs− “sit”, *smēi−/*smēi− “smile”, etc. As per Jasanoff 1998, a number of familiar thematic presents like *bʰér-e/o− “carry”, *lēğ-e/o− “gather” probably go back to (pre−)PIE Narten presents of this profile;

ii) beside root aorists, e.g. aor. *dēk−t* (Gk. ἔδεκτο “received”) → pres. *dēk−/*dēk− (Ved. dāṣṭi “worships”); see Kümmel 1998 for a dossier;

iii) beside molō−presents, e.g. *sōkH−/*sēkH− (Hitt. šākk−/šekk−bbi “know”) ~ *sēkH−/*sēkH− (OCS sěšti, sěkq “cut”).

Group iii) is predictably rare, but combined with group ii) (not that common either) it suggests that Narten presents were a derived verbal formation in origin. It is probable that Narten presents were also derived from “normal” root athematic presents (*h₁ēs−/*h₁s− “be” ~ *h₁ēs−/*h₁ēs− “sit” may be a case in point), but this is almost impossible to prove from the available data. By the break−up of the parent language most Narten presents we can reconstruct belong to group i) and are often associated with an archaic derivational system of their own (Schindler’s “Narten roots”).

*ret− looks like an almost paradigmatic example of this type. As such, it most probably lacked an aorist altogether. Whether OIr. pret. *ráith* continues an archaic perfect *(re−)rōt−e* remains at present uncertain. For Balto-Slavic, in any case, this has no importance, as the PIE perfect did not play any role in the restructuring of its preterit system. In brief, our starting point is just a Narten present *rēt−ti/*rēt-ṇti “roll”.

9. The question that now arises is what would happen to such a formation at an early stage of Balto-Slavic. I believe we can safely postulate two processes:

i) the present stem was thematized and generalized one of both root vocalisms;

ii) it acquired a zero-grade aorist and infinitive stem, probably aor. *f̣t−ā−, inf. *f̣ṭ-tēi (vel sim.).
The first step PIE *rêt-/*rêt-ŋtī → Bl.-Sl. *rēt-e/o- is unremarkable, as this is what usually happened to inherited Narten presents in most languages. The early chronology I am assuming can be questioned, but this is not of prime importance for present purposes. The second step requires more elaboration.

In a number of publications starting from Villanueva Svensson 2011c I have argued that Indo-European presents from “present roots” (presents, so to speak, that did not inherit an aorist beside them) typically acquired a zero grade aorist-infinitive stem, almost certainly involving an “ā-aorist” of still uncertain origin. The resulting pattern is still preserved in the historical languages, e.g. OCS гънати, žенǫ “chase, persecute”, Lith. gištī, гēna “drive, chase” (PIE *gʰné-/*gʰn-ěntī “beat, kill”), Lith. výti, věja “chase, hunt” (PIE *uēih₁-/*uēh₁-ěntī), OCS бърати, берǫ “gather, take” (PIE *bʰěr-e-ti), блювати, blüjǫ “spit, vomit” (PIE *bléuH-/*bluH-ěntī), etc.

The pattern is better represented in Slavic than in Baltic (contrast Lith. bešti, -ia “strew, scatter”, bliáuti, -ja “bleat”). For the most part, however, Balto-Slavic paradigms of the type pres. *gen-e- : inf. *gun-tēi, aor. *gun-ā- have to be reconstructed on different types of indirect evidence: divergent root vocalisms in Baltic and Slavic (e.g. Lith. gr(i)áužti, -ia “gnaw” vs. Sl. *grýžti, *grýžǫ “id.” ← Bl.-Sl. *grēuž- : *grūž-), independent primary verbs from the same root (e.g. Lith. kálti, kāla “forge”, kūlti, kūlia “thresh, beat” ← Bl.-Sl. *kol-e- : *kul- < PIE *kölH-e(i)/*kēlH-ṛs), derivatives demanding an unattested root vocalism (e.g. Lith. caus. vimdyti “make vomit” to vēmti, vēmia “vomit”, pointing to earlier *vimti, vēmia), fossilized participles (e.g. Lith. mīltai “flour” < *mIh₂-to- to málti, māla “grind”), etc.

