HERMAN KØLLN

OPPOSITIONS OF VOICE
IN GREEK, SLAVIC, AND BALTIC

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CONTENTS

1. Greek

When Kretschmer published his study *Objektive Konjugation im Indogermanischen*[1] in 1947, he caused great surprise among comparatists by attributing an Indo-European age to the oppositions we find in Greek between sigmatic and strong aorist (such as ἔφυσα : ἔφυν). The common assumption had been and is that these oppositions represent a Greek innovation. Kretschmer's theory was very bold, indeed, and his argumentation was far from being convincing. Nevertheless I find, as will be apparent from the following pages, that the oppositions in question may be older than usually assumed, and at any rate I find that the problems concerning the semantic differentiation between the various types of aorists in Greek deserve more attention than has hitherto been bestowed on them.

The relationship between the aorists in Greek is complicated. A clear opposition between the sigmatic aorist and the strong aorist (i. e. root aorist or non-reduplicated *e/o*-aorist) is found only when the two aorists are formed from the same root: in case of semantic differentiation the sigmatic aorist is transitive (or factitive, causative) in contradistinction to the strong aorist (ἔφυσα : ἔφυν, ἔπεισα : ἐπιθόμην, etc.). In those cases, however, in which the verb forms only one of these aorists, and in which consequently there is no direct opposition to another aorist, it seems rather difficult to attribute any special function to the different aorist formations, the sigmatic aorist then being not necessarily transitive, just as the strong aorist is not exclusively intransitive. In Old Greek the sigmatic aorist, as we know, is the generalized, near-universal aorist, and we can exclude the possibility that this aorist formation should be associated with a

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[1] Sitzungsberichte der Österr. Akademie der Wissenschaften, Phil.-hist. Kl., 225,2, Vienna 1947.

specific meaning valid for all verbs forming a sigmatic aorist. The strong aorist, on the other hand, is formed only by a limited number of verbs, and this might suggest that the strong aorist, apart from the meaning of all aorists, the aoristic aspect, has also a meaning of its own. We shall attempt to encircle the specific meaning the strong aorist may be assumed to have by examining the distribution between the strong aorist and the voice endings. Already the fact that a strong aorist which is intransitive, as opposed to a transitive sigmatic aorist from the same verb, is always incorporated in a middle paradigm (φύομαι ἔφυν, πείθομαι ἐπιθόμην as opposed to φύω ἔφυσα, πείθω ἔπεισα), suggests that what we are concerned with here is not so much a matter of actual transitivity but more a matter of voice, possibly a special type of voice.[1]

The Strong Aorist.

In the following examination of the strong aorist in Greek we shall give an account of the distribution between this aorist and the voice endings. Starting from the assumption that the middle form is the marked member of the voice opposition and, wherever it occurs, explicitly indicates the presence of the middle meaning,[2] while the active form, as the unmarked member, does not necessarily involve the active meaning, we shall try to discuss the problem whether the strong aorist may be considered a special voice formation that in itself, regardless of the voice endings with which it is combined, shows a middle value. Our interest will be centered on the Homeric material.[3] At the first stage of the examination the perfect will not be considered.

[1] A. Marguliés in his treatment of the Greek aorists ("Verbale Stammbildung und Verbaldiathese", *KZ* 57, 1930, pp. 201 ff., and 58, 1930, pp. 79 ff.) did not succeed in keeping clearly apart transitivity and voice.

[2] I have utilized this assumption only as a working hypothesis. It may be questioned whether it really applies to all cases of middle forms. According to H. Grosse, "Beiträge zur Syntax des griechischen Mediums und Passivums, Fortsetzung", *24. Jahresbericht des Königlichen Gymnasiums zu Dramburg*, Dramburg 1891, pp. 12 ff. (cf. p. 5), middle forms occasionally do appear in active meaning. We must keep in mind, too, that nobody has proved the thesis that linguistic entities are opposed to each other as marked and unmarked, see my article "Bemerkungen über die semiotische Valenz der tschechischen Phoneme", to appear in *Scando-Slavica*.

[3] I have examined the Mycenean aorists, but have not found additional material of interest to this study.

The strong aorist is distributed as follows:

(1) The verb occurs only in the middle, and also the strong aorist belonging to it is attested only with middle endings.

Examples: γίγνομαι γενήσομαι ἐγενόμην, αἰσθάνομαι αἰσθήσομαι ἠσθόμην.

Here the strong aorist has a middle meaning, according to our basic assumption that middle endings involve the middle meaning. As the middle meaning in these examples may be considered sufficiently expressed by the middle endings, it is obvious that they cannot be cited in support of our tentative hypothesis, that the meaning of the strong aorist lies within the frames of the middle meaning. On the other hand, it would be only natural to expect that the middle meaning of the strong aorist is frequently emphasized by adding the middle endings, and I presume this is what we are concerned with here.

(2) The verb appears only with middle endings, with the exception of exactly the strong aorist, which takes active endings.

Examples: δέρκομαι ἔδρακον, πέρδομαι ἔπαρδον, ἐρεύγομαι ἤρυγον.

As an opposition of voice between different forms of the verb is out of the question here, the aorist must be considered to have a middle meaning. The apparent discrepancy between form and meaning may be explained by assuming that the strong aorist had in itself a middle meaning and that the addition of middle endings to the strong aorist consequently was superfluous. Hardly many examples reveal this, but the few examples that do exist are valuable.

(3) As in the two preceding cases the verb occurs only in one voice. The present and the strong aorist have active endings, whereas the future shows middle endings.

Examples: θνῄσκω θανοῦμαι ἔθανον, πίπτω πεσοῦμαι ἔπεσον.

This configuration is practically the normal one, represented by quite a few verbs. The school grammars treat the future as deponent, i. e. a middle form with an active meaning, but "active meaning" here, of course, is only a reference to the translation of the heading of the entry in the dictionaries. Otherwise it is a deep-rooted practice in linguistics, wherever one comes across

middle endings, to explain them on the basis of a middle meaning, and applying our basic view, that middle endings involve the middle meaning, whereas active endings do not necessarily indicate an opposite, active meaning, we can account for the facts without committing any contradiction. We assume, then, that the future with middle endings really conveys a middle meaning. If the future conveys a middle meaning, then the other forms of the verb, despite their active endings, must have a middle meaning as well, and in consequence a strong aorist associated with a middle future must be considered middle as regards its meaning. At any rate, if the strong aorist has in itself a middle value, there has been no need to add middle endings, and in a similar manner it may be assumed that certain present formants, particularly -νω, -άνω and -σκω (without reduplication), in themselves indicated, or at least tended to indicate, the middle meaning. The correspondence between active present, middle future, and active strong aorist has then probably grown into a directly productive pattern, so that the present may lack the middle endings, also where the present enlargements mentioned above do not occur.

