

[講演]

A Diachronically-Motivated Typology of the Early Historical Slavic Verb

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A note on terminology: for the purposes of this paper, the label “early historical Slavic” (EHS) refers to Old Church Slavonic and Old Russian, the two most complete “witnesses” to Slavic inflectional morphology of the 9-11th centuries. In addition to Old Church Slavonic and Old Russian, Old Polish data are used when they are conservative enough to be relevant. Unless otherwise specified, all forms are Old Church Slavonic.

Preliminary remarks

This paper represents an early attempt to formulate arguments for a departure from the currently dominant one-stem (monothematic) approach to the EHS verb and for a revival of the more traditional two-stem approach. The paper offers a new division of EHS verbs into classes which is predicated on the old assumption that each Slavic verb possesses two autonomous stems, from which all its finite and non-finite surface forms are derived.

I feel impelled to remark on my reasons for undertaking such new classification. After all, (Old) Church Slavonic is a language with a long and rich tradition of study that spans at least four hundred years (if one takes as the starting point Meletij Smotrickij’s 1619 *Grammatiki slavenskija pravil’noe süntagma*). One would expect that by now a stable description of the EHS verbal system—“polished” by generations of scholars and universally accepted—should be in place. Somewhat surprisingly, such a universally accepted description is still lacking. Instead, there are multiple competing analyses representing several schools of thought and featuring mutually incompatible classifications (cf. this with the situations in, e. g., Germanic, Latin or Sanskrit studies). One reason for this state of affairs in Slavic is the considerable variety of the EHS verbal stem types and the notorious complexity of the morphophonemic processes involved in their formation. Such complex a system as Slavic simply does not lend itself naturally to a single obviously optimal description. In part, the variability of approaches to the Slavic verb also reflects the progression of frameworks that Slavic studies have adopted over time.

A number of concerns have led to this paper. One is pedagogical. My personal experience experimenting with various OCS textbooks when teaching this language to English-speaking students has not been exceedingly positive. None of the texts available in English (or Russian, for that matter) provides the student with a workable (i. e., both adequate and user-friendly) *and* up-to-date description of the OCS verbal system. The existing textbook treatments of the OCS verb tend either not to offer the necessary level of detail (cf., e. g., Regier 1977, Gardiner 1984) or, on the contrary, to be unduly complicated, involved, and bulky (cf. Lunt 1968, 1974, 2001)—to a degree that makes them quite unmanageable within the timeframe of a quarter- or a semester-long course.

My next, and principal, concern is framework-related. The bulkiness of the system as it is presented, e. g., in the various incarnation of Lunt’s classic textbook, stems directly from the approach to the Slavic verb that has been adopted in Slavic studies in the past six decades. Ever since Roman Jakobson published his celebrated *Russian Conjugation* (1948), dominating the landscape of Slavic (and even more so, Russian) studies in the United States is the generative “one-stem approach.” It is not difficult to see, why. The place that Jakobson’s *Russian Conjugation* has in the history of Slavic studies and linguistics in general cannot be overestimated. It has been rightly called “the seedbed for an overarching concept of language that was later known as *transformational-generative grammar*” (Shapiro 1980, 67; my emphasis). Indeed, *Russian Conjugation* happens to be among the first three works ever written, which present *generative analyses* of linguistic data, beside Bloomfield’s *Menomini Morphophonemics* (1939) and Chomsky’s undergraduate honor’s essay, *Morphophonemics of Modern Hebrew* (1949) (cf. Newmeyer 1996, 11). In the name of economy of representation, Jakobson has famously reduced the traditional description (with its two verbal stem alternants—prevoalical and preconsonantal) to a strictly synchronic system centered on a single “full stem” (otherwise known as the “basic stem”), from which the other alternant may be “generated” via a simple morphophonemic process of “truncation.” Thus, the Russian “full-stem” *čitaj-* ‘read’ underlies the 3.pl. *čitáj-ut* ‘they read’ and, in its truncated form, the infinitive *čitá-t’* ‘to read.’ Conversely, in the verb *šum’e-* ‘be noisy’ the “full stem” is used as is in the infinitive *šum’é-t’*, but has to be truncated to make the 3.pl. *šum’-át* (Jakobson 1948).

All this sounds foolproof in theory. But when it comes to actual application in a classroom, the system thus “optimized” does not turn out to be quite as easy-to-use, parsimonious and “catch-all” as one would have hoped—even when applied to the considerably impoverished Modern Russian conjugational pattern (cf. Chvany 1990). And when it comes to generating *Old* Russian or Old Church Slavonic verb forms, it simply runs out of road (on which more below). In my personal experience, the Jakobsonian “monothematic

verb” system does not prove pedagogically useful in teaching OCS as it unduly complicates the descriptive task and does not have too good a fit to the data. Multiple “outliers” are left unintegrated—the forms that Jakobson himself called “unpredictable irregularities [that] have to be specially learned” (*op. cit.*, 24). We shall return to the one-stem system in the section that discusses Lunt’s typology of the OCS verb.

There is, of course, a long tradition in Slavic studies to describe the EHS conjugational pattern in terms of a diachronically-anchored “two-stem” approach (cf. Leskien 1871 and 1905, Meillet 1934, Vaillant 1948, Seliščev 1952, Nandriš 1959 and 1965, Borkovskij & Kuznecov 1963, Diels 1963, Xaburgaev 1974, Schmalstieg 1980, Gardiner 1984, etc.), but that tradition has led a marginal existence in the years following Jakobson’s 1948 proposal, and has not been revisited in a long time with a view of updating.

The departure from the traditional approach, when it took place, reflected a major paradigm shift from diachronic to synchronic linguistics caused by the arrival of structuralism and generativism. Things in theoretical linguistics have since moved on, though. The generative framework has come under fire from multiple quarters and has undergone numerous adjustments in response to those challenges, but many Slavic linguists seem to be doggedly defending generativism in one of its earliest formulations. In the meantime, especially in the past two or three decades, the related field of comparative Indo-European linguistics has been making continuous headway in gaining a better grasp on the intricacies of the PIE verbal system. One has to admit that historical Slavic linguistics has been rather slow in incorporating recent advances in IE studies (admittedly, as a natural consequence of the two fields growing ever farther apart).

The third concern behind this article, then, is to offer a contribution toward a revival of the traditional diachronically informed two-stem approach to the Slavic verb—as one which is equally valid, if not superior, to the monothematic theory (for both the descriptive and pedagogical purposes). Naturally, a revival of the two-stem framework cannot be a mere reversal to, e. g., the Leskien system, neat and cogent as it may be (and it is). It should be a comeback “on a new level”: an up-to-date typology of the EHS verb that takes advantage of important discoveries in the field of comparative Indo-European linguistics. Conceived in such a way, such new description of the EHS verb would give an additional benefit to a student of both historical Slavic and Indo-European allowing him to relate the EHS verb classes and categories to those reconstructed for PIE, and vice versa.

In sum, the aim of this paper is twofold. First, it is to propose a coherent and, to the extent it is possible, economical and user-friendly classification of the EHS verb—one that would enable the student of EHS to produce the entire paradigm of any given OHS verb by

knowing 1) the class of the verb and hence its two principal stems (unless, of course, the verb is irregular, and no typology can be guaranteed from the presence of irregularities), and 2) a set of diachronic phonological rules to be applied in combining morphemes (deriving surface forms). Second, it is desirable that this new typology be informed by recent discoveries in IE linguistics and thus provide a “mapping” between the PIE verbal categories and the EHS verb classes. Such a description of the EHS verb would serve as a “link” between historical Slavic linguistics and IE studies, a typology usable by both the student of Slavic with larger Indo-European interests and by the Indo-Europeanist who mines EHS for data relevant for comparative purposes.

Critique of the existing typologies of the EHS verb

The existing classifications of the EHS (OCS) verb fall into two groups: 1) the typology based on a single “full” or “basic” stem (cf. Lunt’s classification of the OCS verb and Halle’s 1951 classification of the OCS and Old Russian verb) and 2) the two traditional two-stem-based approaches (Leskien with followers, Miklosich, Vondrák, Diels). In Leskien’s typology verbs are clustered into classes according to the shape of the *present* stem. They are further divided into subclasses based on the shape of their infinitive stems. Conversely, the Miklosich, Vondrák and Diels classifications are centered on the *infinitive* stem, with further subdivisions reflecting the verbs’ present stem morphology.

Let us start with the more widely used description of the OCS verbal system, which is that by **Lunt** (cf. Lunt 2001, 85). It is designed within the purely synchronic Jakobsonian generative framework (cf. Jakobson 1948; cf. also the elaborations in Halle 1951, who has also extended Jakobson’s model to the Old Russian verb). This classification differentiates between nine classes, i. e., it posits nine “theoretical basic stems with the desinences and generative rules [that] allow prediction of the number and types of truncated stems” (*loc. cit.*):

	vocalic stems		“present-marking morpheme”	
1.	-i+	<i>prosi-ti</i>	‘beg’	e/i
2.	-ě+	<i>mьně-ti</i>	‘think’	e/i
2b.	-C’a+	<i>slyša-ti</i> {slux-ě+}	‘hear’	e/i
3.	-j-a+	<i>děja-ti</i>	‘do’	o/e
4.	-ova+	<i>milova-ti</i>	‘have mercy’	o/e
5.	-C-a+	<i>glagola-ti</i>	‘speak’	o/e
6.	-nɔ+	<i>dvignɔ-ti</i>	‘move’	o/e

consonant stems				
7.	-C+	<i>nes-qtъ</i>	‘carry’	o/e
8a.	-aj+	<i>děljaj-qtъ</i>	‘do’	o/e
8b.	-ěj+	<i>uměj-qtъ</i>	‘know how to’	o/e
9.	-j-Ø+	<i>bъj-qtъ</i>	‘beat, strike’	o/e

This description of the OCS conjugational pattern is couched in the essential generativist idea of a fully autonomous mental grammar (“autonomous syntax”)—an idealization of language that appears to go back to Wittgenstein, who in his early career likewise spoke of the rules of grammar as constituting an autonomous realm, but came to question that premise by the mid-1930s (cf. Medina 2002, 75). In its strong formulation, the contention is that no parts of language are memorized, everything is “generated” from the lexicon via a finite set of autonomously existing phonological and inflectional (nowadays labeled “syntactic”) rules and procedures. As Jakobson himself put it in his seminal 1948 paper, “The rules formulated above... enable the student glancing over a bare inventory of full-stems to deduce their *whole conjugational pattern* with all the pertinent alternations in stem, desinence, and accent. If these few... rules are added, then a dictionary listing verbs only as full-stems would suffice to supply the reader with a *complete knowledge of their inflection...*” (Jakobson, *op. cit.*, 24; emphasis mine).

As already noted above, the Jakobsonian and “Jakobsonian-derived” systems do not turn out to be particularly economical and user-friendly. Moreover, when applied to Old Church Slavonic and Old Russian data, they incur insuperable problems. One of the inadequacies of the Jakobsonian system is that it is ill-equipped to deal with unpredictable ablaut phenomena (root-vowel alternations) characteristic of many of the attested EHS verbs (cf., e. g., Feldstein 1987a). The student of the EHS (and for that matter, Modern Russian) conjugational pattern thus deals with a “generative system” which is not only prohibitively bulky, but in reality fails to “generate” correctly the full variety of the verb forms that obtain in the language. Numerous irregular verbs which cannot be integrated into the Jakobsonian system end up being listed as exceptions (cf. Jakobson, *op. cit.*, 24f., Lunt 2001, 137ff.) and have to be memorized separately. The result thus defies the declared ideal, as the purpose of Jakobson’s analysis was to devise an economical and *exhaustive* generative description of the Slavic/Russian verb (cf. Jakobson’s statement above).

One wonders, therefore, whether the Jakobsonian one-stem system may be validated on *other* grounds. E. g.: 1) may Jakobson’s truncation rule have a diachronic justification? Can it be demonstrated, that the truncated stem alternants arose throughout the history of

Russian via a, let us say, phonological or analogical segment-truncation process? 2) Do the entities constituting Jakobson's description of Russian conjugation actually correspond to any psycholinguistic reality? In other words, as Andersen has put it, does Jakobson's description "correspond to the speakers' conception of these [stem-final segment/zero] alternations" (Andersen 1980, 288).

The answer to the first question is 'no.' Rather than *truncating* a segment, innovative stems in Russian and its dialects show *accretion* of material. In vocalic stems it is usually *-j-*, in consonant stems it is a vowel (as a rule, the suffix *-a-*). Thus, the ORuss. opaque paradigm *du-ti* (inf.), *dm-ut'* (3.pl.) 'blow' has been refashioned in Modern Russian as *du-t'*, *dúj-ut*, and the no less opaque ORuss. verb *žā-ti*, *žm-ut'* 'press' is reflected in some dialects as *žma-t'*, *žm-ut*. Innovations involving segment *deletion* are "surprisingly few" (*op. cit.*, 288-290). It may be added to Andersen's discussion of diachronic developments in Russian irregular verb stems that no diachronic truncation rule can be posited for any earlier, Common (Balto-) Slavic stage, either.

Is Jakobson's description psycholinguistically motivated, then? This question appears to be more difficult to answer: debates regarding psycholinguistic reality of the Jakobsonian system (for both native and non-native speakers) still go on. Two things can be said at this point with a fair degree of certainty. 1) Jakobson's "full-stems" are arbitrary, "purely morphophonemic constructs with no grammatical identity" (*op. cit.*, 296). 2) Known to me language acquisition studies involving Russian children whose internal grammar has not completely stabilized yet (i. e., between the ages of 2 and 6+) seem to offer no support for Jakobson's truncation hypothesis, either. They show that when the stem of a novel or nonce verb is not easily recoverable from the stimulus form, segment *addition* is by far the more frequent procedure (and one much earlier acquired!) for deriving a new stem, than segment *deletion*. As a rule, *-i-* is added in preconsonantal stems (e. g., *dad'-ī-t'* for *da-t'* 'to give') and *-j-* is added in prevocalic ones (e. g., *p'isá-j-ut* for *p'is-ut* 'they write') (cf. *op. cit.*, 290ff., 295f.). Similar results have been reported in Gor and Chernigovskaya (2005, 140ff., 149ff., 155f.), wherein what Andersen terms "j-addition" is referred to as "the default 'vowel + j' pattern" or "'recover the j' rule."

To sum up the discussion thus far, not only does the Jakobsonian "monothematic" system not prove pedagogically useful (at least not in my experience), it may hardly be justified diachronically, and does not seem to correspond to any psycholinguistic reality, either. One cannot help but wonder whether a system like this actually merits the ingenious attempts at salvaging it after it has turned out unworkable at first application (cf. Feldstein 1987a on the OCS verb, Feldstein 1987b on the Polish verb, and Chvany 1990 on the Russian verb).