To be sure, it is not always certain that we are dealing with an original paradigm of the type *gen-e- : *gun-tēi, *gun-ā- and not, say, with the inverse ablaut pattern of the type OCS čisti, čtq “count, read; honor” or with secondary elaborations of one or another sort. To give an example, the contrast between Lith. nērti, nėria “dive” and Latv. nīr̃t̃/nīrt̃/nīrt, nirstu/niru (< niru) “id.” may be mechanically solved as Bl. *ner-(i)a : *nir-tēi, *nir-ā-, but this is compromised by Sl. *nerti, *ñr̃ǫ “submerge” (CS -ñr̃t̃i, -ñr̃ǫ, Ukr. něrti, nru), which rather suggests a paradigm *ner-(i)a : *ner-tēi, *ner-ā- for the prehistory of Baltic. But this is once again uncertain: a) it is not a matter of fact that the ablaut pattern of Sl. *nerti, *ñr̃ǫ must be projected into Balto-Slavic, as this is the default paradigm for Slavic e-presents; b) even
if this is correct, a complex inner-Baltic development Bl.-Sl. *nir-e/o- : *ner- → Bl. *ner-(i)a : *ner- → *ner-(i)a : *nir- cannot be excluded; c) in the end, Latvian could have borrowed its vocalism from the derived inchoative (cf. Lith. nirti, nýra/nirsta).

Viewed against this framework inherited Narten and molō-presents that generalized root vocalism *-ē- or *-o- become a particularly probative group, in spite of the limited number of certain examples, because in this case we can be certain of two things: a) no aorist was inherited from PIE in most cases, b) the zero grade can only have originated in the aorist-infinitive stem. I refer to Villanueva Svensson 2011c, 312ff. for a study of the molō-presents. As for the Narten presents, the following present clear traces of ablaut:

Lith. číáupti/čiaûpti, -ia “compress one’s lips; press together; seize” ~ Lith. tūpti, tūpia “perch” < (pre-)Bl. pres. *tēup-(i)e/o- : inf.-aor. *tup- < PIE *tēup-ti/*tēup-ṇti;

Lith. dėlbti/dēlëti, -ia “lower one’s eyes; beat” ~ Sl. *dēlbst (< *délbšt), *délbọ “hollow, chisel” (RuCS dlbšt, dløbe-, SCr. Ďupsti, dúbëm, Čak. dlišt) < Bl.-Sl. pres. *dëlb-e/o- : inf.-aor *dilb- (< *dëlbh-ti) < PIE *dëlbh-ti/*dëlbbc-ṇti;


No ablaut is (predictably) attested in other candidates like Lith. glėbti/glėbti, -ia “embrace”, gręsti, gręndžia “scrape, scratch”, OCS čajati, čajo “expect, wait”, or sěsti, sěkọ “cut”, but the examples mentioned above suffice to indicate that Narten presents, like other presents from “present roots”, typically acquired a zero-grade aorist-infinitive stem.

It is thus reasonable to assume that PIE *rēt-ti/*rēt-ṇti “roll” would be reflected as pres. *rēt-e/o- : inf. *tēt-tēi, aor. *tēt-ā- (vel sim.) in early Balto-Slavic. The development from this starting point is easy to understand. Whereas the present *rēt-e/o- simply stayed as such, the aorist-infinitive stem *ēt- gave *irt- by regular sound change and was then metathesized to

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12 Most of the evidence presented here is taken from Villanueva Svensson 2011b, 21ff.; 2014, 242ff., to which I refer for a more elaborated treatment of the data.
*rit-* after the present stem *rēt-, with a morphological zero grade in the right position of the root. The resulting paradigm pres. *rēt-e/o- : inf. *ris-tē, aor. *rit-ā- (vel sim.) was thus parallel to pres. *tēup-(j)e/o-, *dēlb-e/o- : inf.-aor. *tup-, *dilb- and some other cases. The point to stress is that zero grade in the aorist-infinitive stem must have been regular enough to make a somewhat unusual paradigm *rēt-e/o- : *rit- fully acceptable. It was probably preserved untouched until the end of Balto-Slavic unity. Our next task will be to see how it evolved in the separate branches.

10. The development leading to Sl. *‑rěsti, *‑rět(j)φ, *‑rēt φ “find” is complex, but not essentially problematic. From a semantic point of view “to roll”, “to turn” may easily develop into “to run” (OIr. rethid, Gk. τρέχω, etc.). Lith. risti, rita “roll” presents secondary meanings like “run”, “travel”, “go”, “move” that could, in principle, be quite old. If, as seems likely, Lith. ristas “fast (horse)”, risčià “trot”, OCS ristati, rište– “run”, OPol rześciq “at a trot” belong here, we would have factual proof indicating that “to run” was a secondary meaning of *rēt-e/o- : *rit- already in Balto-Slavic. It was the one inherited by Slavic, where a secondary semantic development “go, run” > “find” took place. This, again, is typologically unremarkable, cf. Lat. in‑venīre, oc‑currere, Ru. na‑jti, ORu. ob‑iti, Lith. dial. su‑eĩti, su‑bėgți, etc. As these examples show, “go, run” > “find” is usually associated to usage with preverbs (“run into”, etc.), just as in Sl. *‑ob-, *‑va‑rěsti.