(4) The verb shows two series of forms opposed in voice. The forms are consistently kept apart by the voice endings, but the strong aorist occurs only in the middle. The active aorist is of another formation, mostly sigmatic.

Examples: πείϑω πείσω ἔπεισα : πείϑομαι πείσομαι ἐπιϑόμην, ἐγείρω ἐγερῶ ἤγειρα : ἐγείρομαι ἐγεροῦμαι ἠγρόμην.

As was the case with the verbs registered sub (1), the strong aorist of the verbs in question is attested only with middle endings, but its middle meaning appears more clearly owing to the opposition of voice. The strong aorist with middle endings is contradistinguished from a differently formed aorist in the active; hence the two aorists are kept apart by endings as well as by formation. As the strong aorist does not appear with active endings, it is fairly clear that the addition of the middle endings only pleonastically emphasizes the middle meaning which the strong aorist possesses in itself.

(5) Here again the verb exists in both voices. In spite of the fact that it occurs only with active endings, the strong aorist is

incorporated in a pattern of middle forms: the proper active aorist is formed differently.

Examples: φύω φύσω ἔφυσα : φύομαι φύσομαι ἔφυν, τρέφω θρέψω ἔθρεψα : τρέφομαι θρέψομαι ἔτραφον.

The verbs concerned correspond with those sub (2), but have still greater weight as evidence, owing to the opposition of voice that exists here. The strong aorist has a middle meaning, but this is indicated solely by its formation, the endings being active. In this case it is evident that the strong aorist in itself indicates a middle meaning.

(6) The verb occurs in both voices. The strong aorist appears only in the middle, but has active endings; in the middle only the future shows middle endings.

Examples: βιβάσκω βήσω ἔβησα : βαίνω βήσομαι ἔβην, δύω δύσω ἔδυσα : δύνω δύσομαι ἔδυν.

It should be noted that δύνω, in the latter example, is equivalent to δύομαι with middle endings. In all likelihood we are once again concerned with the fact that the middle endings are not obligatory, when the present is enlarged with such formants as had in themselves a tendency to express the middle value. The case is then analogous to the preceding one, and it is unquestionable that the strong aorist here, in spite of active endings, has a middle meaning.

(7) The verb occurs in both voices, which are consistently distinguished by the voice endings. The strong aorist, too, appears both with active and with middle endings.

Examples: ἔχω ἕξω ~ cχήσω ἔσχον, βάλλω βαλῶ ἔβαλον, δίδωμι δώσω ἔδωκα (ἔδομεν), λείπω λείψω ἔλιπον.

This "normal" paradigm actually is not normal at all, but it does exist. One might believe that the strong aorist with active endings in this case conveyed a real active meaning as opposed to the same aorist with middle endings. But the question is whether there is really anything active about the active forms here. If we adopt the view that active endings do not guarantee the presence of an active meaning, we cannot exclude the possibility that the active forms we are concerned with here, actually have a

middle meaning. Considered on this basis verbs taking both active and middle endings without any differentiation in meaning (ἔφϑη/φϑάμενος, ἔλλαβε/ἐλλάβετ(ο), εἶδον/εἴδοντο, εὗρον/εὗρετο) do not cause any difficulties; such verbs then have simply the same middle meaning throughout the paradigm. But is it legitimate to apply this view also in case of semantic differentiation between the active and the middle forms, as in the examples given above?

In order to speak of oppositions in linguistics it is of course necessary that one and the same formal distinction in identical surroundings corresponds to a constant semantic distinction; to take the opposite view would be to deny the sign function of language. But there can be no objection to the view that one formal distinction, in different surroundings, may represent different semantic distinctions. This is in itself a purely logical consideration, but in my answer to a question asked at the Congress of Slavicists in Sofia I have attempted to demonstrate that it really applies to linguistic material.[1] Here I shall cite an interesting example from Czech: the semantic contrast in *sáhnout* : *sahat* 'reach out' is not identical with that in *táhnout* : *tahat* 'draw', in spite of the fact that the phonic distinction is exactly the same in both oppositions: *sáhnout* is perfective as opposed to the imperfective *sahat*, whereas *táhnout* and *tahat*, both imperfective, are semantically differentiated in another opposition, *táhnout* being determinate as opposed to the indeterminate *tahat*.

Consequently I find it theoretically possible that the contrast between active and middle endings may in some contexts correspond to the ordinary semantic contrast active: middle, in others, however, in combination with special verbs whose active forms in themselves have a middle value, to another semantic contrast.

(8) Watkins attaches great importance to oppositions in which the strong aorist occurs with active endings and the sigmatic aorist has middle endings. He finds evidence for such oppositions in Greek (εὕαδε : ἄσμενος, ἀμ-πεπαλών : πάλτο < *παλστο),[2] but his material is highly controversial. As regards the opposition ἀμπεπαλών : πάλτο, I want to stress that ἀμπεπαλών is not a regular strong aorist, but represents the reduplicated aorist, which

[1] *Slavjanska filologija* I, Sofia 1963, pp. 155f.
[2] C. Watkins, *Indo-European Origins of the Celtic Verb, I. The Sigmatic Aorist*, Dublin 1962, pp. 52ff.

semantically has nothing in common with the non-reduplicated
e/o-aorist and rather holds the same position as the sigmatic
aorist (see below, p. 14).

In the preceding outline no attention has been paid to the
distribution between the strong aorist and the perfect. The
problems concerning the voice of the strong aorist in many re-
spects resemble those which scholars have had to solve in defining
the Homeric perfect. As we know from the pioneering studies of
Chantraine, Stang, and Kuryłowicz,[1] the Homeric perfect has,
even with active endings, a meaning that lies entirely within the
framework of the middle meaning; according to these studies the
active endings of the Greek perfect are actually middle from an
Indo-European point of view, but since in Greek they recur as
active endings in other paradigms,[2] they are to be regarded as
active, when viewed synchronically. So we have in the Homeric
perfect a formation that irrespectively of the voice endings has
in itself a middle meaning. We now expect, if the strong aorist
is likewise a formation that in itself involves a middle meaning,
that the two forms to a very great extent show the same distri-
bution, and this holds good.