It is a simple descriptive fact about the (early historical) Slavic verbal system that it is built around two alternating stems: one is found in the present stem and the other in the aorist/infinite stem. Both stems are very real — at least when viewed from the vantage point of language history, if not “internal grammar.” A second important fact about Slavic is that often the morphophonemic alternations that accompany the derivation of either stem are *not* of the kind that can be synchronically predicted by inspecting a notional “basic stem” or a particular form chosen for that purpose (the imperative, the 3.pl. present indicative, or any other). No matter how ingeniously devised, a single-stem-based typology of the OCS verb will not enable one to predict, e. g., *pišq̃t̃b* and *ženq̃t̃b* from *p̃b̃sa-* ‘write’ and *g̃b̃na-* ‘chase,’ respectively, generating and selecting these “candidates” over, e. g., **p̃b̃sajq̃t̃b* and **g̃b̃najq̃t̃b* (extrapolated from the pattern *čitati čitajq̃t̃b* ‘read’), or **p̃b̃s̃q̃t̃b* and **g̃b̃ñq̃t̃b* (reflecting the pattern in *tkati tk̃q̃t̃b* ‘weave’), or, for that matter, **p̃b̃š̃q̃t̃b* and **g̃b̃ñj̃q̃t̃b* (cf. *-kazati -kaz̃q̃t̃b* ‘show, tell’). It follows that for many EHS (and Russian) verbs it is not enough to know the “basic stem.” Under the “monothematic” approach, in order to avoid producing, e. g., **g̃b̃najq̃t̃b* or **g̃b̃ñj̃q̃t̃b* from **g̃b̃na-*, one has to know a set of additional abstract specifications on a great deal of “basic” stems. The question is, then: instead of committing to memory all these extra specifications, why not simply commit to memory from the “get go” a pair of alternating stems, such as *žene/o-* and *g̃b̃na-*? From the purely *pedagogical* viewpoint such “multiplication of stems” will not make the task of memorizing the conjugational pattern any more formidable than the strategy of multiplying abstract specifications on a good number of “basic stems.” I would submit that operating with two concrete stems from the very start would actually make the memorization task easier.

Acknowledging the insuperable problems inherent in Jakobson’s analysis of Slavic conjugation, Chvany (1990) has argued for co-existence in Russian of one-stem *and* two-stem verbs (e. g., *pet’* ‘sing,’ *jexat’* ‘ride,’ etc.) and suggested to extend “the two-stem presentation of irregularities” to the unproductive classes (Chvany 1990). Her sole reason for not abandoning the Jakobsonian system *all together* was the wish to “preserve the Jakobson-Lipson insight that the distinction relevant to Russian conjugation is *phonological, or morphophonemic, rather than semantic* (as falsely suggested by traditional labels like ‘present stem’ and ‘past-infinitive stem’)” (*op. cit.*, 432; emphasis mine). It has recently been observed by Nessel that this insight is not corroborated by any evidence and “presupposes that generalizations about Russian conjugation must be *either phonological or semantic* in nature” (Nessel 2008, 95; emphasis mine). Nessel goes on to provide empirical evidence in favor of *semantics*-based generalizations that *complement* form-based generalizations. He demonstrates that morphophonemic alternations displayed by a present stem (such as Russ.

piš-) “have a *semiotic* function in that they conspire to signal non-past meaning” (*op. cit.*, 233; emphasis mine). Thus, the *cognitive* objection against a description based on multiple verb stems (past and non-past) seems to be eliminated.

As far as I can tell, there are no *theoretical* objections against “multiplication of stems” and their memorization, either (of the sort, ‘this is not how language works’). Few generativists nowadays will probably argue against the notion that some aspects of grammar are indeed *memorized* in the process of language acquisition (I am almost impelled to add, via good old stimulus-and-response learning mechanisms). Language is a diachronic beast. It is constantly renewing and regularizing its patterns, and, in the process of rebuilding itself, it happens to retain here and there shreds of earlier structures and patterns. Consequently, there will always be aspects in any language and at any point in time, which are bound *not* to be captured in the current set of productive synchronic rules. Any language has items attaching irregular affixes or displaying aberrant or prohibitively opaque morphophonemic alternations. Such irregular processes usually represent obsolescent, or perfectly obsolete, morpho(no)logical patterns, which used to be regular at some earlier stage or stages: cf. the irregular and opaque noun plurals in English such as *brethren, deer, oxen, kine*, etc., irregular verb patterns such as *do did done*, or constructions such as *is gone* or *is descended* harking back to the times when *is (y)cumen* was the only grammatical way of saying ‘has come.’ It is such irregular forms and constructions that have to be memorized in the process of language acquisition and then, in the process of speech production, retrieved *as whole chunks* (similarly to vocabulary) directly via “brute memory” as opposed to “brute deduction.” This picture appears to be supported by recent neurolinguistic and language acquisition studies which show, e. g., that irregular grammatical patterns are stored and processed in the brain where meaning-based vocabulary is stored and processed.¹

Thus, one of the theoretical premises underpinning the Jakobsonian system—the idealization of language acquisition whereby children end up generating the *entire* grammar—appears to be unwarranted. In acquiring irregular or unmanageably opaque morphophonemic and morphosyntactic patterns, (some) reliance on memorization is inevitable. And if English can be said to have patterns that are not synchronically predictable or rule-governed and that have to be memorized in the process of acquisition, why cannot it be said that memorization likewise played a role in acquiring EHS, and, *inter alia*, in mastering the unpredictable alternations found in multiple EHS verb stems? And if so, why cannot L2 learners do the same in the classroom nowadays? Lastly, even if grammar were indeed to be shown one day to be generated in its totality, that finding would still not have ruled out the two-stem approach as one that is theoretically impossible. It would still remain to be definitively demonstrated

that humans are neurologically equipped to store and handle *only one* basic stem per verb plus a set of rules to derive surface forms, and *not* equipped to store and handle *two or more* stems plus a set of rules (cf. the Classical Greek verbal system with its *three* basic stems, which very often do *not* stand in predictable, rule-governed formal relationships to one another).

In short, so far as I can tell, we are really under no “theoretical pressure” to insist on a single-stem generative approach to the description of the EHS (or Russian) verb.

Now that we have dealt with some of the theoretical issues pertaining to the Jakobsonian framework, let us turn to practical issues involved in its application to Slavic data.

One issue has just been alluded to: the Jakobsonian system fails to account for the total inventory of attested verb forms. There are considerable subsets of Russian data that are not predicted by it, and applying it to the EHS data makes for even more “exceptions” (forms like *ženǫť*). Jakobson 1948 consigns those “exceptions” to an appendix. They include such high-profile verbs as (in Jakobson’s own notation) *brat’* ‘take,’ *jéxat’* ‘drive, ride, go,’ *it’i* ‘walk, go,’ *b’ežát’* ‘run,’ *xot’ét’* ‘want,’ *p’et’* ‘sing,’ *stonát’* ‘moan,’ *spat’* ‘sleep,’ etc. (cf. *op. cit.*, pp. 24f.). Lunt collects these items in a special paragraph as “irregular” verbs (some 20 items plus ca. 80 compounds, cf. Lunt 1974, 121ff. and 2001, 137ff.). In addition to those “irregular” items *sensu stricto*, multiple other verbs are said to have irregular processes affecting their stem(s), including “unpredictable changes in stem vowel” or “unpredictable vowel+sonorant alternations”, e. g., *jǫmati jemljǫť* ‘get, take’ *zǫdati zǫzǫť* ‘build,’ *žǫdati žǫdǫť* ‘(a)wait,’ *bǫrati berǫť* ‘take,’ *gǫnati ženǫť* ‘chase; persecute,’ *-čǫpǫť -čǫťi* ‘draw (water),’ etc. (Lunt 2001, 118, 125f., 126, 134). One simply fails to see how this system is “generative,” if it does not enable one to deduce the truncated stem by inspecting the “basic stem” in so many verbs. What is the point in basing a typology of a verb system such as OCS on a single stem, if operating with two stems actually resolves the issue of “unpredictability” in the vast majority of cases? Notice incidentally that Lunt only acknowledges the problem of the synchronically unpredictable root vowels, yet there are multiple other diachronic processes at work in those stems as well (such as, e. g., “iotation” and coda deletion), and these two processes alone will turn into a real quagmire any strictly synchronic one-stem-based description of Slavic conjugation. And there are more such processes than just these two. Approaching the Slavic verb synchronically in reality does not make its description any more streamlined and parsimonious than the traditional diachronic approach involving two stems and a (sizable to be sure) set of diachronic phonological rules. In short, using Lunt’s system does not deliver one from having to know diachronic facts. Throughout the entire 2001 edition of the textbook Lunt himself constantly relapses into the diachronic “two-stem” talk (using the collocations “present stem,” “non-present stem,” “infinitive stem,” and “infinitive-aorist stem”).

Another problem with Lunt's classification is that some *formally identical* verbs end up in different synchronic classes: cf. *zna-ti, zna-jǫ* (class 8, the “*aj*-verbs”) vs. *bra-ti* (**bor-ti*) *bor-jǫ* ‘fight’ (“irregular class”); cf. also *žrb-ti* (**žbr-ti*) *žbr-ǫ* ‘sacrifice’ (“irregular class”) vs. *-tǣ-ti* (**tbn-ti*) *-tbn-ǫ* ‘cut, kill’ (class 7, the “*C*-verbs”). Conversely, verbs representing historically *diverse* formations are assigned to a single synchronic class. Most glaringly, *bbr-a-ti* ‘take’ (a “pure” thematic *e/o*-present) and *stol-a-ti* ‘spread out’ (a *je/o*-present) are both allocated to class 5 (“*Ca*-verbs”), while *zna-ti* ‘know,’ *um-ě-ti* ‘know how,’ and *děl-a-ti* ‘do’ all end up in class 8 (“*ě/aj*-verbs”) only because their present stem has a sequence V + *-j-* in it. There is a price to pay for such “sloppy” distribution of diachronically disparate material across classes: the overall system does not feel intuitive, while the “member verbs” within a proposed class never “cohere” functionally or formally.

Among the consequences is that their aorist form cannot be predicted. As will be shown below, the selection by an EHS verb of a particular aorist formation may be predicted with a fair degree of accuracy by inspecting certain formal and semantic properties of the stem. The choice is usually determined by a combination of the root-vowel ablaut grade, presence or absence of infixation, and transitivity and/or inchoativeness of the stem (whichever the case may be).

Let us now address the more traditional “two-stem” approaches to the EHS verb.

The **Diels** system starts with the infinitive and makes finer distinctions within the “infinitive types” according to the shape of the present stem. The classification is provided in a tabulated form below:

I.	<i>-ti</i>	I.1.	<i>nes-ti</i>	<i>nes-ǫ,</i>	<i>nes-e-ši...</i>	‘carry’
		I.2.	<i>kla-ti</i> (* <i>kol-ti</i>)	<i>kol-jǫ,</i>	<i>kol-je-ši...</i>	‘stab’
		I.3.	<i>kry-ti</i>	<i>krb-jǫ,</i>	<i>kry-je-ši...</i>	‘cover’
II.	<i>-nǫti</i>	II.	<i>dvig-nǫ-ti</i>	<i>dvig-nǫ,</i>	<i>dvig-ne-ši...</i>	‘move’
III.	<i>-ěti</i>	III.1.	<i>mьn-ě-ti</i>	<i>mьn-j-ǫ,</i>	<i>mьn-i-ši...</i>	‘have in mind’
		III.2.	<i>um-ě-ti</i>	<i>um-ě-jǫ,</i>	<i>um-ě-je-ši...</i>	‘know how’
IV.	<i>-iti</i>	IV.	<i>nos-i-ti</i>	<i>noš-[*j]ǫ,</i>	<i>nos-i-ši...</i>	‘carry’ (multidir.)
V.	<i>-ati</i>	V.1.	<i>bbr-a-ti</i>	<i>ber-ǫ,</i>	<i>ber-e-ši...</i>	‘take’
		V.2.	<i>glagol-a-ti</i>	<i>glagol-jǫ,</i>	<i>glagol-je-ši...</i>	‘speak’
		V.3.	<i>sěj-a-ti</i>	<i>sěj-ǫ,</i>	<i>sěj-e-ši...</i>	‘sow’
		V.4.	<i>děl-a-ti</i>	<i>děl-a-jǫ</i>	<i>děl-a-je-ši...</i>	‘do, make’
VI.	<i>-ovati</i>	VI.	<i>dar-ova-ti</i>	<i>dar-u-jǫ</i>	<i>dar-u-je-ši...</i>	‘grant, give’
VII.	(athematic)		<i>jas-ti</i>	<i>ja[*d]-mь</i>	<i>ja[*d]-si</i>	‘eat’

The sole advantage of the Diels system stems from the fact that it is infinitive-centered. The aorist in EHS happens to be made from the infinitive stem. Therefore, in many instances, by virtue of knowing the class of a verb one also knows the choice of the aorist type that this verb selects (e. g., *nosi-ti* → *nosi-x-*, *bъra-ti* → *bъra-x-*, *тънѣ-ti* → *тънѣ-x-*, etc.).

At the same time, there are a number of problems that make this system suboptimal. A disadvantage of a classification centered on the infinitive stem is that the resulting division of present stems between classes is haphazard and counterintuitive, and the overall system lacks a good flow. Thus, “pure” thematic *e/o*-verbs end up divided between two different classes: I and V (both of which happen to contain also *je/o*-presents!). Conversely, some morphologically and semantically heterogeneous formations end up lumped in one and the same class (e. g., *děl-a-ti* and *zna-ti*). “Characterized” *je/o*-presents are combined in a single class (I) with a *subset* of the “pure” thematic *e/o*-verbs, etc. Recall that the same problems befall Lunt’s classification as well.

Needless to say, these somewhat arbitrarily “carved out” verb classes, for the most part, cannot be directly traceable to the known categories of PIE (‘categories’ in the sense ‘lexical classes’ such as root presents, desideratives, iteratives, etc., and particular expressions of a grammatical contrast such as athematic middles, etc.). Of course, such “diachronic traceability” of Slavic classes should not be an end in its own right. The typology proposed herein is devised to be in principle utilizable by students of Slavic and Slavic only. But the fact that Diels’s classification is not informed diachronically and is not sensitive to such parameters as the ablaut grade of the root vowel, presence or absence of infixation, and semantics of the stem (its transitivity or inchoativeness), actually leads to drawbacks at the *synchronic* level. As a result—as was the case with Lunt’s typology—the kind of aorist that a consonant-final infinitive stem will select, cannot be predicted. This is true of class II (nasal) verbs and the verbs of class I.1, which, under Diels’s system, is a catch-all category and comprises verbs of very disparate origins (all making different kinds of aorist).