As for the morphology of Sl. *‑rěsti, *‑rět(j)φ, *‑rēt φ, we have already seen that it is that of the Balto-Slavic anticausative-inchoative class of verbs (Lith. pa‑būsti, ‑buñda, ‑būdo “wake up”). In Slavic, where the type was renewed as vνς‑bν(d)νtŋi, ‑bν(d)ŋr, ‑bνdν “wake up” (see Gorbachov 2007, 47ff. for the details), the original morphology was only preserved in a handful of verbs like OCS sėsti, sėdq, sēdv “sit down” as well as in some verbs that extended the nasal infix through the whole paradigm (e.g. OCS ‑sęstŋi, ‑sęgŋ “reach for, touch”, cf. Lith. sęgti, sęga “fasten, button”). In the case of *‑rěsti, *‑rět(j)φ it seems that *rēt-e/o- : *rit- first generalized the present stem *rēt- through the whole paradigm (pre-Sl. *rēt-e/o- : *rēs-ti, aor. *rēt-ā-, vel sim.) and then joined the anticausative-inchoative class when it acquired semantics akin to this type of verbs (yielding almost attested *rē‑n‑t‑e/o- : *rēs‑ti, aor. *rēt‑e/o-; the process is well known, cf. OCS lęže‑ “lies down” → Pol. legnie‑, OLith. gėma “is born” → Lith. gimsta, etc.). The thematic aorist *‑rēt φ was an automatic consequence of this semantically motivated change of class. As for
the je-present of OCS -ręštǫ, it remains unclear to me whether the e-present that we find in some languages (RuCS ob-retú beside -rjášču, Slvn. ob-réte-beside dial. -rénče–) is an archaism vis-à-vis the je-present or a secondary regularization parallel to the ne-present of Cz. střetnouti, SCr. dial. srětněm, Bulg. srěštne– (this seems to be the position of Vaillant 1966, 183f.). The paradigm Sl. *-rěsti, *-rětjo, *-rětv is unique, a fact that speaks in favor of its relative antiquity within Slavic. I see two options: either the present *-rěnte- was remade as *-rěntje- when it acquired the meaning “to find” (the je-present being a way of marking transitivity), or we are dealing with an old je/o-inchoative *rě-t-je/o- : *rés-ti : *rět-e/o- whose present was recharacterized as *rě-n-t-je/o- (the nasal infix being the productive inchoative marker). No solution is clearly better than the other and I prefer to leave this question open.

 Needless to say, one can envisage other scenarios. The main alternative would be to assume that *rěsti, *rěnte/o- (or *rětje/o-) was an early inchoative of the primary verb, not its direct continuant. The rest of the story would be the same. I find this less likely, as it involves a somewhat unwarranted extra step, but the point to stress is that the anticausative-inchoative character of *-rěsti, *-rět(j)ǫ is self-evident and that this implies that it was formed at a fairly early date within the prehistory of Slavic.

11. In the case of Lith. risti, rita “roll” and riěsti, riěčia “bend”, scholars defending a connection with OIr. rethid and/or OCS -ręsti, -ręštǫ have assumed that the full grade *reit- of riěsti was secondarily built to the zero grade *rit-. There is of course no other choice. The question is now: which features of the Baltic verbal system triggered the creation of a new full grade *reit- beside inherited zero grade *rit-? In a sense, the answer is easy: the ablaut pattern Bl.-Sl. pres. *rět-e/o- : aor.-inf. *rit- was quite rare, whereas *ei : *i was normal and common. But this only partly answers the question. If a paradigm *rět-e/o- : *rit- was aberrant enough as to be eliminated, why wasn’t it simply solved through generalization of one of the root vocalisms?

There are two ways to approach the creation of riěsti, riěčia. To begin with the one I consider unlikely, one could assume that Lith. riěsti/Latv. riest