As for the configurations treated above sub (1)–(3) we may
state that the active perfect (γέγονα, δέδορκα, τέθνηκα, etc.) is
associated with middle forms in the present and/or in the future,
just as is the strong aorist. In case of a paradigm of two voices
we also find that the strong aorist and the perfect active are
concomitant in being incorporated in the middle scheme;
πείθομαι ἐπιθόμην πέποιθα, ἐγείρομαι ἠγρόμην ἐγρήγορα, ὄλλυμαι
ὠλόμην ὄλωλα (4); φύομαι ἔφυν πέφυκα, ἵσταμαι ἔστην ἕστηκα,
σβέννυμαι ἔσβην ἔσβηκα, ἐρείπομαι ἤριπον ἐρήριπα, τρέφομαι ἔτραφον
τέτροφα (5); βαίνω βήσομαι ἔβην βέβηκα, δύνω/δύομαι δύσομαι
ἔδυν δέδυκα (6). The constellation dealt with sub (7) is somewhat
special, as we have pointed out, but λείπω ἔλιπον λέλοιπα might
be quoted as an example of coexistence of the strong aorist

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[1] P. Chantraine, *Histoire du parfait grec*, Paris 1927, Chr. S. Stang, "Perfektum
und Medium", *Norsk Tidsskrift for Sprogvidenskap* 6, 1932, pp. 29 ff., J. Kuryłowicz,
"Les désinences moyennes de l'indo-européen et du hittite", *Bulletin de la Société
de linguistique* 33, 1932, pp. 1 ff.

[2] See A. Meillet & J. Vendryes, *Traité de grammaire comparée des langues
classiques*, Paris 1924, pp. 294 ff.

and the active perfect. It seems possible to establish as a general rule that if a strong aorist coexists with an active perfect from the same verb in Homer, then the two forms show the same voice. But at the same time it must be emphasized that we have strong aorists without any active perfect attested to them in Homeric Greek; the lack of a perfect in the Homeric material may be accidental, of course, but the particular instances must be examined carefully; we shall have occasion to treat the problem more thoroughly below.

So far we have dealt with the distribution of the strong aorist and the active and the middle endings, and we have found nothing, from a purely formal standpoint, telling against the view that the strong aorist conveys a middle meaning, no matter whether it appears with active or middle endings. The next step in the examination is to verify this assumption from a semantic standpoint. Only a semantic analysis can give us a closer understanding of the material.

First of all a semantic analysis reveals that the semantic sphere of the strong aorist does not fill up the whole area of the semantic sphere of the middle endings. Neither the strong aorist nor the Homeric perfect can express the special nuance of the subject's interest in the action. If this nuance is the only feature justifying us to consider an aoristic action middle, it can be indicated only by using the middle form of the sigmatic aorist: ἐστησάμην, ἐθρεψάμην, etc.

It is most expedient, then, to define the voice of the strong aorist (and the Homeric perfect) negatively: It denotes that the action is of no consequence to an object lying outside the subject. Mostly the strong aorist is simply intransitive: ἔδραμον (δέδρομα), ἔμολον (μέμβλωκα), ἔθανον (τέθνηκα), etc. The strong aorist can, however, occur with an object, also with an accusative object, but if so, no effect upon the object is involved: ἔλαχον (λέλογχα), ἔδρακον (δέδορκα), εἶδον (ὄπωπα), ἔπαθον (πέπονθα), or the object does not lie clearly outside the subject, the action taking place in the subject itself: ἔδακον, ἔφαγον (ἐδήδοκα), ἔτεκον. To be sure, this semantic sphere belongs to the middle, but in order to emphasize that the meaning of the strong aorist is narrower than that expressed by the middle endings I should find it convenient

to use a special term for this narrower meaning and call it "in-effective". Analogously we shall refer to actions that are of consequence to an external object as "effective".

Among the examples mentioned above sub (7) λείπω ἔλιπον λέλοιπα should particularly be emphasized. The forms also occur with middle endings and then have an intransitive meaning. The active forms, and here we may include the perfect, have a transitive meaning, but still belong to the middle voice, as the action does not influence the object. Only slightly different is the case of εὑρίσκω, aor. ηὗρον, whose perfect, presumably by chance, is not attested in Homer. The active and the middle forms seem to be synonymous, and neither of them indicate any effect upon the object. Compare the discussion sub (7).

I do not intend to enumerate the whole material of strong aorists in Greek. It is sufficient to refer to the concordances and detailed grammars. But an examination of the material will reveal that with extremely few exceptions the strong aorists can be accounted for according to the definition given above, and apart from those exceptions it may be considered a matter of pure chance if no corresponding middle future and active perfect are attested in Homer. We shall have a closer look at the exceptions. Characteristically, they belong to the "normal" paradigm given sub (7). It is my impression that what we have to do with here is not actual exceptions, but more likely only border-cases, where it cannot be decided unambiguously whether the action is effective or not.

(a) Some transitive verbs indicating a change of place (including change of ownership), such as δίδωμι, τίθημι, τρέπω, αἴρω, βάλλω, have the active strong aorist, and the present and the future belonging to it have active endings as well. It must be admitted, I think, that the active forms of these verbs, in particular those denoting a removal of the object from the sphere of the subject ('give', 'throw', 'send' as compared with 'take', 'steal', etc.) have a really active meaning,[1] but in whatever direction the movement takes place, we must realize that a transitive verb of motion does not indicate an effective action in

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[1] Ed. Schwyzer, *Griechische Grammatik* 2, Munich 1950, p. 226, gives δίδωμι sub the activa tantum, which according to him exhibit the same meaning as the media tantum (i. e. a middle meaning?).

the truest sense: the action, which can perfectly well be con-
sidered active, neither results in the creation of an object, nor
does it involve any real change of the object; the object is in
principle the same before and after the action, it has not been
modified in any respect. On the other hand, a change of place
is a change, and a vacillation in the choice of aorist type is
understandable; compare ἔτραπον/ἔτρεψα in the same meaning.
Probably the sigmatic aorist is more recent here, and ἔστησα
appearing as effective in opposition to ἔστην shows its pro-
ductivity.