The most cogent and manageable description of the EHS verb is, in my opinion, that by **Leskien** (1871, 1905). Ironically, it also happens to be the oldest. Leskien distinguishes five large classes based on the present-stem suffix: I. *e/o*-presents, II. *ne/o*-presents, III. *je/o*-presents, IV. *i*-presents, and V. consonant stems, which we would now term athematic or “root” presents, i. e., stems with no historical suffix (*jes-tъ* = *jes-θ-tъ* ‘is’). Within some of these classes, verbs may differ in the morphology of their infinitive stems, hence the following subdivisions:

			present	infinitive	
I.	A	<i>e/o</i> -presents:	<i>nes-e-tb</i> ,	<i>nes-ti</i>	‘carry’
	B	<i>e/o</i> -presents:	<i>ber-e-tb</i> ,	<i>bbr-a-ti</i>	‘take’
II.		<i>ne/o</i> -presents:	<i>dvig-ne-tb</i> ,	<i>dvig-nq-ti</i>	‘move’
III.	A	<i>je/o</i> -presents:	<i>zna-je-tb</i> ,	<i>zna-ti</i>	‘know’
	B	<i>je/o</i> -presents:	<i>ka-je-tb (se)</i> ,	<i>ka-ja-ti (se)</i>	‘repent’
IV.	A	<i>i</i> -presents:	<i>xval-i-tb</i> ,	<i>xval-i-ti</i>	‘praise’
	B	<i>i</i> -presents:	<i>mbn-i-tb</i> ,	<i>mbn-ě-ti</i>	‘think’
V.		athematic presents:	<i>jes-tb</i>	<i>by-ti</i>	‘be’

This classification is found unaltered in Borkovskij & Kuznecov 1963, Xaburgaev 1974, Regier 1977, Schmalstieg 1980, Gardiner 1984, Vlasto 1986, and Huntley 1993, and— with a few modifications — in Vaillant 1948 and Schenker 1993, 1995. It also lends itself easily to the description of the verbal systems of the modern Slavic languages, and is indeed used in such a way (with the addition of a “class VI” to capture a new kind of contracted verbs in South and West Slavic, the so-called *a*-verbs, as in BCS *d(j)ěláš*, Cz. *děláš*, Pol. *działasz* < PS1. **dělajesi* ‘you do,’ cf. Sussex & Cubberley 2006, 282).

This lucid and easily processed typology does not have many flaws. Most importantly, unlike Lunt’s classification, it can be made detailed enough to capture all the attested alternations between the two EHS principal verb stems (and Leskien does just that). The sole objection that can be raised against the Leskien system is that, like the other systems discussed earlier, it lumps together historically heterogeneous formations on the basis of some superficial formal similarity. Thus *pojġ* ‘sing’ is in the same class as *znajġ* ‘know’ and *lĕtajġ* ‘fly about’—only because their present stems end in a string of segments ‘-je/o-.’ Observe, however that from the diachronic point of view, only *zna-jġ* is a true *je/o*-present. In *poj-ġ* the element *j* is part of the root (the verb is an *e/o*-present made from the PIE root **pei(h₂)-*), while *lĕt-a-jġ* is a historical *ā*-frequentative, and, as such, features a lengthened-grade root vowel and an additional suffix **-ā-* (*-lĕt-a-je/o-* < **-lĕt-ā-je/o-*). Such heterogeneity leads to classes having no discernible semantics attached to them (with a few exceptions, such as, e. g., class IVb, which is mostly comprised of intransitive stative verbs). And since the choice by a verb of its aorist depends at least partly on its semantics (which, in turn, is a function of its “diachronic affiliation” with a particular PIE verb class or category), Leskien’s classes Ia and II end up being characterized by *multiple* aorist types:

nesq ‘carry’ → *něsъ* (sigmatic aorist),
bodq ‘pierce’ → *basъ* (sigmatic aorist) vs.
mogq ‘be able’ → *mogъ* (“root” aorist);

cf. also

męq ‘confuse, disturb’ → *męsъ* (sigmatic aorist) vs.
sędq ‘sit down’ → *sędъ* (“root” aorist);

and

sъxnq ‘become dry’ → *sъxъ* (“root” aorist) vs.
drъznq ‘dare’ → *drъznqxъ* (“weak” sigmatic aorist).

Even the most recent incarnations of (or variations on) the Leskien system, such as Schenker’s classification (Schenker 1993, 1995) are out of date and off the mark in their “diachronic component” (should their authors bother to provide one). To give one illustrative example, Schenker operates with a PIE suffix **-ej-* allegedly underlying the stem suffix in the Slavic *i*-presents (cf. Schenker 1995, 133). This notion is dated. *O*-grade *i*-verbs with a pervasive suffix *-i-* (the “*nositi*-type”) are descended from PIE iteratives/causatives in **-eje/o-* (a theory that has never been controversial). As for the *ø*-grade *ě/i*-verbs (the “*mъněti*-type”), it is clear from comparative Baltic evidence that this class is historically distinct from the “*nositi*-type.” Jasanoff has been advocating as its immediate antecedent a Balto-Slavic “*ĩ*-conjugation” that had ultimately evolved from PIE athematic middles: thus, BSl. **min-inti* ‘they suppose’ is by origin a mechanically activated PIE middle **mṇ(n)-ṇtoĩ* or **mṇ(n)-ṇtor* (cf. Jasanoff 2003, 155ff., esp. fn. 23, and Jasanoff 2004, 152ff. for the most recent expositions of this theory). An alternative and less attractive view (stemming from the ideas expressed in Cowgill 1963) holds that OCS *mъni-* and Lith. *mini-* reflect a PIE category of “essive” (stative): **mṇ-h₂ie/o-* (cf. LIV², 25, 436). Indo-Europeanists no longer seriously entertain the notion that OCS *mъni[ъ]* and Lith. *mini* might reflect a PIE affix **-ej-* (thus first Kuryłowicz 1964, 79-84) or, for that matter, that a PIE “half-thematic” suffix **-ĩ-/*-io-* is at play here (thus Brugmann 1904, 535, Meillet 1908, 176ff., Stang 1942, 23ff., etc.). These entities were discarded a long time ago.²

This example provides a good illustration of how delayed the reaction of historical Slavic linguists is to progress in the (in theory related) field of IE studies. The updated EHS verb typology proposed in this paper is conceived as a step in the process of bridging the divide between the two diachronic fields (Slavic and IE) in the area of verbal morphology. The moment for revisiting the EHS verb with an eye on the latest trends in IE linguistics is opportune. A brief look at the history of efforts to reconstruct the PIE verbal system should make it clear, why.

The challenge of reconstructing the PIE verbal system

A curious asymmetry exists between the business of reconstructing PIE nominal morphology and the business of reconstructing PIE verbal morphology. The nominal systems of the daughter languages are diachronically relatable to each other in a fairly straightforward way. Already by the late 19th century the Neogrammarians had a reasonably clear picture of the PIE declensional patterns in all their essential particulars. Of course, since then various modification and adjustments have had to be made. Most importantly, four or five nominal accent paradigms (or accent-ablaut classes) have been recognized to have existed at the PIE level (principally due to works by Pedersen, Kuiper, Hoffmann, Narten, Schindler, Eichner, and Rix), and an allative case in $*(e)h_2$ has been added to the PIE case system. These and other discoveries, however, have not radically upset the general picture of the PIE noun and the contrasts it made, which had existed since the early 20th century. Few Indo-Europeanists would disagree today that PIE had three genders, three numbers, a “collective” form in $*(e)h_2$, eight or nine cases, multiple stem types (*o*-stems, *i*-stems, heteroclitic *r/n*-stems, etc.), and fixed columnar stress in some nouns vs. various patterns of mobile accent in others (the accent-ablaut classes).

The reason for such (near-)unanimity among scholars as to the nature of the PIE noun is the conservativeness of nominal morphology in the oldest attested IE languages, which, consequently, afford us a good look at the original patterns. To quote Tronskij, “No radical changes took place [in the area of nominal morphology] in the period separating Proto-Indo-European from the oldest written records of the historical branches. A reconstruction of the *late* PIE noun was therefore achievable relatively *easily*” (Tronskij 1967, 83; translation from Russian and emphasis mine).³ As a rule, in the realm nominal morphology the daughter languages reflect different degrees of simplification (“impoverishment”) of inherited complexity.⁴ But various processes of simplification happened to have proceeded in them in such a way as to make the task of reconciling the attested data a fairly straightforward exercise.

“The verb presents a totally different picture. The verbal systems of the bulk of the ancient IE languages are characterized by a much greater diversity than the noun systems. [...] It is highly likely that, in the sphere of verbal morphology, the dialectal diversity of the IE languages in the 4-3 mill. BC was greater than in the sphere of nominal morphology. [...] A reconstruction of a *uniform* PIE verbal system is not therewith struck from the agenda. [Such a reconstruction] is [merely] projected into a more distant past... Paradoxically as it may sound, problems of such a “distant” reconstruction of the PIE verbal system are often solved easier—and the solutions turn out to be less controversial—than the problems surrounding

the reconstruction of the PIE verb at the time of the incipient disintegration of PIE” (*op. cit.*, 83-85; translation from Russian and emphasis mine).⁵ A few decades earlier, in a 1930 letter to Roman Jakobson, prince Nikolai Trubetzkoy spoke in much the same vein about difficulties involved in identifying the Indo-European antecedents of Slavic verbal forms.⁶

Why *is* the reconstruction of the late PIE verb such a difficult matter?

First of all, the verbal systems of many individual early IE languages are extremely complicated and ramified. Second, these daughter systems are very diverse and for the most part not immediately irreconcilable with each other.

With respect to the degree of complexity, one finds that the daughter traditions represent, as it were, two “extremes”: at the one “pole” are Indo-Iranian (including Sanskrit) and Greek (these are the morphologically rich systems), at the other “pole” is Germanic (a “poor” system). The question is, of course, which of the two “extremes” reflects more faithfully the original PIE system. Until a definitive answer has been found, our picture of the PIE verb must remain vague. It is this vagueness of the reconstructed PIE verbal system, the virtually missing “starting point” (*isxodnyj punkt*) that Trubetzkoy referred to in his letter to Jakobson (cf. endn. 6).

Our understanding of PIE verb morphology has not always been quite so uncertain. A “Sanskritocentric” vision of PIE grammar was universally taken and promoted in the 19th century. Schleicher’s famous fable *Avis Akvāsas ka* “The Sheep and the Horses” (Schleicher 1868) is written in a PIE protolanguage that is patently Sanskrit-like. Things changed at the turn of the 20th century, however, with the coming to light of Tocharian and Hittite data, which sent into flux our understanding of PIE verb morphology (instead of clarifying and stabilizing it). Tocharian displayed a verbal system expectedly complex and ramified, but at the same time lacking a good fit with the rest of the IE family. It simply could not be derived from the PIE verbal system as it had been reconstructed on the basis of Sanskrit, Greek, and Latin. Anatolian, despite its great antiquity, turned out to possess a very simple conjugational pattern. Instead of presenting a complex verbal system on a par with equally old Vedic Sanskrit, Hittite looked a lot more like Germanic.⁷ To complicate things further, the Anatolian and Germanic verbal systems, while functionally comparable with each other, are *formally irreconcilable*. In other words, if one abandons the “Sanskritocentric” model of PIE and dismisses the numerous Sanskrit and Greek temporal-aspectual and voice distinctions as post-PIE innovations (as some Indo-Europeanists indeed have chosen to do), one will still be very far from achieving an uncontroversial *alternative* reconstruction, as it would have to be based on two equally “poor,” but mutually irreconcilable, conjugational patterns (Anatolian and Germanic).

All this prompted Stang to admit in 1942: “As regards... the [PIE] verbal system,

IE studies are now at a stage where we are forced to admit that we know less about the PIE system than we thought we did a few decades ago. The relatively cogent picture of the PIE verb that Brugmann gave in his *Grundriß* is now destroyed, and so far we have not succeeded in replacing it with a clear alternative picture” (Stang 1942, 2; translation from German mine). Recall also the above mentioned Trubetzkoy’s letter to Jakobson. The general sense that our picture of the PIE verb is only very fragmentary persisted throughout most of the 20th century.

In the face of this uncertainty, Indo-Europeanists split into two camps. Some scholars preferred to avoid having to revise the “standard model” (i. e., the Sanskrit-based Brugmannian reconstruction) of the PIE verbal system. Thus, an “**Indo-Hittite hypothesis**” was born, which dismissed the Hittite data as irrelevant for the reconstruction of PIE, because, it was contended, Anatolian was not a “daughter” of PIE but rather its “sister” (thus, e. g., Forrer 1921, Sturtevant 1933, 1942, 1962,⁸ and Cowgill 1979; more recently Lehrman 1998 and Adrados 2007). The central idea is that Anatolian had separated from the family *before* it developed a rich verbal system enshrined in the “classic” Brugmannian model. Thus, there was no need to reject or revise the traditional reconstruction. Scholars in the other camp espoused various versions of the **reductionist view** of the PIE verb (envisaging a very simple PIE verbal system along the Germanic lines, as it were). Such scholars attributed the missing verbal categories in branches such as Anatolian and Germanic to their late, post-PIE, deployment within Indo-Iranian, Greek, Latin, etc. (thus, e. g., Meillet 1922, Hirt 1928, Prokosch 1939, Lane 1949, Adrados 1963, Guxman 1966, Perel’muter 1977, Ivanov 1981, etc.).⁹

In the past few decades — some 80-90 years after the discovery of Tocharian and Hittite — the uncertainties surrounding their position within the IE family (and, relatedly, the problems bedeviling the reconstruction of the PIE verbal system) have been gradually clearing up. We now stand much closer to achieving the “proximate” reconstruction of the PIE verb (to use Tronskij’s term for late PIE reconstruction) than we did some 25 years ago. For the first time since the discovery of Hittite we are in possession of a promising alternative model of the PIE verb, a new framework that successfully accommodates the verbal systems of the both “new” branches — Anatolian and Tocharian. Most of the credit for this achievement goes to Jasanoff (for a complete exposition of the new model cf. Jasanoff 2003), but the way had been paved by important contributions of many other scholars, most notably Hoffmann, Narten, Schindler, Watkins, and Cowgill.

The resulting picture is that of a very complex verbal system (contrary to Meillet 1922 and his followers). “...The reductionist view that the parent language had only a system of *Aktionsarten* is not supported, and is if anything undercut, by our findings here.” “...The [revised] model of the PIE verb is... in many respects extremely conservative” (Jasanoff,

op. cit., 215). As was suspected by some scholars after the Anatolian languages were first discovered, many of the forms missing from them must indeed have been part of the common PIE heritage, and their absence in Hittite and Luvian is almost surely due to loss. Precious traces of some of those lost categories are now being recognized. Thus, historical **aorist** stems have been almost positively identified in Hittite and Luvian (Melchert 1997). The Hittite *si*-imperatives have been plausibly argued to go back to PIE **thematic subjunctives** built to sigmatic stems (Jasanoff 1987, Jasanoff 2003, 182ff., and Jasanoff, *forthc.*). It is also possible, that Proto-Anatolian had retained the PIE **perfect** and **pluperfect** forms (cf. Jasanoff 2003, 11, 37f., 87).