13 See Villanueva Svensson 2011a, 48ff., with references, for the residual class of anticausative-inchoative je/o-presents of the northern Indo-European languages.
14 E.g. Vaillant 1939, 25; 1966, 185; Mikkola 1950, 85; Smoczyński 2007, 515.
is not, historically, a primary verb, but a derivative of Lith. *risti/Latv. *rist (which under this approach would have generalized the zero grade at an early date). The lexical composition of the Baltic ia‑presents is fairly complex (see Villanueva Svensson 2014, 227 for a brief survey), one of its sources being iteratives, causatives and denominatives in *‑eJ/e.o, e.g. Lith. *tarti, –ia “pronounce” ← OLith. tarýti, –ia (< iter. *tor‑eJ/e.o), baũsti, baũdžia “punish” < caus. *bʰoudh‑eJ/e.o “make observe” (contrast OCS bljusti, bljudǫ, Ved. bódhati “observe” < *bʰêudh‑e/o), švêsti, šveñčia “celebrate” ← šveñtas “holy”. One could thus speculate that Lith. riẽsti/Latv. rìest continue Proto‑Baltic *raititi, *rait(i)ja (vel sim.), a derivative of *risti, *rîta that developed into a neo‑primary verb. But there is nothing iterative or causative in Lith. riẽsti, Latv. rìest. In addition, primary ia‑presents for which such an origin can be postulated are by no means common, and the items one can seriously consider are lexically isolated and thus relatively old (Lith. *tarti, baũsti). In brief, it seems unlikely that Lith. riẽsti is a derivative of *risti.

The second approach would begin by accepting the traditional view that Lith. *risti/Latv. *rist and Lith. riẽsti/Latv. rìest arose through paradigm split from an earlier paradigm *ris‑ti, *rei‑a, *rît‑a. The wide range of secondary meanings that can evolve from “to roll” (including “to bend”) makes the notion of paradigm split entirely unproblematic. But this doesn’t answer the question we posited above. In order to understand a process like *rēt‑e/o‑ : *rei‑ → *rei‑e/o‑ : *rei‑ (or even *rei‑e/o‑ : *rei‑ → *rei‑e/o‑ : *rei‑) it is necessary to take a closer look at the development of the ablaut patterns of the Balto‑Slavic primary ‑e/o‑ and ‑je/o‑‑presents in Baltic.

Descriptively, Slavic primary ‑e‑ and je‑presents from roots that could ablaut15 typically present one of the following two ablaut patterns:

i) zero grade in the present vs. e‑grade in the aorist‑infinitive stem, e.g. OCS čisti, čtǫ “count, read”, ‑stře ti, ‑střeř “stretch”, ‑liti, ‑ljo “pour” (< *ljo, cf. Koch 1990, 388ff.). This is the normal paradigm for e‑presents, OCS mrěti, mřo (Zo. u‑mřetъ 4x!) being the only example of a je‑present that was anyway replaced by an e‑present (cf. Koch 1990, 443ff., with references);

ii) e‑grade in the present vs. zero grade in the aorist‑infinitive, e.g. OCS dřxati, dušo “breathe, blow”, brzati, ližo “lick”, stblati, steljо “spread”.

15 With this qualification I am excluding °eC‑ and °eH‑roots, in which ablaut involving zero grade of the root would be avoided.
ždäti, židǫ “wait”, etc. This is the normal ablaut pattern for verbs with second stem in –a–.

Needles to say, ablaut invariance is well-attested in historical Slavic, but comparison with Baltic and other types of indirect evidence show that ablaut was much more widespread in prehistory. The Indo-European origins of the Balto-Slavic ablaut patterns need not concern us here, except to observe that the ablaut patterns i) and ii) seem to be linked to PIE aorist and present roots, respectively. The strong association in Slavic of ablaut pattern i) with e-presents and ablaut pattern ii) with je-presents is almost certainly secondary (note that the latter is regularly associated to a-presents in Baltic), but neither the Balto-Slavic system nor its development in Slavic can be discussed in detail here. Turning now to Baltic, we find the following picture:

i) the ablaut pattern čisti, čytǫ has been eliminated, Lith. iūnti, ima, ėmē “take” (: OCS jěti, imq < *jumq “id.”) being the only relic (see Villanueva Svensson 2013, 234ff.);

ii) the ablaut pattern lbzati, ližǫ is well attested among a-presents. It is the normal paradigm for °ERT-roots (Lith. pįkti, peńka “buy”, etc.), and is found among other root-structures as well (e.g. Lith. giūnti, gēna “chase, drive”, Latv. šķist, šķietu “think, seem”);

iii) e : zero ablaut is excluded from ia-presents, where depending on root-structure we either have no ablaut at all (Lith. pięšti, pięśia, pięšė “draw”) or a lengthened grade ė-preterit (svętī, svēria, svēre “weigh”, lękti, lękia, lēkė “fly, run”).