The shade of meaning we are faced with here lies, from a
synchronic point of view, outside the middle, and outside the
semantic sphere of the Homeric perfect as well. In Homer no
perfect of the verbs concerned is attested, and as some of the
verbs occur very frequently, this is hardly accidental. But still
circumstances are quite extraordinary, as seen in the special
flexion of the aorists from δίδωμι, τίθημι, ἵημι. I find no reasons
to deny that their aorists ἔδωκα, ἔθηκα, ἧκα are based on strong
aorists (pl. ἔδομεν, ἔθεμεν, εἷμεν), but the terminations of the
singular recur in the active perfect of other verbs, e. g. in ἔστηκα.
It is difficult to tell whether the κ-element has spread from the
perfect to the aorist or inversely, but whatever the explanation
of these special aorists may be, it seems plausible that they could
hardly exist, if they deviated too much from the original meaning
of the perfect. It may be assumed, then, that at the time of that
expansion the aorists in question did not differ in voice from
the perfect, and I find it probable, too, that transitive verbs of
motion originally did form also a perfect. In this connection I call
attention to the fact that the Old Armenian perfect, though gene-
tically unrelated to the Greek perfect, has a semantic sphere that
is completely identical with that of the Homeric perfect, with the
characteristic exception that transitive verbs of motion ('donner',
'poser') are not excluded from forming the perfect.[1] We are
faced with a similar situation in Old Lithuanian: to the group of
athematic verbs belong ordinary ineffective verbs, but also verbs
denoting a change of place of the object.[2]

[1] S. Lyonnet, *Le parfait en arménien classique*, Paris 1933, pp. 96 ff.
[2] Cf. Chr. S. Stang, "Die athematischen Verba im Baltischen", *Scando-Slavica*
8, 1962, pp. 161 ff.

(b)   Another exception is represented by the very few transitive verbs that denote a destruction and take the strong aorist. At first sight there seems to be no doubt about the effect of the action, and if anything, one would expect the sigmatic aorist to be used in this case. Characteristically, most of the verbal roots concerned have both a strong aorist and a sigmatic aorist, without any difference in meaning: ἔταμον/ἔτμαγον/ἔτμηξα, ἔτορον/ἐτόρησα/ ἔτρωσα, ἔκταν/ἔκτανον/ἔκτεινα, ἔπραθον/ἔπερσα, οὖταν/οὔτασα; compare also ὠλόμην : ὤλεσα. This might indicate that a destructive action stands on the very periphery of the sphere of effective actions. What causes the vacillation is perhaps simply the negative character of the effect of destructive actions.

The meaning of the strong aorists dealt with here does not decisively lie outside the semantic sphere of the middle endings. We have ἤλιτεν/ἀλίτοντο in the same meaning. Compare also the media tantum denoting destructive actions: δηλέομαι, βιάζομαι. Likewise it may be stated that there is no divergence as to voice between the strong aorist and the perfect on this point. In Homer we do find active perfects denoting destruction, as shown by Chantraine: πεπληγώς, κεκοπώς, βεβίηκεν, βεβλήκει.[1]

From the examination of the strong aorist in Greek it follows that the relationship between the action and the object plays a decisive role for the application of this aorist. It seems obvious that the strong aorist is ineffective, i. e. cannot be used where the verb unambiguously denotes an effect upon the object (creation or change of state). When the effect for one reason or another appears less clearly, the strong aorist does occur, but with rather a restricted frequency. The voice of the strong aorist shows a narrower sphere of use than that of the middle endings and is almost identical with that of the Homeric perfect.

Caution should be taken against projecting onto Indo-European the definition put forward here. Already the negative character

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[1] P. Chantraine, *Grammaire homérique*, *Tome II*, *Syntaxe*, Paris 1953, p. 199: "Il n'est pas sans intérêt de constater que les parfaits qui ont commencé à prendre la valeur résultative sont tirés de racines exprimant l'idée de 'battre, faire violence'", cf. as for the question of an old active perfect of τάμνω Chantraine, *Histoire du parfait grec*, p. 42. The connection that possibly exists between these Greek perfects and *o*-grade presents meaning 'schlagen, stechen, graben' deserves further examination; see Chr. S. Stang, *Das slavische und baltische Verbum*. Skrifter utgitt av Det Norske Videnskaps-Akademi i Oslo, II. Hist-Filos. Klasse, 1942, No. 1, Oslo 1943, pp. 39 ff.

of the defintion invites prudence. In addition, due attention should be paid to the specific circumstances under which the strong aorist appears in Greek. As long as we have no further indications, it is even possible to assume that the strong aorist was originally, in Indo-European, neutral as to voice and has acquired its ineffective meaning only in Greek after other new aorists with an originally marked effective meaning had ousted it from their specific semantic sphere. The possibility of a semantic assimilation to the perfect must also be allowed for.

The Reduplicated Aorist.

At this point I want to add some remarks on the reduplicated aorist in Greek. As we know, the reduplicated aorist shows a somewhat greater frequency only in Homer, but has already there rather a restricted sphere of use: it appears only with a limited number of verbs, which are often attested with another aorist type as well. We know, too, that the reduplicated aorist is very frequently transitive, and in advance one would be prepared to believe that the reduplicated aorist would be the aorist formation most suitable for rendering the effective meaning, and that we should here, perhaps, be concerned with an aorist type contra-distinguished directly from the non-reduplicated strong aorist in an opposition of voice. We must admit that the reduplicated aorist often occurs precisely in the effective meaning, in cases, such as ἤκαχον, ἐπέφραδον, etc., where the strong aorist could scarcely be used, and also in direct opposition to the strong aorist: λέλαθον: ἔλαθον, λέλαχον : ἔλαχον, τέτυκον : ἔτυχον, πέπιθον : ἐπιθόμην. We cannot preclude, then, that the reduplicated aorist had primitively a more pronounced effective meaning. But synchronically this aorist holds a somewhat different position. The reduplicated aorist occurs not only alongside of the sigmatic aorist πέπιθον/ἔπεισα, ἐπέφραδον/ἔφρασα, etc., but also alternates with the strong aorist, and in those cases no change of the object is involved: κέκλυον/ἔκλυον, κέκυθον/ἔκυθον; it also competes with the aorist in -ην, which is pronouncedly intransitive: κεχαρόμην/ἐχάρην. Among the factors conditioning the application (and the survival) of the reduplicated aorist one factor is predominant, a factor which has no direct connection with the distinction between effective