Also growing is a body of evidence for loss of inherited morphological features outside the domain of verb morphology, e. g. in the Anatolian noun and adjective. Thus the presence in Proto-Anatolian of “collectives”/feminines in **-eh₂* and of verbal adjectives in **-i_ó-* have recently been securely established (cf. Melchert, *forthc.*).

Two things are thus emerging ever more clearly: 1) that, for all its antiquity, Anatolian is not a very conservative branch and has undergone much simplification in the realm of nominal and verbal morphology, and 2) that the PIE verb was indeed a very complex system (but, of course, in a way that is very different from the Brugmannian model). Apart from Jasanoff, this view has been upheld by a number of other key figures in the field, including the preeminent Anatolianist Melchert.¹⁰

Whether or not Jasanoff’s “new look” of the PIE verb is ultimately correct in all its important details, it surely does a much better job of integrating Anatolian and Tocharian evidence into PIE than any other system of views thus far. What is more, it affords a better fit not only to the recalcitrant Anatolian and Tocharian data, but to *Slavic* data as well. Within this new paradigm, some of the EHS categories (e. g., the so-called “root” aorist) or verb classes (e. g., the ablauting “*berq b_{erati}* class”) are seen in a new light and receive clear diachronic antecedents (recall Trubetzkoy’s complaint about the lack of obvious “starting points” for Slavic verb forms). The time is therefore right to revisit and reevaluate our views on the prehistory of Slavic conjugation. The diachronically-motivated typology of the EHS verb proposed in this paper is an early attempt at such a reevaluation.

Synchronic vs. diachronic approach to Slavic verb

There are two basic approaches to the description of any language: synchronic and diachronic. A purely synchronic analysis disregards any dynamic processes taking place within its subsystems and sets out to devise a coherent description of a “snapshot” of a language at a given moment in time. However, since linguistic systems and subsystems are in constant flux,

it is possible for two or more patterns representing different stages in the language’s history to coexist, if not compete, at a synchronic level (cf. the regular and irregular verbs of English). Any language at any point in time thus represents a complex, mixed system. A diachronic analysis of a linguistic system focuses on the shaping and reshaping of grammar over time and thus underscores the *dynamic* aspect of language. Ideally, it provides the observer with a diachronic perspective by which many of its synchronically aberrant, irregular patterns are accounted for.

We thus have a classic trade-off. Approaching language synchronically allows one to shed the “baggage of centuries”—all the knowledge of multiple diachronic processes that the historical linguist catalogues and makes sense of in his work. But there is a price. Since any grammar has a messy dynamic dimension producing the synchronic effect of a mixed and irregular system, its strictly synchronic description may prove too convoluted and unwieldy (cf. Jakobson’s 1948 description of Russian conjugation) or leave unintegrated multiple subsets of “irregular” data (cf. Lunt’s 2001 description of the OCS conjugation pattern). There is, of course, a price to pay for choosing the diachronic approach to a language, as well. At the very least, one has to figure out and absorb a number (sometimes a significant number) of diachronic changes. But there is a reward, too: sometimes, when approached diachronically in the right way, a synchronically messy linguistic system may regain (some of) its original logic.

The description of the EHS verb proposed here is diachronic. That means, *inter alia*, that the recent sound changes are undone in order to restore the synchronically opaque morphological and morphophonemic patterns to their original “transparency.” This approach is well justified when applied to languages such as Slavic, whose morphological and morphophonemic patterns have become extremely muddled by the effects of accumulated sound change. By way of an illustration, consider the following family of OCS verbs:

<i>bljudŏ</i>	<i>buždŏ</i>	<i>bъždŏ</i>	<i>въз-бънŏ</i>
‘observe, keep, am alert’	‘cause to wake’	‘am awake’	‘wake up, rise’

It is clear that they are not only semantically, but also formally related. For an untrained eye it is not clear just how, though. By undoing three sound changes—“iotation” (*žd* < **dj*), monophthongization (*’u* < **eu*, *u* < **ou*), and coda deletion (*bŭ.* < **bud.*)—we arrive at the following pattern:

* <i>b<u>eu</u></i> d-	* <i>b<u>ou</u>d-j-</i>	* <i>b<u>u</u>d-j-</i>	* <i>b<u>u</u>d-n-</i>
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where one sees the shapes of the ablaut variants of the root *bljud-* (**b^heud^h-*) reset to their pristine state. The pattern is **beud-/boud-/bud-*, and it is the same *e : o : ø* alternation as in, e. g.,

<i>ber-ǫ</i>	<i>(sǔ-)bor-ъ</i>	<i>bǔr-a-ti</i>
<i>*ber-</i>	<i>*bor-</i>	<i>*bǔr-ā-</i>

Knowing the original ablaut grade of a root is important in more than one way. In the oldest layers of the lexicon the ablaut grade and the semantics of the stem are intrinsically linked. Thus, most *i*-iteratives and *i*-causatives are historical *o*-grade (cf. *nositi* ‘carry about’), while *ě/i*-statives tend to be zero-grade (cf. *bǔděti* ‘be awake’ < **bud-ē-* ← √**b^heud^h-*). And, as has been noted on multiple occasions above, semantics of the stem and the ablaut grade of the root vowel actually regulate the choice of the aorist formation in a particular verb. Therefore, the original identity of the root vowel has to be among the criteria for assigning a verb to a particular class.

Some remarks on the EHS aorist

A few notes on the EHS aorist are here in order. I suggest differentiating between *four* types of aorist for EHS:

- | | |
|---|-----------------------------|
| 1) “simple” (asigmatic, <i>intransitive</i> (NB!)): | the <i>-lǔpъ -lǔpe</i> type |
| 2) “strong” sigmatic (lengthened-grade): | the <i>něsъ nese</i> type |
| 3) “weak” sigmatic (non-ablauting, found in vocalic stems): | the <i>nosixъ nosi</i> type |
| 4) <i>ox</i> -aorist (“2nd sigmatic”): | the <i>nesoxъ nese</i> type |

Standard treatments of EHS routinely distinguish only between *three* types of aorist, merging the aorists labeled here as “strong” and “weak” into a single “sigmatic” kind (cf. Diels 1963, 238ff., Nandriš 1965, 141ff., Xaburgaev 1974, 268ff., Gardiner 1984, 74ff., Schenker 1995, 140, Lunt 2001, 102ff., etc.). Yet, diachronically speaking, those two aorists represent two very different formations. The strong (lengthened-grade) sigmatic aorist is part of the common PIE heritage (cf. Lat. *uehō* ‘convey’ → *uēxī* ‘conveyed’ < PIE **uēǵ^h-s-*), whereas the weak aorist characteristic of vocalic stems (*nosi-x-*, *da-x-*, etc.) is a late, inner-(Balto?-)Slavic arrival.¹¹

In the literature the “*lǔpe*-type” aorist is usually termed “root aorist.” From the diachronic point of view, however, that label is a grave misnomer: the stem is actually suffixed (**lip-e[-t]*). This aorist is thus better termed “asigmatic” or “intransitive,” reflecting the fact

that this aorist formation is *exclusively intransitive*. It would also make sense to (re)introduce the term “simple aorist” from the German and Russian terminological traditions (*einfaucher Aorist, prostoj aorist*). The term “simple aorist” is known in the English-language literature (cf. Nandriş 1959, 1965).

There also exists an (obsolescent, to be sure) tradition of calling the OCS asigmatic aorist “strong” (cf. Nandriş, Schmalstieg, *op. cit.*). That label is another misnomer, because ablaut is not involved in making the asigmatic aorist stem.

Lastly, the asigmatic aorist is known as “thematic.” Implied in this nomenclature is the notion that Slavic asigmatic aorist is, *mutatis mutandis*, the PIE thematic aorist reflected in Gk. ἔλιπε ‘abandoned’ (**é-lik^u-e-t* ← √**leik^u-*) and OIr. *luid* ‘went’ (*(*é-*)*h₁lud^h-e-t* ← √**h₁leud^h-*).¹² That the OCS “*l₁pe*-type” aorist is to be identified (at least in part) with PIE thematic aorist has been something of a default position for over a century (cf. Vondrák 1900, 204, Schenker 1995, 140, LIV², 408, etc.). This view is difficult to maintain. All “*l₁pe*-type” (simple) aorists display a curious combination of semantic and formal properties that the PIE thematic aorist cannot be demonstrated to have had, and any theory concerning the origin of the simple aorist has to account for those properties. First, as noted above, Slavic simple aorists are almost exclusively *intransitive* (or, to put it differently, are made exclusively from intransitive verbs). Second, they are found only in a particular *subset* of intransitive verbs, namely those with historical *o*-grade of the root (*može* ‘could,’ *pade* ‘fell,’ etc.) or historical zero-grade (*-l₁pe* ‘became stuck,’ *-s₁še* ‘became dry,’ *-s₁pe* ‘fell asleep,’ *-kr₁se* ‘rose from the dead,’ etc.). Two notable exceptions—*lež₁e* ‘lay down’ and *s₁de* ‘sat down’—will be dealt with in what follows. It is also noteworthy that none of the EHS simple aorists can be shown to correspond etymologically to a thematic aorist outside of Slavic: there is not a single word equation between Slavic “*l₁pe*-type” aorists and “ἔλιπε-type” aorists elsewhere (Gk. ἔλιπε is, of course, a mere *Scheingleichung*). These three facts plainly contradict the connection of the Slavic “*l₁pe*-type” with the Gk. “ἔλιπε-type.”

A better candidate for the PIE “starting point” of the Slavic “simple” aorist is available. The combination of *o/ø*-grade of the root and intransitive semantics fits the profile of the recently posited PIE “stative-intransitive *h₂e*-conjugation aorist” with **o* : **ø* (originally, **o* : **e*) ablaut: PIE **log^h-/*leg^h-* ‘lay,’ **b^houd^h-/*b^hud^h-* (replacing earlier **b^houd^h-/*b^heud^h-*) ‘awoke,’ etc. Elsewhere in the family this stative-intransitive aorist gave rise to the Indo-Iranian “passive” aorist (Ved. 3.sg. *ábodhi*, 3.pl. *ábudhran* ‘awoke’ < **é-b^houd^h-e*, **é-b^hud^h-ro*; *ápādi*, *ápadrān* ‘fell’ < **é-pod-e*, **é-pod-ro*, etc.) and the Anatolian *hi*-conjugation preterite (Hitt. *lāki* ‘knocked down’ < PIE **log^h-e* ‘lay down,’ etc.) (Jasanoff 2003, 144-173). The *proper* comparanda of the OCS *o*-grade and *ø*-grade intransitive aorists such as

može ‘could’ (< *mog^he[t]),

pade ‘fell’ (< *pōde[t] < *pode[t] by Winter’s law), and

*-bъde ‘awoke’ (< *b^hud^he[t]), etc.,

are thus Ved. “passive” aorists such as *ápādi*, *ábodhi*, etc. As for the two e-grade aorists

leže (< *leg^he[t]) and

sēde (< *sēde[t] < *sede[t] by Winter’s law),

they must simply reflect a generalized e-grade of the apophonic pattern *o : *e, which used to characterize stative-intransitive aorist originally (*log^h-/*leg^h- ‘lay,’ *sod-/*sed- ‘sat’).

Not only does this derivation the EHS asigmatic (simple) aorist neatly deal with its formal and semantic properties, but it also comes with the boon of multiple word equations suddenly emerging between Slavic and its sisters (*pade* = Ved. *ápādi*, *-bъde = Ved. *ábodhi*, *leže* = Hitt. *lāki*, etc.).

Let me conclude this discussion of the EHS aorist with a note on the distribution of the four aorist formations. Their selection is synchronically predictable based on formal and semantic properties of the verb stem. One can describe the selection process in terms of a “decision tree”:

1. if the infinitive stem is *vocalic*, select the weak sigmatic aorist (*nosi-x-*, *mbně-x-*, *zna-x-*)
2. if the infinitive stem is *consonantal*, inspect the root vowel and the “force” of the stem:
 - 2a. if e-grade transitive, select the strong sigmatic aorist (*rek-* → *rě[^{*}k]x-*, *ved-* → *vě[^{*}d]s-*)
 - 2b. if o/ø-grade and/or nasal-affixed *intransitive*, select the simple aorist (*mog-*, *-lbp-*, *sěd-*)
 - 2c. in either case, the *ox*-aorist is likewise an option (*rek-ox-*, *ved-ox-*, *mog-ox-*, *-lbp-ox-*)

Incidentally, the innovative *ox*-aorist arose in late Proto-Slavic is a result of thematization of the simple aorist: *jъd-o- >> *jъd-o-x- reanalyzed as *jъd-ox- with a suffix *-ox-. Curiously, in West Slavic one finds *jъd-ex-. It is as if in West Slavic the apophonic variant *jъd-e- was chosen over *jъd-o-. Thus *jъd-e- >> *jъd-ex- > OPol. 3.pl. *ydehø* (= OCS *jъdošę*).¹³

There are only two exceptions which do not obey the rules thus formulated: *bodq* ‘stab, pierce’ and *ob-/sъ-reštq* ‘come upon; meet.’ The former verb has o-grade of the root and yet forms a lengthened-grade strong aorist otherwise characteristic only of e-grade transitives: *bas-* (*bōd-s-). The latter verb is transitive and yet forms a simple *intransitive* aorist: *-rēt-* (*-rēt-).

The form *bas-* is an inner-Slavic innovation. The only kind of sigmatic aorist that PIE had ever known was the lengthened ē-grade formation (type *ǵē^h-s-t, *ǵē^h-s-t, etc.). The verb *bodq* surely started out life in the same category as o-grade intransitives *mogq*, *padq*, etc., and probably itself had an original intransitive or “object-demoting” value (cf. its cognates

elsewhere: Lat. *fodiō* ‘dig (up, out) (tr.),’ but also ‘dig around (intr.),’ Hitt. *paddai-* ‘dig up (tr.),’ but also ‘be engaged in digging (intr.),’ etc.). It is very possible that its original aorist form was of the asigmatic kind (**bodь, *bode, *bode*) and was replaced by transitive strong sigmatic *bas-* when the verb had developed fully transitive force.

As for the simple aorist *-rět-* ‘found, came upon, met,’ it is not really an exception. Under the rules formulated above, infixed intransitives are supposed to select the simple aorist (cf. *lego* → *legь, sędo* → *sędь*). The verb **-ręt-je/o-* **-rět-* is cognate with the family of words elsewhere derived from the PIE root **(h₂)ret-* ‘run’ (cf. also **(h₂)rot-eh₂-* ‘wheel,’ **(h₂)rot-h₂-o-* ‘chariot’)¹⁴ and therefore its unattested simplex (unprefixed) stem must have been *intransitive*.