The ablaut pattern of the ia-presents is an inner-Baltic innovation that almost certainly originated in the ė-preterit via accent retraction from *-ūā > *-ē (see Villanueva Svensson 2014, 241ff., with references). It had the unfortunate effect to eliminate any direct evidence of inherited ablaut in this extremely numerous class. Indirect evidence is of course available (e.g. Lith. skēlti, skēlia “cleave, split” ~ skilti, skilia “strike fire”), but since the general trend was to replace a-presents with ia-presents one can hardly ever be certain that we are dealing with prehistoric ablaut of the ia-presents and not of the a-presents. As for the a-presents, my claim is that the ablaut pattern lbzati, ližǫ not only survived in Baltic, but was considerably extended at an early date. There are several facts pointing in this direction. Thus, in a number of cases the ablaut pattern of Baltic is exactly the opposite to that of Slavic, e.g. Sl. *čerpti, *čórpo “scoop, draw”, *čersti, *čörtǫ “carve, slash”, *čisti,
*čëtq“count, read; honor”, *mëlzti, *mölzq“milk” vs. Lith. kiërpti, keërpa“cut, clip”, kiërst, keërta“slash, hew”, Latv. škiēst, škiētu“think, seem”, Lith. dial. milžti, mêlža“milk”. Although on occasion Slavic may have innovated, this cannot be true for all examples. Similarly, the fossilized participle Lith. giltas“drunk” and, especially, the causative gîrdyti,–o“give to drink” indicate that Lith. gērti, gēria, Latv. dzerē, dzeru“drink” continue Bl. *gir‑tēi, *ger‑(i)a, in contrast with Sl. *žertī, *žërǫ“swallow, devour”. These cases put the above mentioned Lith. nérti, nēria/Latv. niēr, nīrʊ“dive” ~ Sl. *nerti, *nërǫ“submerge” (as well as Lith. spìrti, spïria/Latv. spērt, spēru“kick” ~ Sl. *perti, *përǫ“clean, push” or Lith. siaũpti,–ia“wrap, surround”/sûpti,–a “rock, cradle” ~ Sl. *suptî, *sëpǫ“pour, strew”) in its proper light. Although one would naturally be prone to project the Slavic paradigm into Proto-Baltic, a Baltic paradigm *nîr‑têi, *nër‑(i)a, *nîr‑å– is more in accordance with the facts of this branch. To give a more extreme example, the é-preterit of some intransitive verbs like Lith. miñtī, mēna, mînë“remember, recall”, giĩtī/gimti, gēma/gimsta, gimë“be born” is quite unexpected in Baltic, where é-preterits are strongly linked to transitivity. Since the é-preterit originated beside ia‑presents, it is most natural to reconstruct Proto-Baltic ia‑presents *min‑ia (: Ved. mányate“think”, Gk. μαίνομαι “rage”), *gim‑ia (: Gk. βαίνω, Lat. ueniō“went”) from which pret. *min‑iā > *min‑ē was derived. Since ia‑presents were productively transitive in Baltic, *min‑ia, *gim‑ia were doomed to disappear. The fact that they were replaced by *men‑a, *gem‑a only makes sense if pres. e : inf.‑pret. zero was felt as the unmarked ablaut pattern for primary verbs susceptible of ablaut.

The list of potential examples could easily be extended, but what has been said suffices to establish the point. The motivation for the dramatic restructuring of the Proto-Baltic verbal ablaut cannot be discussed within the limits of this article. It may have been, in part, a consequence of the generalization of the ā‑preterit in this branch of the family, as this formation regularly triggered zero‑grade in Balto‑Slavic. Turning back to Lith. risti/Latv. rīstī, Lith. rīstī/Latv. rīst, the development of Baltic should now be reasonably clear. Examples like Lith. kälti, kāla ~ kûlti, kûlia, čiāupti/čiaûpti,–ia ~ Lith. tûpti, tûpia suggest that Baltic inherited some verbs with *o : zero, *ē : zero ablaut, but these ablaut patterns are never directly attested in the historical Baltic languages. The reason can only be that they were uncommon and were felt as somewhat aberrant. A case like *rēt‑e/o‑ : *rit¬ →
reit-e/o- : *rit- (but even *rēt-e/o- : *rit- → *rit-e/o- : *rit- cannot be categorically excluded) is now easy to understand. It was not just a matter of an irregular ablaut pattern being replaced by a regular one. The resulting *risti, *rieta, *ritā joined what must have been the regular and productive ablaut pattern of primary verbs at an early stage of development of the Baltic verb. At a later stage (probably after the creation of the ē-preterit and the elimination of e : zero ablaut among ia-presents) ablaut tended to be eliminated among a-presents as well (many of them being transferred to the dominant class of the ia-presents). The conditions were thus ripe for paradigm split to occur and Bl. *risti, *rieta, *ritā gave rise to the historically attested Lith. risti, rīta “roll” and rīesti, rīēčia “bend”.

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