and ineffective verbs: The application of this aorist in the great majority of cases presupposes a person, respectively an animate being, as object, or at least presupposes that the verb concerned frequently appears with a personal object. This object need not be an accusative object and may be suppressed if the verb is used reflexively. Since alternating with other aorist formations, the reduplicated aorist has scarcely been an obligatory means of rendering this specific function; also other aorist formations may of course appear with a personal object. As particularly interesting examples I quote: ὁπότ᾽ ἄν σε δόμοι κεκύθωσι καὶ αὐλή ҙ 303, κέκλυτέ μευ Γ 86 and elsewhere, τόν γ᾽ εἴ πως δύναιο λοχησάμενος λελαβέσθαι δ 388. We may also note that the meaning is often an abstract one. Further examples from Homer: ἄλαλκον, ἤπαφον, ἐνένιπον, ὤρορον, κεχαρόμην, ἤγαγον, ἔπεφνον.

The Sigmatic Aorist.

From a synchronic point of view the sigmatic aorist does not exhibit any specific meaning valid for all verbs taking this aorist. But in the same manner as the reduplicated aorist, only on a much wider front, the sigmatic aorist enters in opposition with the strong aorist, being employed where the strong aorist does not occur, i. e. where the action is effective. There also exist quite a number of direct oppositions between sigmatic and strong aorists from the same root, such as ἔθρεψα : ἔτραφον, ἔπεισα ἐπιθόμην, ἔφυσα : ἔφυν. Provisionally we have dealt with such oppositions already when analyzing the strong aorist; now we want to have a closer look at them.

We are accustomed to speak here of oppositions between transitive and intransitive actions, but the term is not adequate, as it may lead to the belief that it should be possible, in principle, to form from any transitive aorist an intransitive one by changing the aorist type. From a transitive aorist with active endings we cannot, however, if it has an ineffective value, arrive at an intransitive aorist by changing the aorist type; our texts give no evidence for that. On the contrary, we find that a transitive strong aorist, provided that its meaning is ineffective, may be opposed to a sigmatic aorist, also transitive, but with an effective meaning: ἔπισα : ἔπιον, ἔστυξα : ἔστυγον. Considering this, some scholars

use the term "causative", which is indeed more appropriate, but
still quite unsatisfactory. If saying that the sigmatic aorist, when
opposed to a non-sigmatic aorist, is causative, it may give rise
to serious misconceptions. First of all, the term "causative" in
its ordinary sense is used only of direct oppositions between
formally and semantically related verbs or verb constructions,
but in Greek a term is needed applicable also outside such direct
oppositions. Moreover, by using the term "causative" of one
member of the opposition, the other member is automatically
placed as the unmarked member; the term "causative" implies
nothing for the other member, the correlative term "incausative"
not even being used. In Greek, however, the sigmatic aorist is
not, at any rate taken synchronically, the marked member of the
opposition. We note, too, that such oppositions as Goth. *satjan* :
sitan or Slav. (*po*)*saditi* : *sěděti*, normally referred to as opposi-
tions of causation, are more complex and might be compared
more adequately with Gk. ἔστησα : ἔστηκα than with ἔστησα : ἔστην.
Also otherwise we may state that this term is used of highly
different relationships. In itself the term "causative" says very
little, and I think there are good reasons for avoiding it, speaking
of the opposition between the sigmatic and the strong aorist in
Greek. I maintain that what we actually have to do with here is
a semantic contrast between effective and ineffective actions.

What age can we attribute to the oppositions between sigmatic
and strong aorists from the same root? As we shall see below, we
may be concerned with an Indo-European principle, as Slavic
and Baltic show evidence for similar oppositions. The utilization
of the principle, however, must be considered specifically Greek,
in the sense that we are scarcely legitimate in attributing an
Indo-European age to the particular instances of sigmatic aorists
opposed to strong aorists from the same root.

From a synchronic standpoint we may set up the rule that
a strong aorist, ineffective in contradistinction to the present ind.
act., presupposes the existence of a sigmatic aorist in an effective
meaning (τρέφω ἔθρεψα : ἔτραφον), but historically the reverse
seems to be the case, at least in the great majority of cases. The
sigmatic aorist, and the present associated with it, are likely to
be more recent than the strong aorist in such direct oppositions.
Even if the transitivity or voice of a verbal root may vary from

one Indo-European language to the other, it seems justifiable, on the basis of data from other Indo-European languages, to regard roots as *bhewə- or *stā- as originally only intransitive and, in consequence, to consider ἔφυσα and ἔστησα secondary as compared with ἔφυν and ἔστην, and this is indeed the view commonly accepted. Here, however, arises a question of particular importance. Is it possible to understand the creation of such correlative sigmatic aorists in a clearly effective function, if the sigmatic aorist was at that time the unmarked member of the voice opposition? Perhaps it is, but one may find it more likely that the sigmatic aorist originally had a marked meaning and appeared in an effective meaning only; such a situation would be more favourable for the productive derivation of sigmatic aorists in that meaning. I suggest, however, another explanation, which I find more plausible: We may assume that the sigmatic aorist in the correlations under examination has replaced the reduplicated aorist and that this aorist originally had a clear-cut effective meaning; compare ἔπεισα/πέπιθον : ἐπιθόμην (and the reduplicated aorist as the aorist of causatives in Sanskrit).

The Aorist in -ην.

The ē-aorist is semantically closely related to the strong aorist; this fact is not surprising, for the ē-aorist, as we know, has arisen precisely from the strong aorist of the so-called disyllabic roots. The reason why we have not dealt with it as a strong aorist is that its semantic sphere in Greek is somewhat displaced in relation to that of the strong aorist. It is more exclusively intransitive, the only transitive form being the ineffective ἐδάην. The aorist in -ην presupposes that the verb concerned also has a sigmatic aorist, which is always effective; the only exceptions are ἐχάρην and ἐρρύην, which might be accounted for as genuine strong aorists, their roots being obviously disyllabic. The passive value, with which this aorist often appears, in a sense is only a shade of the ineffective meaning, but must be recorded as a distinctive trait, as the strong aorist does not show a passive value as opposed to a sigmatic aorist from the same verb. The passive meaning, as we know, is rather seldom attested in Homer, and it is worth noting that when in Homer the verb is also attested

with an active perfect differing in voice from the present ind. act., the aorist in -ην follows the active perfect in voice, being like this intransitive but not passive; in such cases the aorist in -ην takes the same position as a strong aorist: πήγνυμι ἔπηξα : ἐπάγην πέπηγα, σήπω ἔσηψα : ἐσάπην σέσηπα, τήκω ἔτηξα : ἐτάκην τέτηκα, τρέφω ἔθρεψα : ἐτράφην τέτροφα, φθείρω ἔφθειρα : ἐφθάρην ἔφθορα et al.