New typology/classification of the EHS verb

We are now fully set to proceed to the new classification of the EHS verb. It has been designed to meet the following synchronic and diachronic criteria:

1) **Synchronic formal aspect:** a new typology should adequately and *minutely* describe the EHS verbal system and enable one to generate any form of any given verb, as long as its class is known (and the verb is not irregular). *In particular, the choice of the aorist formation (from the four aorist formations available) should be predictable from knowing the class that the verb belongs to.* To that end, in designing a typology of the EHS verb it is not sufficient to consider the stem suffix(es) alone. Root vocalism and stem semantics are as relevant.

2) **Synchronic semantic/functional aspect:** the division should be done in such a way as to create classes not only *formally* homogeneous, but also sharing a definable *function*.

3) **Ease-of-use/aesthetic aspect:** a new classification should be user-friendly, i. e., intuitive, parsimonious, and have a good flow (in that formally similar or overlapping classes should be next to each other in the chart, and each next class should differ from the previous one in a minimal number of formal aspects).

4) **Diachronic aspect:** it should take into account the recent advances in IE studies. For the benefit of historical Slavic students with “deeper” Balto-Slavic or Indo-European interests, its elements should correlate with (be derivable from) the known elements of the PIE system.

To meet these ends, I propose to combine the five infinitive types

-ti -a-ti -ě-ti -i-ti -nq-ti

with the five present types

-tь -e-tь -je-tь -ne-tь -i-tь

into the following 12 classes:

I.	* <i>mož-e-</i>	* <i>mog-ti</i>	‘be able’
II.	* <i>nes-e-</i>	* <i>nes-ti</i>	‘carry’
III.	* <i>ber-e-</i>	* <i>bbr-a-ti</i>	‘take’
IV.	* <i>pis-je-</i>	* <i>pbs-a-ti</i>	‘write’
V.	* <i>lēt-a-je-</i>	* <i>lēt-a-ti</i>	‘keep flying, fly about’
VI.	* <i>um-ě-je-</i>	* <i>um-ě-ti</i>	‘know how’
VII.	* <i>zna-je-</i>	* <i>zna-ti</i>	‘know’
VIII.	* <i>sъx-ne-</i>	* <i>sъx-nq-ti</i>	‘dry up, become dry’
IX.	* <i>sęd-e-</i> (< * <i>sŋd-?</i>)	* <i>sęs-ti</i>	‘sit down’
X.	* <i>nos-i-</i>	* <i>nos-i-ti</i>	‘carry about’
XI.	* <i>mъn-i-</i>	* <i>mъn-ě-ti</i>	‘think, suppose’
XII.	* <i>jęd-; *jes-</i>	* <i>jės-ti; *by-ti</i>	‘eat’; ‘be’

(A XIIIth class may be set up to accommodate the moribund “*sъpati* type” (cf. below).)

Let us now have a closer look at each of the proposed classes and briefly state their **formal** parameters (including root vocalism), **semantics** of the stems that make up the historical “core” of each class (emphasis on the formal and semantic features [\pm infixed], [\pm unidirectional], [\pm perfective], [causative]/[inchoative]/[stative]), their **provenance** (PIE “source category”), and the **aurist type(s)** associated with each class.

class I (*mog*-type)

morphology: thematic; non-*e*-grade root (\emptyset - or *o*-grade); suffixless aorist/infinite stem (except in some of the historical *d^he/o*-verbs, see below and endn. 15)

semantics: imperfective when unprefixated; *overwhelmingly intransitive*, with only a few exceptions, for most of which earlier intransitive meanings can be posited: *kradq krasti* ‘be a hoarder’ (cf. Latv. *krāju krāt* ‘hoard, save, collect’) → ‘be a thief’ → ‘steal,’ etc.

examples: *mogq* ‘be able,’ *padq* ‘fall,’ *jъdq* (идж) ‘walk,’ *jadq* ‘ride,’ *kradq* ‘be a thief, steal,’ etc.; *bodq* ‘pierce, stab’ must have formerly belonged here as well, but was transferred to class II after developing transitive semantics (as discussed above)

aurist type: take only the *intransitive* asigmatic (simple) aorist (*mogъ, padъ, kradъ*, etc.) or its recent sigmatized modification—the *ox*-aorist (*mogoxъ, padoxъ, kradoxъ, sъpasoxъ*)

PIE sources: *heterogeneous*, predominantly *h₂e*-conjugation, or so it seems:

- i. potentially, *h₂e*-conjugation root presents a.k.a. “**molō*-presents” (cf. Jasanoff 2003, 64-90, 216): *pad-*, *mog-* (if indeed “**molō*-presents”); formerly

- also *bod-* ‘pierce’ and *-greb-* ‘bury’ (which definitely *are* historical “**molō*-presents”)
- ii. *h₂e*-conj. s-presents (a.k.a. “sigmatic **molō*-presents”): *pas-* ‘protect, save, tend (cattle)’ < **peh₂-s-* (at least this one example)
 - iii. a few innovative intransitive *d^he/o*-presents: *jb_d-* ‘go’ < virtual “**h₁i-d^he/o-*,” *jad-* ‘ride’ < “**ieh₂-d^he/o-*” (cf. Lith. *jóti, jóju*), *vlad-* ‘rule (over)’ < “**uol-d^he/o-*,” *krad-* ‘be a thief’ < “**kreh₂-d^he/o-*” (cf. Latv. *krāt, krāju*);¹⁵ might *pad_q* (< PIE **pVh_x-?*) belong here as well? (instead of continuing the familiar PIE **pod-/ped-?*)

class II (*nes_q*-type)

morphology: thematic; usually *e*-grade root; suffixless aorist/infinitive stem

semantics: transitive and/or unidirectional (if a verb of motion); imperfective when not prefixed

examples: *nes_q* ‘carry (in one direction),’ *rek_q* ‘speak, say,’ *pek_q* ‘bake,’ *žeg_q* ‘burn (tr.)’ (*mutatis mutandis* < PIE **d^heg^{uh}-oh₂*), *ved_q* ‘lead (in one direction),’ *vez_q* ‘transport, convey (in one direction),’ *tek_q* ‘run, flow, flee (in one direction),’ *vlěk_q* (< **velk_q*) ‘drag (in one direction),’ *bljud_q* (< **b^heud^h-*) ‘observe,’ *plov_q* < **ple.ɹoh₂*¹⁶ ‘swim, float (in one direction),’ etc.; *bod_q* ‘pierce’ and *-greb_q* ‘bury’ synchronically belong here, and so does *poj-_q* (*pěti* < **poi-tei*) ‘sing’

aorist type: strong sigmatic aorist (*rěx_ɔ* < **rěk-s-*, *pěx_ɔ* < **pěk-s-*, *věs_ɔ* < **věd-s-*, *žax_ɔ* < **žēg-s-* < **d^hēg^{uh}-s-* (← √**d^heg^{uh}-*), *něs_ɔ* < **nēs-s-* < **h₁něk-s-*, *bas_ɔ* < “**bōd-s-*,” etc.

alternatively (and increasingly), the innovative *ox*-aorist (*rekox_ɔ*, *pekox_ɔ*, *vedox_ɔ*, etc.)

PIE sources:

- i. the “core” group is subjunctives of *h₂e*-conjugation root aorists—Jasanoff’s “**neih_x*-group” (cf. *op. cit.*, 174-214, 224ff.)
- ii. at least two “**molō*-presents” formerly affiliated with class I (?), which must have “changed allegiance” due to their new transitive semantics:
 - a. *bod_q bosti* (**b^hod^hh₁-/*b^hed^hh₁-*, cf. OCS *bod_q* vs. Lith. *bedù*), aor. *bas_ɔ*, and
 - b. *-greb_q -greti* (**g^hrob^h-/*g^hreb^h-*, cf. Go. *graban* ‘dig’ vs. OCS *-greb_q*), aor. *-grěs_ɔ* < “**g^hrēb^h-s-*” (for the identification of these as “**molō*-types” cf. *op. cit.*, 75, 77)

subclass IIb (-mьrǫ-type)

morphology: a subset of class II verbs displaying \emptyset -grade root in the present stem; second stem suffixless, *e*-grade

semantics: *both* transitive *and* intransitive (predominantly intransitive?); the transitive verbs in this subclass might be “crossovers” from the full-grade transitive subclass (cf. class IIb *žьgǫ žešti* attested beside class II *žegǫ žešti* ‘burn (tr.)’)

examples: *-stьrǫ -strěti* ‘extend, spread’ (< **stьr-ǫ* **ster-ti*), *-mьrǫ -mrěti* ‘die’ (< PIE **mrǫ-* “**mer-teiǵ*”), *žьrǫ žrěti* ‘swallow’ (< **žьr-ǫ* **žer-ti* < PIE **gʷr̥h₃-* “**gʷerh₃-teǵ*”), *-vьrǫ -vrěti* ‘stick, thrust, put (through)’ (< **vьr-ǫ* **ver-ti*), *-črьpǫ -črěti* ‘scoop’ (< **črьp-ǫ* **čer[p]-ti*), *tlьkǫ tlěšti* ‘push, knock, trample’ (< **tlьk-ǫ* **telk-ti*), *-nьzǫ -nisti* ‘stab, pierce,’ *-skvьrǫ -skvrěti* ‘melt, dissolve (tr.)’, *čьt-ǫ čis-ti* ‘honor, distinguish; read’ (< PIE **kʷit-* “**kʷeǵt-teǵ*”), *cvьt-ǫ cvis-ti* ‘blossom’ (< PIE **kʷit-* “**kʷeǵt-teǵ*”), etc.

aorist type: sigmatic, whichever type is expected synchronically—weak sigmatic aorist in synchronically vocalic stems (*-žrěti* → *-žrěx-* < **žer-x-*, *-mrěti* → *-mrěx-* < **mer-x-*), strong (i. e., where possible, ablauting) sigmatic aorist in synchronically consonant stems (*čisti* → *čisъ* < **č[i]t-s-* < PIE **kuēit-s-*, *žešti* (*žeg-*) → *žax-* < **žě[k]-x-* < PIE **dʰēgʰ-s-*), etc.

PIE source(s): unclear; given the presence in this group of *mьrǫ mrěti*, the type may have evolved out of a group of mechanically activated “stative-intransitive *ie/o*-presents,” which had formed an integral part of the PIE “stative intransitive system” posited by Jasanoff (cf. *op. cit.*, 155ff.):

<i>ie/o</i> -present	root stative intransitive	middle root aorist	perfect	
* <i>mr̥-ie/o-</i>	* <i>mr̥(r)-or</i>	* <i>mer-to</i>	* <i>memor-e</i>	‘die’
* <i>m̥n̥-ie/o-</i>	* <i>m̥n̥(n)-or</i>	* <i>men-to</i>	* <i>memon-e</i>	‘think’
* <i>bʰudʰ-ie/o-</i>	* <i>bʰudʰ-or</i>	* <i>bʰoudʰ-e</i>	* <i>bʰebʰoudʰ-e</i>	‘awake’

Koch (1990, 443ff.) collects instances of the (original?) *ie/o*-inflection in the verbs *mьrǫ* and *stьrǫ* in OCS (cf. *prostьrjǫ* (1x) in Ps.Sin. and *um̥rěťь* (*passim*) in Zogr.), Old Serbian (*umьrje*, (*u*)*mrjetь*, *izmrjemь*, *izmrjutь*, etc.) and Slovene (*mr̥jem*, *mr̥jēm* beside *mrēm*, etc.).

class III (berǫ-type)

morphology: thematic present stem; root vocalism in the present stem mostly *e*-grade; second stem in *-a-*; verbs of the oldest “core” display **e* : * \emptyset alternation between the two principal stems (*berǫ bьra-* < PIE **bʰer-* “**bʰr̥(r)-ā-*”)

semantics: imperfective when unprefixes; tend to be transitive

examples: *berǫ* (*bьra-*) ‘take,’ *derǫ* (*dьra-*) ‘tear, flay, torture,’ *perǫ* (*pьra-*) ‘push,

trample; hover,' *židŏ* (*žbda-*) 'expect,' *ženŏ* (*g̃bna-*) 'chase, persecute,' *zovŏ* (*z̃bva-*) 'invoke, call' (*zovŏ* is a historical *e*-grade, cf. endn. 16); *iskŏ* (*j̃bska-*) 'seek' has is an unexpected *vr̥ddhi* root in the present stem (**h₂ēis-sk-* **h₂is-*);

items with no ablaut: *metŏ* (*meta-*) 'cast, toss,' *s̃bŏŏ* (*s̃b̃sa-*) 'suck,' *kovŏ* (*kova-*) 'forge, hammer,' etc.

aojist type: verbs of this class had no aorist in PIE (cf. Lat. *ferō tulī*); in Baltic and Slavic they were fitted with *ø*-grade *ā*-preterites (**b^hŕ(r)-ā-t*), which later were sigmatized in Slavic (**b^hŕ(r)āt* >> **birāst* > *b̃ra*)

PIE source: Jasanoff's "*b^her*-group," i. e., athematic *h₂e*-conjugation presents thematized within PIE (**b^here* > **b^here-ti*, replacing the original Narten active present **b^hērti*); this thematic class is found in *all* IE branches, unlike thematic verbs of class II above (Jasanoff's "**neih_x*-group"), which are *not* found in Tocharian and Anatolian (*op. cit.*, 59-90, 217, 224f.)

Slavic keeps the "*nesti* type" (class II) distinct from the "*b̃rati* type" (class III) and thus turns out to be conservatively sensitive to the original division between two thematic classes within Jasanoff's new framework. This is another example of a better fit that the new model of the PIE verb affords to Slavic data.

class IV (*pišŏ*-type)

morphology: *je/o*-present; root vocalism in the present stem mostly *e*-grade; second stem in *-a-*; verbs of the oldest "core" display **e* : **ø* alternation between stems (*pišŏ* *p̃b̃sa-* 'write' < BSl. **peiš-jō* **piš-ā-* < PIE **peīk̃-īoh₂* "**pīk̃-ā-*," *plěžŏ* *pl̃b̃za-* 'crawl' < PSl. **pelz-jŏ* **p̃blz-a-* < PIE "**pl̥h₂-ĝ^(h)-ā-*" (?),¹⁷ etc.

semantics: imperfective when unprefixed; unidirectional (?) if a verb of motion; otherwise no identifiable function can be assigned to this class (already in PIE)

examples: *pišŏ* (*p̃b̃sa-*) 'write,' *ližŏ* (*l̃b̃za-*) 'lick,' *jemljŏ* (*j̃b̃ma-*) 'seize,' *steljŏ* (*st̃bla-*) 'spread out,' *plěžŏ* (*pl̃b̃za-*) 'crawl (in one direction?),' *trěžŏ* (*tr̃z̃a-*) 'tear, torture,' *stružŏ* (*str̃ga-*) 'rend, mangle,' *ziždŏ* (*z̃b̃da-*) 'build,' *bljujŏ* (*bl̃b̃va-*) 'vomit,' *pljujŏ* (*pl̃b̃va-*) 'spit,' etc.

(late) items with no ablaut: *plačŏ* (*plaka-*) 'cry, weep,' *-kažŏ* (*-kaza-*) 'tell, show,' *glagoljŏ* (*glagola-*) 'speak' < reduplicated onomatopoeic **golgoljŏ* **golgola-*, + one very old root incapable of zeroing out: *češŏ* (*česa-*) 'comb; scratch, tickle; flatter; pick (fruit),' etc.

some of class III verbs may cross over here: cf. *meštŏ* *metati* 'cast, throw' beside original *metŏ* *metati*, cf. also *ištŏ* *j̃bskati* 'seek' beside original *iskŏ* *j̃bskati*, etc.

denominatives of the type *milujŏ* *milovati* 'have mercy' (← *mil̃* 'worthy of mercy'), *darujŏ* *darovati* 'grant' (← *dar̃* 'gift') are subsumed under class IV (as a subclass VIb)

because diachronically, in terms of its inflectional suffixes, the BSl. type **dōr-ōw-jō *dōr-ow-(ā)-teĭ* is not different from **peis-jō *pis-ā-teĭ* (save for an extra suffix **-ōŭ-* (**-ēŭ-*?) on the stem)

aorist type: weak sigmatic aorist (*p_{bs}-a-x-*) = *ā*-preterite, sigmatized later (as per above)

PIE sources: seemingly heterogeneous, in any event mostly *mi*-conjugation athematic

- i. if *steljō* ‘spread out’ = Gk. *stéllō* ‘set fast, arrange,’ this equation may suggest the presence in this class of some genuine, original PIE *je/o*-presents
- ii. athematic *root presents* are clearly a component, cf. the following comparanda: *češ[*j]etъ* = Hitt. *kiš-zi* ‘combs’ (PIE **kes-ti*) (thus *op. cit.*, 76, fn. 33); *zižd[*j]etъ* (**ǵ^heĭd^h-* metathesized from **d^heĭǵ^h-*) = Ved. *degdhi* ‘besmears’ (PIE **d^heĭǵ^h-ti*); *liž[*j]etъ* = Ved. *reḍhi* ‘licks’ (PIE **leĭǵ^h-ti*)
- iii. *jemljetъ* (“**h₁em-je/o-*”) corresponds to thematic formations elsewhere, cf. Lat. *emit* ‘buys,’ OIr. *-eim* ‘takes’ < **emeti*, and Lith. *ẽma* (beside *ĩma*) ‘take; begin’
- iv. some of these verbs correspond to athematic *infixed presents* elsewhere: cf. *pišetъ* vs. Ved. *piṁśáti* ‘adorns, trims, prunes,’ Toch.B *pinke-* ‘paint, write,’ perhaps also Lat. *pingit* ‘paints, adorns’; cf. also *ziždetъ* vs. Lat. *figit* ‘shapes, forms,’ etc.
- v. the denominative type IVb (of Balto-Slavic origin) joined this class within Proto-Slavic (*-ujō -ovati* has an *innovative* infinitive for the expected **-uti*)¹⁸

One wonders whether *jemletъ* (“**h₁emĭeti*”) might point to earlier athematic **h₁emti* (just as *češetъ* points to athematic **kesti*). One wonders, furthermore, whether hypothetical **h₁emti* might actually be the *original* PIE form, and **h₁emeti* of Italic and Celtic—innovative. Lastly, it is tempting to see in the OCS “thematic” verb *jьmamъ* (‘have’) another, even clearer, “echo” of the same hypothetical athematic paradigm **h₁é(m)mi *h₁émsi *h₁émti... *h₁ménti*, aor. **h₁m̃(m)āt* (with the aorist *ā*-stem generalized, but athematic inflection retained). If the answers to all these questions is a ‘yes,’ category (iii) is to be unified with category (ii), as both groups would then continue PIE athematic active *mi*-presents (later fixed with *ā*-aorists in Balto-Slavic).

One is tempted to treat category (iv) in the same manner. There are two ways of making sense of the equation OCS *pišetъ* = Ved. *piṁśáti*. One obvious interpretation is that PIE nasal-infixed factitives in Balto-Slavic have lost the infix and were remodeled as *je/o*-presents. The other possibility is that at the PIE level some roots might have formed *both* an active root present (**péĭkmi *péĭksi *péĭkti... *píkenti* ‘paint’ >> OCS *pišō* and Lith. *piešù*)

and a semantically marked nasal-infixed factitive (**piné̋kmi *piné̋ksi *piné̋kti... *pinké̋nti* ‘make painted, adorn’ >> Ved. *piṁśá-*, Toch. *piñke-*, etc.). In the individual histories of the separate branches one of the two variants would then have been discarded. The fact that there are reflexes of nasal-infixed factitives in Baltic that *keep their infix intact* (cf. Lith. *jùngti, jùngia* ‘unite’) indicates that **piné̋kti* would have stayed nasal-infixed (in Baltic). This tips the scale in favor of reconstructing *both *pé̋kti* (surviving in Balto-Slavic) and **piné̋kti* (surviving elsewhere). This choice is further reinforced by the presence of *two* reconstructible presents for another root in this category, namely **d^heig^h-*: cf. **d^heig^hti* ‘smear, knead, mould’ (whence OCS *ziždq*, Ved. *degdhi*) and **d^hiné̋g^hti* ‘make shaped, formed’ (whence Lat. *fungit*). If this analysis is correct, then Slavic class IV consists of *only three* components: PIE *ie/o*-presents, PIE *mi*-conjugation root presents, and BSl. **-aujō * -auti* denominatives.

class V (*lětajō*-type)

morphology: *aje/o*-present; *ati*-infinitive; lengthened or “neo-lengthened” grade in deverbative iteratives (frequentatives); no ablaut in denominative verbs

semantics: no specific semantics in denominative verbs; iterative/frequentative value in lengthened-grade deverbatives; iterative/frequentatives built to verbs of motion have developed *multidirectional* semantics; imperfective when unprefixes; multidirectionals are imperfective *even when prefixed*; in Proto-Slavic the frequentative morpheme **-aj(e/o)*- also developed *durative* semantics, became the imperfectivizer *par excellence*, and was productively extended to many verb roots in this capacity (e. g., *drъznō* ‘summon courage’ → *drъzajō* ‘be courageous’)

examples: *lětajō* ‘keep flying (abound)’ < **lēt-ā-je/o-*, *běgajō* ‘keep running (about)’ < **bēg-ā-je/o-*, *těkajō* ‘keep running, fleeing,’ *mětajō* ‘keep casting,’ *-rěkajō* or *-ricajō* ‘keep saying’ < **rīk-ā-je/o-*, *-mirajō* ‘be/keep dying’ < **mīr-ā-je/o-*, *-birajō* ‘keep taking,’ *-lagajō* ‘keep laying’ < **lōg-ā-je/o-*, *-garajō* ‘keep burning,’ etc. (productive durative/frequentative)

the second large group here is denominatives of the type *rabotajō* ‘work’ ← *rabota* ‘work,’ *děljajō* ‘do’ ← *dělo* ‘deed,’ etc.

aorist type: weak sigmatic aorist as expected in vocalic stems (*lětax-*, *dělux-*)

PIE sources:

- i. lengthened grade frequentatives, cf. Gk. (ep.) *πυτάομαι* ‘fly about’ ← $\sqrt{*pot-}$ **pet-* and Lat. *cēlāre* ‘hide (*repeatedly)’ to **celō* in *oc-culō* ← $\sqrt{*kel-}$
- ii. denominative verbs in **-eh₂-je/o-*, cf. Lat. *curāt* ‘cares’ (< **koisah₂-je-ti*) ← *cūra*

class VI (*umějō*-type)**morphology:** *ěje/o*-present; *ěti*-infinitive**semantics:** stative or change-of-state; imperfective when unprefixes**examples:** *umějō* ‘know how (to)’ ← *umь* ‘mind,’ *starějō* ‘be(come) old’ ← *starь* ‘old,’ *bogatějō* ‘be(come) rich’ ← *bogatь* ‘rich,’ etc.**aorist type:** weak sigmatic aorist as expected in vocalic stems (*uměx-*, *starěx-*)**PIE source:** denominative verbs derived from nouns and adjectives; *-ě-* (< **-eh₁-*) by origin is “not a verbal suffix at all, but extracted from a nominal construction, a historical *instrumental case form*” (*op.cit.*, 156; emphasis mine)**class VII (*znajō*-type)****morphology:** *je/o*-present; the infinitive stem is suffixless (unlike the *pišō/pьsati*-type); but some *verba pura* develop a composite *-j- +a-* suffix (*sěti* ‘sow’ → *sějati*, *stati* ‘move into position’ → *stajati*), clearly a secondary development**semantics:** imperfective when unprefixes; otherwise no special semantics already in PIE**examples:** *znajō* (*zna-ti*) ‘know,’ *dějō/deždō* (*dě-ti*) ‘place, put,’ *žьnjō* (*žeti* < **gin-ti*) ‘reap, harvest,’ *-ujō* (*-uti*) ‘put on / take off (footwear),’ *krьjō* (*kry-ti*) ‘cover,’ *mьjō* (*my-ti*) ‘wash,’ *ljō* (*li-ti*) ‘pour,’ *bьjō* (*bi-ti*) ‘strike, beat,’ *pьjō* (*pi-ti*) ‘drink,’ *vьjō* (*vi-ti*) ‘twist, twine, wind,’ *šьjō* (*ši-ti*) ‘sew,’ *sějō* (*sě(ja)-ti*) ‘sow,’ *spějō* (*spě-ti*) ‘succeed,’ *stajō* (*staja-ti*) ‘get into position, get up’ (formerly went with the infinitive *sta-ti*, as evidence by Lith. *stójustóti*), *mljō* (*mlěti* < **mel-ti*) ‘grind,’ *borjō* (*brati* < **bor-ti*) ‘struggle, fight,’ *koljō* (*klati* < **kol-ti*) ‘pierce, stab, sacrifice,’ etc.**aorist type:** weak sigmatic aorist as expected in vocalic stems (*znax-*, *žex-*, *kryx-*, *mlěx-*)**PIE sources:** heterogeneous; three major groups:

- i. *h₂e*-conjugation root presents (**molh₂-/*melh₂-* ‘grind,’ **borh_x-/*berh_x-* ‘fight, hit,’ **kolh_x-/*kelh_x-* ‘strike, stab,’ etc. — Jasanoff’s “*molō*-presents” (cf. *op.cit.*, 64-90, 216) remodeled as *je/o*-presents; recall that two members of this PIE class ended up in class II (*bodō* ‘pierce’ < **b^hod^hh₁-/*b^hed^hh₁-* ‘dig’ and *grebō* ‘bury’ < **g^hrob^h-/*g^hreb^h-* ‘dig’); possibly, a few more items were assigned in Slavic to class I (if *pad-* ‘fall’ < **ped-/*pod-* and *mog-* ‘be able’ < **meg^h-/*mog^h-*)
- ii. *h₂e*-conjugation *i*-presents (especially well attested in Anatolian): *znaje-* (*znati*) < **ǵneh₃-i-e* (?) ‘know’ (Jasanoff himself is cautious (*op.cit.*, 111)),

staje- (*sta(ja)ti*) < **stéh₂-i-e* ‘step into place,’ *sěje-* (*sě(ja)ti*) < **séh₁-i-e* ‘release, shoot,’ *pyje-* < **pih₃-e* < **ph₃-i-é* (?) ‘drink’ (by metathesis?), *věje-* (*viti*) < **uih₁-i-e* ‘wind, twist’ (loss of the laryngeal by Pinault’s law?) for **uiéh₁-i-e*, *spěje-* (*spěti*) < **spéh₂-i-e* ‘thrive, be sated,’ ORuss. *prěju* (*prěti*) ‘sweat’ (attested since 17th c.) < **préh₁-i-e*, etc. (cf. *op.cit.*, 91-127), perhaps also *šbje-* ‘sew’ < **sjūje-* < **siuh_x-i-e* (?) (loss of the laryngeal by Pinault’s law, cf. the infinitive *šiti* < **sjū-ti* < **siuh_x-teṭi*)

- iii. *mi*-conjugation root presents; it appears that the default strategy employed in Proto-Slavic to eliminate athematic *mi*-presents was to attach the suffix *-je/o-* to a generalized weak stem: *deždō* < **dedjō* < “**d^hed^hh₁-je/o-*” ‘put’ (**d^hed^héh₁-mi*); *žbnjō* ‘cut, reap, harvest’ < **gin-je/o-* < “**g^{uh}ŋ₂-je/o-*” ‘slay’ (**g^{uh}én-mi*); ORuss. *krbnjō* < “**k^urn_h₂-je/o-*” ‘buy’ (*k^ur₂-né-h₂-mi*) (Gorbachov 2007); recall, though, that some root presents also ended up in class IV (*češō*, *lbžō*, perhaps also *jemljō*)

class VIII (*sъxnō*-type)

morphology: *ne/o*-present; the “original core” have \emptyset -grade roots

semantics: two disparate groups which display *semantic* and *formal* differences—

1) change-of-state (inchoative) intransitive verbs, imperfective when unprefixed (*sъxnō* ‘get dry’); these select the simple aorist; 2) perfective transitives (*dvignō* ‘move (tr.),’ *rinō* ‘cast, impel’); these select the weak sigmatic aorist (Gorbachov 2007)

examples: *sъxnō* ‘become dry,’ *-bъ[*d]nō* ‘wake up,’ *-sъ[*p]nō* ‘fall asleep,’ *-lb[*p]nō* ‘become attached, cling,’ *-ve[*d]nō* ‘wither, wilt,’ *-glb[*b]nō* ‘become mired, get stuck,’ *-slbpnō* ‘go blind,’ *to[*p]nō* ‘drown, sink,’ etc.

the other group (VIIIb) consists of perfective and (usually) transitive *nō*-verbs: *dvignō* ‘move (tr.),’ *rinō* ‘cast, impel,’ *kosnō* ‘touch,’ *dъxnō* ‘take a breath,’ *drъznō* ‘summon courage (once),’ etc.

aorist type: the intransitive inchoatives truncate the nasal suffix, attach the terminations of intransitive asigmatic aorist directly to the root (*sъxъ*, *-sъpъ*, *-lbpъ*, *-vedъ*, *-glbbъ*, etc.)