The meaning of the Greek ē-aorist, comprising only intransitive, inclusively passive, applications, may be considered more "modern" than that of the strong aorist, and the opposition between the s-aorist and the ē-aorist in so far is an opposition of transivity. Yet, it deserves to be emphasized that the derivation of ē-aorists from transitive s-aorists is confined to verbs whose present ind. act. and sigmatic aorist are at the same time transitive and effective. From ineffective meanings, such as 'find', 'see', etc., one cannot arrive at intransitive meanings by forming an ē-aorist (the instance λίπεν in Homer is obscure).

The exclusively intransitive and passive function of the ē-aorist in Greek is presumably a Greek innovation. The ē-formations in other Indo-European languages with which the Greek ē-aorist is conventionally compared, are, it is true, mostly intransitive, but may also show a transitive value, provided that the verb is at the same time ineffective; the typical example is Lat. *habeo*, Slav. *iměti*, Balt. *turěti*.

The account given above is not, of course, to be considered an exhaustive account of the voice phenomena in Greek. We have confined ourselves to the oppositions of voice between certain preterites with a view to the existence of similar oppositions in Slavic and Baltic.

2. Slavic

We shall now deal with the question whether the strong aorist and the sigmatic aorist have been differentiated as to voice also in Slavic. Other Slavic preterite formations (the imperfect) will be discussed later, in connection with the examination of the Baltic material.

The Root Aorist.

Owing to the generalization of the sigmatic aorist, it is difficult to trace the root aorist in Slavic. Stang, however, has suggested seeing a continuation of the root aorist in the Old Church Slavonic aorists ending in the 2. and 3. sg. in -*tъ*,[1] an assumption that has been generally accepted. It may be difficult to explain the strange ending -*tъ*, but this can hardly influence Stang's determination. Other aorists, without this ending in the 2. and 3. sg., are ambiguous; thus it seems obvious that 2–3 sg. aor. *sta* intr. 'took a stand' must continue a root aorist (compare Gk. ἔστη in a similar meaning, Skt. *ásthāt*), but taken purely phonically, it might represent a sigmatic aorist as well. For this reason we must center our attention on the verbs the aorist of which ends in the 2. and 3. sg. in -*tъ*.

Although the aorist in -*tъ* is attested with a rather scanty number of verbs only, I do not preclude that it has been productive to some extent, and has been used beyond its original sphere of application. As far as 2–3 sg. aor. *pětъ*, *žitъ*, *bystъ*, *dastъ*, and *jastъ* (to the presents *pojǫ*, *živǫ*, *bǫdǫ*, *damь*, and *jamь*) are concerned, I think we must acknowledge these forms without discussion; they are attested in isolated archaic paradigms. In the same way we may acknowledge 2–3 sg. aor. *pitъ* and *vitъ* (pres. *pijǫ*, *vijǫ*) as old root aorists, since we have other roots in -*i*- that do not take the ending -*tъ* in the aorist: 2–3 sg. aor. *bi*, pres. *bijǫ*. But when it is established as a rule that *all* the verbs of the types *jęti imǫ* and *mrěti mьrǫ* have an aorist in -*tъ*, circumspection is needed; in this case we may be concerned with a generalization on a purely phonic basis; in addition the rule is somewhat illusory, as some of the verbs pertaining to these types are not attested in the 2. and 3. sg. aorist in our oldest texts, and we must also pay due attention to the fact that besides *prostrětъ* also *prostrě* is convincingly documented in relevant texts.

The flexion of the verbs having an aorist in -*tъ* in Old Church Slavonic also shows other pecularities: the past participle passive in -*tъ*, and a particular pattern of accentuation. We might ask, then, whether we should not succeed, by thoroughly examining these accessory phenomena, in encircling those aorists in -*tъ* which

[1] Stang, *Verbum*, p. 65.

do not result from phonic generalizations and may be assumed
to be inherited root aorists. Thus, for example, corresponding to
Old Church Slavonic aorists in -*tъ*, we usually find end-stress in
the feminine gender of the *l*-participle in Russian: OCS *žitъ*,
Russ. *žilá*, *bystъ bylá*, *dastъ dalá*, *pitъ pilá*, *vitъ vilá* (but OCS *bi*,
Russ. *bíla*). And examining the applicability of this correspondence
to the verbs of the types *jęti imǫ* and *mrěti mьrǫ*, it turns out that
the rule, tentatively set up, that these verbs originally always had
an aorist in -*tъ*, is *not* confirmed by the accentuation of the
l-participle in Russian. We have, it is true, *jętъ* in accord with
vz'alá, *klętъ* in accord with *kl'alá*, and also *začętъ* in accordance
with *začalá*. However, *pętъ* does not agree with the stress in Russ.
rasp'ála, and in addition we find root-stressed *l*-participles
(*po*)*m'ála* (pres. *mnu*) and (*po*)*žála* (pres. *žmu*), where the
corresponding aorists are not attested in Old Church Slavonic.
In the same way *mrětъ* agrees with the end-stressed *l*-participle
in Russian: *umerlá*. But corresponding to *prostrětъ/prostrě*, we
have in Russian *prostërla*, always with root-stress. The *l*-participle
from *perét'* shows end-stress, when the meaning is 'shut', re-
spectively 'open': *zaperlá*, *otperlá*; but in the meaning 'press',
perét' has unvariably root-stress in the *l*-participle: (*pod*)*përla*;
compare also Russ. dial. *zavérla*. A closer look at these verbs
reveals that those having "exceptionally" root-stress in the
feminine gender of the Russian *l*-participle, *pęti* 'stretch', *męti*
'rub', *žęti (žьmǫ)* 'squeeze', *strěti* 'spread', *prěti* 'press', all denote
a modification of the object; they pertain to a narrower group of
transitive verbs, the effective verbs, as we have defined that term
when explaining the Greek aorists. If the state of affairs should
be analogous to that found in Greek—and so far we have no
reasons to expect anything else—we must assume that these
effective verbs took the sigmatic aorist in Proto-Slavic rather than
the root aorist; in all likelihood they had not, originally, any
2–3 sg. aor. in -*tъ*, and consequently we shall not even expect
any end-stress in the feminine gender of the *l*-participle.