PIE source: *h₂e*-conjugation nasal-*infix*ed presents reshaped within Slavic as nasal-*suffixed* and formally activized (PIE **liNp-é* > **lip-né-ti* > *-lbnetъ*) (*op.cit.*); the type remained infix in Baltic (Lith. *lĩmpa* ‘stick(s); climb(s)’); Germanic has either remodeled these verbs as nasal-*suffixed* like Slavic (cf. Go. *-lifnīp* ‘sticks around, is left, remains’) or else has kept the infixation but generalized the infix to all four stems (cf. OE *climbān clāmb clumbōn* (*3e*)*clumben* ‘climb’ cognate with OCS *-glb[*b]-ne-* ‘get stuck, mire’) (*op.cit.*); no other

branch of IE has retained the *h₂e*-conjugation nasal-*infix*ed type.

subclass VIIIb (*dr̥>zn̥q-*type)

semantics: perfective (!); as a rule transitive! (!)

aorist type: weak sigmatic aor. *rin̥qx-*, *kosn̥qx-*, *d̥xn̥qx-*, *dr̥zn̥qx-*, etc., but also *dvig̥b* for the expected **dvign̥qx-* (*op.cit.*)

PIE source: *mi*-conjugation nasal-suffixed (originally nasal-infix) presents of the type **d^hrs-neu-* (whence OCS *dr̥zn̥q-* and Skt. *dh̥rsno-* ‘dare’) (*op.cit.*)

It should be noted that other scholars have subdivided the “*s̥xn̥qti*-type” into subclasses on different grounds (*purely formal*, not functional/semantic as it is done here and in Gorbachov 2007). Thus, Leskien, Diels, Schmalstieg, and Lunt (*op.cit.*) have distinguished between 1) *vocalic* roots with a pervasive *-n̥q-*, including in the aorist (the “*rin̥qti rin̥qx̥* type,” which, btw., happens to consist mostly of perfective transitive verbs) and 2) *consonantal* roots that truncate the suffix in the aorist (the semantically disparate “*dvign̥qti dvig̥b* type,” where some verbs are imperfective inchoative, and some perfective transitive). This traditional formal division makes it sound like a clear-cut case. The reality is more complex, however. Already in the oldest manuscripts there are several *consonant*-final roots, which display a marked prevalence of forms with a pervasive *-n̥q-* outside the present system. Among them are such high profile items as *dr̥zn̥qti* ‘dare,’ *-kosn̥qti* (*s̥q*) ‘touch,’ *-s̥kn̥qti* ‘dry up, run dry; stop (of bleeding),’ and perhaps also *-d̥xn̥qti* ‘sigh, take a breath.’ Two more verbs—*tl̥kn̥qti* ‘knock, push’ and *-s̥kn̥qti* ‘cut, hew’ — clearly prefer to keep the suffix *-n̥q-* in their second (aorist/infinitive) stem. Such verbs that retain the suffix in all forms *tend to be perfective and transitive*.

It follows, that the choice to keep (or not to keep) the suffix *-n̥q-* in the aorist is not really governed by the morphology of the root (vocalic or consonantal). I argue elsewhere that the *original* distribution of the two kinds of aorist depended on *semantics* of the stem: imperfective intransitive inchoatives truncated the nasal suffix in the aorist, transitive perfectives kept it on. By the time of the first written attestation, though, the blurring of this original distribution was well underway (Gorbachov 2007).

class IX (*s̥dq-*type)

morphology: historically infix, on the surface thematic, present stems

semantics: change of state, as the class VIII inchoatives

examples: only two verbs—*s̥dq* ‘sit down,’ *l̥gq* ‘lie down’

aorist type: intransitive asigmatic (simple) aorist as in class VIII inchoatives (*s̥d̥b̥*,

legъ)

PIE source: the model was provided by PIE *h₂e*-conjugation nasal-*infix*ed presents that had escaped remodeling to nasal-*suffix*ed stems (see the provenance of class VIII above)

class X (*nošq*-type)

morphology: *i*-present with a pervasive *-i-* in both stems; iteratives/causatives take *o*-grade roots

semantics: no special semantics in denominative verbs; in *o*-grade deverbatives either iterative (*moliti* ‘beseech (*repeatedly)’) or causative (*topiti* ‘cause to drown’); iteratives built to motion verbs have developed multidirectional value (*nositi* ‘carry about,’ *voziti* ‘transport about’); imperfective when unprefixes; multidirectionals are imperfective *even when prefixed*

examples: *nošq* ‘carry about,’ *vožq* ‘transport around,’ *voždq* ‘lead about,’ *moljq* ‘beg (*repeatedly),’ *prošq* ‘ask (*repeatedly),’ etc.

the second large group is denominatives: *grěšq* (*grěšiti*) ‘sin’ ← *grěxъ* ‘sin’

aorist type: weak sigmatic aorist as expected in vocalic stems (*nosix-*, *grěšix-*)

PIE sources:

- i. *o*-grade iteratives and causatives in **-éje/o-*
- ii. denominatives in **-je/o-*

class XI (*mъnjq*-type)

morphology: *i*-present, *ěti*-infinitive; oldest members of the group have *ø*-grade roots

semantics: stative (physical and mental states); unidirectional (if a verb of motion); imperfective when unprefixes

examples: *mъnjq* (*mъně-*) ‘think, suppose,’ *-glъbljq* (*-glъbbě-*) ‘be stuck,’ *trъpljq* (*trъpě-*) ‘endure, suffer,’ *skrъbljq* (*skrъbbě-*) ‘be sad,’ *mlъčq* (*mlъča-* < **mlъčě-*) ‘be silent,’ *plъžq* (*plъžě-*) ‘be crawling (in one direction),’ *gorjq* (*gorě-*) ‘be on fire,’ etc. ; with innovative root vocalism *viždq* (*vidě-*) ‘be (in the state of) seeing,’ *slyšq* (*slyšla-* < **slyšě-*) ‘be (in the state of) hearing,’ *leštq* (*letě-*) ‘be (in the state of) flying (in one direction),’ *běžq* (*běžā-* < **běžě-*) ‘be (in the state of) running (in one direction),’ etc.

aorist type: weak sigmatic aorist as expected in vocalic stems (*mъněx-*, *letěx-*)

PIE source: recall the array of forms that made up the PIE “stative-intransitive system” discussed above in connection with class IIa:

<i>je/o</i> -present	root stative intransitive	middle root aorist	perfect
<i>*mъj-je/o-</i>	<i>*mъj(n)-ór</i>	<i>*men-to</i>	<i>*memon-e</i> ‘think’
<i>*b^hud^h-j e/o-</i>	<i>*b^hud^h-ór</i>	<i>*b^houđ^h-e</i>	<i>*b^heb^houđ^h-e</i> ‘awake’

According to Jasanoff, it is athematic middles (“root stative-intransitive presents”) of the type **m̥j(n)-or*, **b^hud^h-or*, etc. , that the BSl. *ē/i*-stative class has evolved out of (*op. cit.* , 157ff.)

class XII: athematic

morphology: athematic endings attached directly to root

semantics: —

examples: only four verbs—*jesmь* (*byti*), *jamь* (*jasti*), *damь* (*dati*), *věmь* (*věděti*)

aorist type: sigmatic (*by-x-*, *da-x-*, *ja[*d]-s-*)

PIE source: mixed;

- i. two genuine root presents: **h₁ej₂-mi* ‘go,’ **h₁ed₂-mi* ‘eat,’
- ii. one reduplicated *mi*-present: **dedeh₃-mi* ‘give’ > > **dodō-mi* > **dōd-mi* > *damь* (recall that the other such present has joined the *je/o*-stems: **d^hed^heh₁-mi* ‘place, put’ > > **d^hed^hh₁-je/o-* > **dedjō* > *-deždō* ‘put’)
- iii. one “perfect”: **uō₁idh₂-a(i)* > *vědě* mechanically activated to *vě[*d]-mь* (cf. Ved. *vedmi* beside *veda*)

Irregular verbs:

A number of EHS verbs display irregularities that preclude their assignment to any of the above classes.

Two or three verbs in late PSI. and EHS displayed a unique pattern *-itь/-ati*. One may label this moribund pattern “class XIII.” The verbs *спить спати* ‘sleep’ and *сѣитъ сѣати* ‘piss’ are securely attested in the historical languages (the latter verb does not occur in the OCS corpus, but is there in Serbian Church Slavonic). In addition to these two *-itь/-ati* verbs, one may deduce from the existence of two semantically identical verbs in OCS and Old Russian (*-лѣпитъ -лѣпѣти* and *-лѣплѣтъ —лѣпати*), that there was in PSI. a verb **(pri-)лѣпитъ* **(pri-)лѣпати* ‘become attached’—an exact formal match of **спитъ* **спати*. Later on that verb probably underwent a split: a new infinitive *-лѣпѣти* was supplied to the original present *-лѣпитъ* according to pattern XI (**мѣни- *мѣнѣ-*), and a new present *-лѣплѣтъ* was backformed from the original infinitive *-лѣпати* according to pattern IV (**писје- *пѣса-*). This would have given rise to a pair of verbs with identical semantics, and this is exactly what we find in OCS and Old Russian.

Jasanoff (*op. cit.*, 159) takes *спитъ* and *сѣитъ* from “root stative-intransitives” **sup-ór* (← $\sqrt{*suep-}$) and **sik^u-ór* (← $\sqrt{*seik^u-}$), respectively, just as he derives *бѣдитъ* from a “root stative-intransitive” **b^hud^h-ór* (← $\sqrt{*b^heud^h-}$). Theoretically expected PIE **supór* seems to be reflected in Hitt. *šuppari* ‘falls asleep’ (to be sure, with unexpected processual semantics).

The verb *хощѣхъ тѣти* (beside leveled *хотѣти*) ‘want’ has a non-canonical combination of

a *je/o*-present stem with an *ěti*-infinitive. It displays an irregular ablaut pattern *o* : *ɔ* (modeled, no doubt, on ablaut relationships in verbs with liquid diphthongs in the root). It furthermore has an irregular *i*-type or athematic 3. pl. (*xotětɔ*). The verb might have been athematic historically.

The verb *jьmam* ‘have’ has been discussed above. It attaches athematic endings to a vocalic stem *jьma-*, but its 2. sg. form is in *-ši* instead of *-si*. Its infinitive is in *-ěti*, like in the two other irregular verbs with stative semantics and athematic connections, *věděti* and *xotěti*.

There are two idiosyncratic infixed verbs. One, already touched upon above, has an unexpected *je/o*-present instead of *-e/o-* (*-ręštq* ‘find, meet’ < **rint-je/o-* < **rɨt-*). The other one appears to be an “infixated” *d^he/o*-present (*bqđ-q* ‘will be’ < **b^hū-n-d^he/o-* (?)).

The verb *jadq* ‘ride, drive,’ another *d^he/o*-present, has an irregular (aorist-derived?) infinitive *jaxa-ti*. The original infinitive was **ja-ti* (cf. above).

The verb *živ-q* (*ži-ti*) ‘live’ has a *v*-extended (present) stem. Its aorist is either *ži* or *živ-e*.

Lastly, innovative nasal-suffixed perfective *-stanq* ‘stand up’ has ousted *stajq* from the original paradigm **stajq* **stati*. The latter verb had to supply for itself a new infinitive *stajati*.

TABULATED SUMMARY

	<i>present</i>	<i>infinitive</i>	<i>gloss</i>	<i>semantics (function)</i>	<i>aorist type</i>
I.	<i>*mož-e-</i>	<i>*mog-ti</i>	‘be able’	(intrans., ipfv.)	simple
II.	<i>*nes-e-</i>	<i>*nes-ti</i>	‘carry’	(trans.// <u>unidirectional</u> , ipfv.)	<u>strong</u> sigmatic
III.	<i>*ber-e-</i>	<i>*bьr-a-ti</i>	‘take’	(usu. trans. imperfectives)	weak sigmatic
IV.	<i>*pis-je-</i>	<i>*pьs-a-ti</i>	‘write’	(no special semantics)	weak sigmatic
V.	<i>*lět-a-je-</i>	<i>*lět-a-ti</i>	‘keep flying’	(<i>aj</i> -iteratives, <u>multidir.</u>)	weak sigmatic
VI.	<i>*um-ě-je-</i>	<i>*um-ě-ti</i>	‘know how’	(<i>ě</i> -duratives or inchoat.)	weak sigmatic
VII.	<i>*zna-je-</i>	<i>*zna-ti</i>	‘know’	(no special semantics)	weak sigmatic
VIII.	<i>*sьx-ne-</i>	<i>*sьx-nq-ti</i>	‘dry up’	(nasal inchoat.//trans. pfv.)	simple
IX.	<i>*sęđ-e-</i> (<i>*sɨđ-</i>)	<i>*sęs-ti</i>	‘sit down’	(nasal-infixated inchoat.)	simple
X.	<i>*nos-i-</i>	<i>*nos-i-ti</i>	‘carry about’	(<i>i</i> -iter. / <u>multidir.</u> //caus.)	weak sigmatic
XI.	<i>*mьn-i-</i>	<i>*mьn-ě-ti</i>	‘suppose’	(<i>ě</i> / <i>i</i> -statives/duratives)	weak sigmatic
XII.	<i>*jęd-; *jes-</i>	<i>*jēs-ti; *by-ti</i>	‘eat’; ‘be’	(no special semantics)	weak sigmatic

The proposed classification has a certain “flow” to it. All classes from I to IX are

thematic, classes X and XI comprise the two kinds of Slavic *i*-stems, and class XII is athematic. Within the thematic category, the first three classes are “pure” thematic, followed by five kinds of “characterized” stems, four *je/o*-types and a *ne/o*-type. Going from class I to class II, the root vocalism changes from *-o-* (or *-ø-*) to *-e-*, and the stem value changes from intransitive to transitive or to intransitive unidirectional (if a verb of motion). Going from class II to class III, the aorist/infinitive stem changes from *e*-grade unsuffixed consonant-final to zero-grade *a*-suffixed. Between classes III and IV, the infinitive stem stays the same, but the present-stem suffix changes from “pure” thematic to *-je/o-*. All the nasal-affixed change-of-state verbs (inchoatives) are gathered in classes VIII and IX, and so on.

Each class has clear correlations with verbal categories at the PIE level. As a corollary, if the PIE ancestor class had definable semantics, a certain function, the same function will be found in its descendant at the EHS level as well. Almost every EHS class in the proposed typology has a specific function associated with it (except for the historical athematic formations that did not make up a semantic category in PIE).

The aorist formation selected by the members of each class is 100% predictable. The strong sigmatic aorist (*rěxь, těxь, něsь, basь*) is only found in class II verbs (transitive verbs or unidirectional verbs of motion) and in one athematic verb with a consonantal aorist/infinitive stem (*ja[*d]sь*). *Intransitive* aorist (*mogь, padь, -sьxь, sědь*) is found in the three *intransitive* classes I, VIII, and IX. Of course, within class VIII the (predominantly transitive) perfectives make weak sigmatic aorists in *-nq-x-* (*rinqxь, -kosnqxь, drьxnqxь*); within class VIII it is only the intransitive inchoatives with consonant-final roots that form simple aorists (*-glbbь, -sьrpь, idь*). *All other classes* have vocalic aorist/infinitive stems and make weak sigmatic aorists (*psaxь, znaxь, nosixь, mьněxь, byxь, věděxь*).

Both strong sigmatic and simple aorists are, of course, *recessive*, yielding ground to the innovative *-ox-* (or “2nd thematic”) aorist. As a result, in EHS either aorist form is mutually interchangeable with an *ox*-aorist: thus *rekoxь* is found beside *rěxь, jьdoxь* beside *jьdь*, etc. In Old Russian the replacement of the recessive aorist types is almost complete: only *rěx-* is found more or less regularly (beside *rekox-*), otherwise only *nesox-*, *tekox-*, *mogox-*, *jьdox-*, *sědox-*, etc. As for the simple aorist, in *all* of Ostromir’s Evangelary, the second oldest and one of the largest Old Russian manuscripts written in the mid-11th c., only a single instance of that aorist formation is found: 2. pl. *въzmožete* ‘you were able’ (Černyx 1962, 254).

Of course, literati of Old Rus’ were aware of the simple aorist as a form that belonged to the highest register of written language. Even so, as early as at the turn of the 12th century they no longer had any clue of its original distribution. When Grand Prince Vladimir Monomakh, aiming at sounding like a learned man, chose to use a 1. sg. simple aorist in his

Instruction to His Children (early 12th c.), the required form, no doubt, came effortlessly: *Tojě že zimy poslasta [mja] Berestěju brata na golovně, ide bjaxu ljaxove požgli, to i tu bljudь gorodь tixь* ‘That same winter, [my] two brothers sent me to Berestie (Brest), to the firebrands [of the town] that the Poles had burnt down, and there I prevented unrests (“**kept** the town quiet”).’ The trouble with the otherwise perfectly well-formed aorist *bljudь* is, of course, that it should not have been formed from the verb *bljusti* (**b^heyd^h-*) ‘observe, keep,’ a class II *e*-grade transitive of the type that had never made intransitive (historically *h₂e*-conjugation) aorists in IE or Proto-Slavic or EHS. Monomakh should have stuck with the less fancy but more secure forms *bljudoxь* or *bljusь*. It is my hope that, armed with the proposed typology of the EHS verb, the student of OCS and Old Russian will successfully avoid falling into the same trap as the medieval Russian prince.

[Notes]

- ¹ It is well beyond the scope of this paper to discuss in any further detail cognitive mechanisms involved in language acquisition and speech production. I refer the reader to recent works of Joseph Galasso, who has been advocating the Dual Mechanism Model (DDM)—a theory which is based, among other things, on brain imaging studies, and “credits the Brain/Mind with having two fundamentally different cognitive modes of language processing...” “...This dual mechanism has recently been reported as reflecting inherent qualitative distinctions found between (i) regular verb inflectional morphology (where rule-based stem + affixes form a large contingency), and (ii) irregular verb construction (where full lexical forms seem to be stored as associative chunks)” (Galasso 2003). “Using... functional Magnetic Resonance Imaging, a clear picture emerges showing that meaning-based vocabulary is stored and retrieved in the temporal-lobe regions of the brain... [...] A second and much more intriguing aspect of language that shows up *in the same temporal-lobe* is the Irregular Noun and Verb construct. The fact that such constructs are not rule-governed suggests that they are *memorized in some capacity as chunks*... Stimulus and response effects do seem to cross over into irregulars, as attested by errors such as *ring rang rung* => **bring brang brung*. [...] Irregular nouns such as *sheep, fish, children*, are similarly memorized as chunks in the form of stems. The plural markers of these words are thus encoded in the meaning of the stems (*per se*) and are *not open to the same rule mechanism* found with regular plural markers” (Galasso, 2008; my emphasis).
- ² Recently Schrijver (2003) and Petit (2010, 258) have argued for a PIE athematic ablauting suffix *-ei-/*-i- as the starting point for the BSl. *ē/i*-class. They represent a vanishingly small minority among scholars of IE.
- ³ Tronskij uses the term “proximate reconstruction” (*bližnjaja rekonstrukcija*) in the sense ‘the reconstruction of the more recent, late PIE, system.’ The original statement in Russian runs as follows: “Радикальных изменений [в области именного словоизменения] не происходило в

период, отделяющий общеиндоевропейское языковое состояние от древнейших памятников отдельных ветвей. Ближняя реконструкция поэтому была сравнительно легко осуществима.”

⁴ These simplificatory processes include the loss of the dual (Italic, Germanic, Anatolian, Armenian) and of some cases resulting in a “case syncretism” (Italic, Greek, Germanic), the loss of gender or a gender (Baltic, Armenian, parts of Germanic), stem types being collapsed into fewer “declensions” (Anatolian, modern Slavic), the loss of accentual mobility and hence the distinct accent-ablaut classes (all branches), etc. On the rare occasion, an increase in complexity is observed (the Lithuanian, Russian, and Tocharian case systems were expanded through contact influences).

It terms of its nominal morphology Slavic is a fairly conservative branch: EHS has retained most of the inherited stem types and cases and all the genders and numbers. There have been, of course, innovations. The original patterns of mobile accentuation have been eliminated, and a new mobile class (“type c”) has evolved. Some of the case endings (such as the \bar{a} -stem gen. sg. in $-y$, the o -stem dat. sg. in $-u$, and the gen. pl. in $-\bar{v}$) still cannot be related with any certainty to the known PIE antecedents. But, by and large, one easily recognizes in EHS nominal morphology (*mutatis mutandis*) the late PIE nominal system.

⁵ Tronskij uses the term “distant reconstruction” (*dal'njaja rekonstrukcija*) to mean the reconstruction of the early PIE system. The original statement in Russian runs as follows: “Совершенно не то в глаголе. Глагольные системы большинства древних индоевропейских языков отличаются от именного склонения гораздо меньшей целостностью. [...] Очень возможно, что в области глагола диалектное разнообразие и. -е. языков IV-III тысячелетия до н. э. было более значительно, чем в сфере имени. [...] Единообразная реконструкция этим не снимается, но переносится в более далёкое прошлое... Как это ни парадоксально звучит, проблемы дальней реконструкции индоевропейской глагольной системы нередко разрешаются легче и бесспорнее, чем вопросы, связанные с уровнем развития глагола в период начинающегося распада индоевропейской общности.”

In a very similar vein Lane remarked in a 1949 paper: “If we turn from the noun to the verb, we see an even greater state of uncertainty as regards the Proto-Indo-European system. To be sure, the personal endings, both primary and secondary, especially in the active, show a considerable amount of agreement from language to language. But the verbal system itself is most diverse. Here again we have always been prone to accept the system arrived at by a comparison of Greek and Sanskrit as that of the parent speech, and we have explained the systems of Italic, Germanic, etc., as resulting from a breakdown of that system with widespread analogical reformations and innovations. This is possibly something near the truth, but I doubt if we should be satisfied that we have approached anything final when we have assumed our three tense (or rather aspect) stems: present, aorist, and perfect for Proto- Indo-European. I am convinced that the distinction between present and aorist stems is untenable,” and so on (Lane 1949, 338f.).

⁶ “Prehistory of morphology is a tough matter. In phonetics, the starting point is more or less clear: it is the Indo-European sound system. One cannot say the same thing about morphology. There are only very few cases where the Indo-European antecedent of a Slavic sound is dubious or controversial. In morphology one is up against such cases all the time. This complicates one’s work immensely. It is especially true of [Slavic] conjugation” (Trubetzkoy 1985, 156; translation

from Russian mine). The original runs as follows: “Праистория морфологии—вещь трудная. В фонетике более или менее ясен исходный пункт—индоевропейская звуковая система. Относительно морфологии этого сказать нельзя. В фонетике очень мало случаев, где индоевропейский предок какого-нибудь славянского звука был бы сомнителен или спорен. В морфологии такие случаи встречаются сплошь да рядом. Это чрезвычайно затрудняет работу. Это особенно касается [славянского] спряжения.”

⁷ The verb in Vedic has six tenses, three voices, six moods, nine participles, 12 infinitives, a gerund, an absolutive, and separate desiderative, causative, and intensive/frequentative stems. By contrast, the Hittite (and Luvian) verb has only two tenses, two voices, two moods, one participle (two in Luvian), one infinitive, a few periphrastic (compound) forms, and a strange-looking *hi*-conjugation whose origin is still debated. Compare this Anatolian setup with early historical Germanic, which, very similarly, had only two tenses, two voices, three moods, two participles, one infinitive, and some nascent compound forms.

⁸ “Proto-Anatolian and Proto-IE are parallel offshoots of a common ancestral language, which we shall call Indo-Hittite” (Sturtevant 1962, 23).

⁹ To give a few representative quotes: “It would be wrong to ascribe to Indo-European the complicated tense system of Sanskrit, Greek, and Latin. A good deal of this is secondary innovation” (Prokosch 1938, 145). “The PIE verbal system was taking its shape at the time of the disintegration of PIE and, by and large, is the product of [independent] developments within the individual branches” (Guxman 1966, 129 (following Meillet 1922, 122); translation from Russian mine; cf. also *op. cit.*, 255f.).

¹⁰ Melchert is more cautious, however, with regards to some of the potential traces of “lost” verbal categories in Anatolian, such as the perfect and the thematic subjunctive (cf. Melchert 1998 and especially Melchert, *forthc.*, section 3. 3. 4).

¹¹ As is well-known, Slavic verbs of the “*nositi*-type” are secondary (derived) verb stems, reflecting either PIE iterative/causative stems in **-éje/o-* or denominative stems in **-je/o-*. These secondary verbs classes made no aorist in PIE (cf. the paradigm of the Vedic iterative/causative *áya*-class). A sigmatic aorist was supplied analogically within the Proto-Slavic or Balto-Slavic period (**nosi-ti* → **nosi-x-* is a replication of **nes-ti* → **nē(s)-s-*, minus, of course, the vowel lengthening). The paradigm of the stative intransitive verbs in *-ěti*, whatever view one may take of its origin (see above), is in its current heteroclitic “embodiment” a Balto-Slavic innovation, and the weak (non-ablating) aorist stem in *-ěx-* is, likewise, an inner-(Balto-)Slavic creation. Observe that verbs of the genetically related Germanic *ai*-class make innovative weak preterites as well. Many of the Slavic *a*-verbs are secondary denominatives (*dělo* ‘deed’ → *dělati* ‘do’). Most of the remaining *a*-stems are primary verbs that made preterites in **-ā-* in Balto-Slavic. This preterite was secondarily sigmatized in Proto-Slavic or already Balto-Slavic (**birā-t-* > **birā-s-t* > *бѣра*). The sigmatic aorists *sta-x-* ‘stood,’ *da-x-* ‘gave,’ and *dě-x-* ‘placed,’ are also sigmatization products and continue, *mutatis mutandis*, the PIE root aorists **(é-)stah₂-t*, **(é-)doh₃-t*, **(é-)d^heh₁-t*, respectively.

¹² Other oft-quoted instances of the thematic aorist include Toch. A *lāc* ‘went out’ (< **(é-)h₁lud^h-e-t*), Gk. *ἔφυγε* ‘fled’ ($\sqrt{*b^heug-}$), *εἶδε* ‘saw,’ Skt. *ávidat* ‘(has) found’ (both from **é-uid-e-t* ← $\sqrt{*uejd-}$), etc.

- ¹³ There are, of course, other ways of explaining the WSl. aorist stem **jbd-ex-* (e. g., via an inner-West Slavic paradigmatic leveling **jbdoxъ *jbdе *jbdе *jbdoxomъ... → *jbdexъ *jbdе *jbdе *jbdexomъ...).*
- ¹⁴ LIV² (501, 507) sets up a separate root **reht-* attested *only* (!) in Slavic, but this separation of Slavic **reht-* ‘come upon’ from OIr. *reth-* ‘run’ is unwarranted.
- ¹⁵ That the element *-d-* is a historical present-stem suffix in *jbdq* ‘walk, go,’ *jadq* ‘travel, ride,’ etc., is clear from both comparative and internal evidence. The synchronic infinitive of *jbdq* is *iti* (**h₁eĭ-teĭ*), and the past active participle *javъ(š-)* ‘having traveled’ presupposes an infinitive form **jati* to match Lith. *jóti*, Latv. *jāt* (the synchronic infinitive stem is *jaxa*). PSl. **jati*, seems to be directly attested in West Slavic (cf. Cz. *jet*, OPol. *jać*, USorb. *jěć*). In *kradq krasti* (/krad-/ + /-ti/) ‘steal’ the infinitive stem *krad-* undoubtedly is a recent replacement of earlier **kra-* (to match the stem in Latv. *krāt* ‘to hoard, collect’).
- ¹⁶ OCS *plo.vq* < BSl. *ple.wō*. Proto-Slavic appears to have had a rounding rule that operated in open syllables: *e > o / __ σ ŷ*. In tautosyllabic contexts, however, a different rule applied: *eŷ. > joŷ. > ju*. Thus, *plo.vq* < BSl. *ple.wō* purely phonologically. Cf. also OCS *zo.vq* < BSl. *že.wō* ‘invoke,’ *novъ* ‘new’ < PIE **ne.uos*, OCS *drъzno.venъ* ‘daring’ < PIE **d^hṛs-ne.u-V-*, OCS *ro.vq* ‘I roar’ < PIE **(h₂)re.u-oh₂*, etc., vs. OCS *rjuti* ‘to roar’ < **(h₂)reŷ.-teĭ*, OCS *bljudq* ‘I observe’ < PIE **b^heŷ.d^h-oh₂*, etc.
- ¹⁷ From the PIE root **pelh₂-* ‘draw near’? Presence of a laryngeal in the root is confirmed by BCS *pŭzati pŭžēm* ‘crawl, climb.’
- ¹⁸ The element *-a-* in *-ovati* is intrusive, imported from the *ā*-preterite stem. Note that the preterite (aorist) stem in Balto-Slavic was distinct from the infinitive stem, and this is still the case in Baltic, cf. Lith. *tarnáuju* ‘I serve’ (PB **-ájō = Sl. -ujq*), preterite *tarn-āv-o* ‘(s)he/they served’ (PB **-av-ā = Sl. -ov-a*) vs. infinitive *tarn-áu-ti* ‘to serve’ (which should correspond in Slavic to **-u-ti*, but there is *-ova-ti* instead).

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