The guaranteed root aorists should then show affinity with the
ineffective meaning. Since there is no sharp border-line between
the effective and the ineffective meaning, we might be in doubt
in isolated cases; *viti* in my view most likely belongs to the
effective verbs, the meaning being 'wind, wrap'. But otherwise

the ineffective meaning appears clearly. Some of the verbs are simply intransitive: *žiti* 'live', *mrěti* 'die', *byti* 'be', *-nrěti* 'plunge', all with convincingly documented aorists in *-tъ*. *gniti* 'rot' may be added, on account of *gnilá* in Russian, and furthermore *plyti* 'float', *slyti* 'be known' (OCS *pluti plovǫ*, *sluti slovǫ* must be considered secondary as compared with ORuss. *plyti plovu*, *slyti slovu*) on the basis of Russ. *plylá, slylá*. The remainder of the verbs with guaranteed root aorists are transitive, but do no involve any real change of the object: *jęti* 'take', *dati* 'give', *klęti* 'curse', *pěti* 'sing', *-čęti* 'begin'. As for *jasti* 'eat', *piti* 'drink', *žrěti* 'swallow', a change of the object is involved, but the object does not lie distinctly outside the subject; the process takes place in the subject itself. All these verbs with guaranteed root aorists are ineffective. We are concerned with a small group of verbs only, but what we have found is confirmed by the fact that Greek verbs of a similar meaning take the strong aorist, or a middle future at least.

The opposition of stress *zaperlá : upërla* is interesting; *zaperét'* 'shut' does not denote any real influence upon the object, and *zaperlá* may indicate the original existence of a root aorist, but what we are dealing with here is probably nothing but a very recent shift of meaning, the original meaning of the verb having been, to all appearance, 'exert a pressure against, barricade'. However, we have another opposition of stress, that between *bylá* and *zabýla*, which beyond all doubt is old, as a corresponding opposition is attested in Old Church Slavonic in the 2. and 3. sg. aorist: *bystъ : zaby*. This opposition has by Stang been suggested to reflect an old opposition between root aorist and sigmatic aorist,[1] an explanation I find completely convincing. This opposition seems to be comparable to Gk. ἔφυν : ἔφυσα, not only formally, but also semantically. We might object one thing, of course: *zabyti* is transitive, but the meaning 'forget' is as ineffective as it can be. Apparently, however, we shall not give too much weight to the special meaning of the prefixed verb, as it would be an entirely unique phenomenon that the prefixation of a verb should affect its flexion. I find it most appropriate to assume the existence of an aorist *by* going back to a sigmatic aorist and having an effective (or at any rate transitive) meaning

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[1] Stang, *Verbum*, p. 72.

in contradistinction to *bystъ* 'factus est', and from this transitive
*by, which, in competition with the causative *baviti,* did not
hold its ground, *zaby* may have arisen by prefixation; compare
Czech *vybaviti si (v paměti)* 'recall (to one's mind)'. In the
present there is no differentiation apart from the prefix: *zabǫdǫ*
as *bǫdǫ*. Perhaps there originally also existed a different flexion
in the present; in this connection it must be borne in mind that
Slavic does not, in historical time, distinguish between active
and middle endings, but also other possibilities of an original
distinction between present forms may be allowed for. At any
rate I find the correspondence between Gk. ἔφυσα : ἔφυν and
Slav. *-by* : *bystъ* guaranteed. Machek gives a different explanation.[1]

In a previous article[2] I have suggested the identity between the
Slavic endings *-tъ, -stъ,* and the Hittite endings *-ta, -sta* in the
2. and 3. sg. preterite from the *hi*-verbs. The same has been
suggested by V. N. Toporov.[3] But this identification of course does
not settle definitively the questions that have been put forward
as to the provenance of the ending *-tъ* in the 2. and 3. sg. aorist
in Slavic (or of the corresponding Hittite endings). If the con-
siderations we have developed above are correct, the ending in
view is most likely a middle ending, and it is noteworthy that
previous scholars, without being aware of the middle character
of the verbs concerned, have operated precisely with middle
endings to explain the ending *-tъ* in the 2. and 3. sg. aorist and
suggested a connection with the ending of the 2. sg. perfect[4] or
with the secondary middle ending of the 3. sg.[5]

The above interpretation of the root aorist is based on the
assumption that it may have been generalized, in Old Church
Slavonic, to all verbs of the types *jęti imǫ* and *mrěti mьrǫ*. I
want to remark that the criterion I have utilized in order to screen
out some of the aorists in *-tъ* as generalized is not, perhaps, quite
conclusive, as we find discrepancy, also elsewhere, between the
Old Church Slavonic aorist and the stress in the feminine gender
of the *l*-participle in Russian. Despite 2–3 sg. aor. *jastъ, pětъ,* we

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[1] V. Machek, *Etymologický slovník jazyka českého a slovenského*, Prague 1957, sub *zabyti sě.*

[2] "Die *e/o*-Verba im Slavischen", *Scando-Slavica* 7, 1961, p. 284.

[3] V. N. Toporov, "K voprosu ob évoljucii slavjanskogo i baltijskogo glagola", *Voprosy slavjanskogo jazykoznanija* 5, 1961, p. 69.

[4] Stang, *Verbum,* p. 222.

[5] R. Nahtigal, *Slovanski jeziki* I², Ljubljana 1952, p. 91, 97.

have in Russian *éla*, *péla* with root-stress, and conversely *li*
(*liti* 'pour') does not agree with Russ. *lilá* (Serbo-Croatian shows
root-stress *lȉla*, but end-stress is attested in the dialect of Dubrov-
nik, and also in Slovenian; the application of the verb in the
intransitive meaning 'pour, rain' is probably irrelevant in this
connection). The accentuation of older Russian texts unfortunately
has not been examined to a desirable extent, but L. L. Vasil'jev
gives the stress *rasp'alá*.[1]

I expressly call attention to the fact that the root aorist in *-tъ*
cannot be a main argument of our thesis that the strong aorist
was a formation having in itself an ineffective meaning, as this
meaning might be said to be expressed already by the ending,
if *-tъ* represents a middle ending.[2]

The e/o-Aorist.

According to Stang, the verbs with the thematic aorist have
"eine relative klare Gebrauchssphäre: die medial-intransitive und
perfektive (bzw. determinative)".[3] In an earlier study[4] I followed
Stang in this determination, but I left the middle meaning out of
account, finding it possible to define the Slavic *e/o*-aorist as the
aorist of intransitive and (or) terminative verbs. To operate with
a middle meaning appeared to me to be a superfluous complica-
tion and still appears to me to be so, as far as only a description
of the Slavic state of affairs is concerned. In what precedes,
however, I have pointed out that the Greek strong aorist, including
the *e/o*-aorist, is not always intransitive, but still, even in a

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[1] L. L. Vasil'jev, "Zametka ob akcentovke nesklonjaemogo pričastija na -ъ",
Žurnal Ministerstva narodnogo prosveščenija 360,8 = 1905, avgust, p. 465.

[2] From recent years' investigations of the Slavic aorist in *-tъ* I want to cite
C. Watkins, "Transitive and intransitive in the Celtic preterite passive, Slavic
root aorist, and Germanic weak preterite", *Ériu* 19, 1962, pp. 25 ff. (connects the
aorist in *-tъ* with the IE *to*-participle), V. A. Dybo, "O drevnejšej metatonii v
slavjanskom glagole", *Voprosy jazykoznanija* 1958, No. 6, pp. 55 ff., id., "Udarenie
slavjanskogo glagola i formy staroslavjanskogo aorista", *Kratkie soobščenija
Instituta slavjanovedenija* 30, 1961, pp. 33 ff., id., "Sokraščenie dolgot v kel'to-
italijskich jazykach i ego značenie dlja balto-slavjanskoj i indoevropejskoj ak-
centologii", *Voprosy slavjanskogo jazykoznanija* 5, 1961, pp. 9 ff., id., "O rekon-
strukcii udarenija v praslavjanskom glagole", *Voprosy slavjanskogo jazykoznanija*
6, 1962, pp. 3 ff. (on accentuation), R. Aizetmüller, "Über Präfixe bei nicht-
durativen Verben vom Typus *mrěti*", *Zeitschrift für slavische Philologie* 30, 1962,
pp. 310 ff. (considers the verbs of the types *mrěti mьrǫ*, *jęti imǫ* non-durative).

[3] Stang, *Verbum*, p. 63.

[4] *Scando-Slavica* 7, p. 269.

transitive function, to a very great extent is middle and that it follows the Homeric perfect in being ineffective. So it would be desirable to examine to what extent the verbs taking the *e/o*-aorist in Slavic are middle, respectively ineffective.

Leaving out for a moment the verbs with the infinitive in *-nǫti*, we may state that the verbs which in Slavic take the *e/o*-aorist are really ineffective. *idъ, jadъ, legъ, sědъ, lězъ, padъ* are the aorists of intransitive verbs (the respective present forms are: *idǫ* 'go' and *jadǫ* 'go, ride' with a dental enlargement lacking in the infinitive *iti, jachati*; *lęgǫ* 'lie down' and *sędǫ* 'sit down' with nasal infix; *lězǫ* 'creep', *padǫ* 'fall'). *-rěsti* with a nasal infix in the *je/o*-present *-ręštǫ*, aor. *-rětъ*, probably, as a simplex, has been an intransitive verb of motion;[1] the prefixed verb is transitive but still ineffective: *obrěsti* 'find', *priobrěsti* 'win, gain', *sъrěsti* 'meet'. *mošti*, pres. *mogǫ*, aor. *mogъ* 'be able' is ineffective, whether considered transitive or not. *vrěšti vrъgǫ vrъgъ* 'throw' and *krasti kradǫ kradъ* 'steal' are transitive, but do not involve any change of the object (compare *krasti* with *dati* 'give' and *jęti* 'take', cited above for their root aorists). The meaning is throughout ineffective, and the corresponding Greek verbs have the strong aorist or, in any case, a middle future.

The verbs with the infinitive in *-nǫti*, in their turn, are always, as far as consonantal roots are concerned, capable of appearing with the *e/o*-aorist, and this aorist is also the one most frequently met with. The vocalic roots, as we know, maintain the nasal element in the aorist, and in the past participles; the consonantal roots may also maintain the nasal element throughout the flexion. From an Indo-European point of view the nasal element, a present formant, has nothing to do in the aorist, nor in the infinitive. The aorist in *-nǫchъ* must be an innovation, but on the other hand it is questionable whether it always takes the place of an earlier strong aorist, a fact which to some degree complicates our problem.

I find it expedient, at this point of our examination, to take a look at the role played by the nasal elements in the present. It is indisputable that originally we had only one nasal element *-n-* (conventionally referred to as an infix; according to Benveniste to be regarded as an "élargissement" inserted between root and

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[1] A. Vaillant, "L'imparfait slave et les prétérits en *-ě-* et en *-ā-*", *Bulletin de la Société de linguistique* 40, 1938, p. 25.

suffix).[1] And corresponding to this unity of form we might assume
the existence of one general meaning, say the terminative. As far
as the individual languages are concerned, we must, however,
operate with different nasal suffixes such as -nā-, -neu-, as well
as a nasal infix, and this differentiation may reflect a late Indo-
European development. As to voice the different nasal formants
seem to me to have taken up a different position. Kronasser treats
the various nasal formations as equivalent and assumes that they
have originally been transitive throughout the Indo-European
area,[2] but this theory does not apply to the languages dealt with
here, Greek, Slavic, and Baltic. In Greek the verbs in -νυμι and
-νημι rather manifestly tend to be transitive, and their aorist is
regularly sigmatic, e. g. κεράννυμι/κίρνημι ἐκέρασα. The verbs in
-νω and -άνω, in their turn, show an equally pronounced tendency
to appear in an intransitive function, or ineffective meaning at
least, e. g. δύνω/δύομαι ἔδυν : δύω ἔδυσα, τυγχάνω ἔτυχον : τεύχω
ἔτευξα, λαμβάνω/λάζομαι ἔλαβον, ἐρυγγάνω/ἐρεύγομαι ἤρυγον.

In Slavic the verbs with a nasal infix are ineffective (see above),
whereas the ne/o-present apparently represents a fusion of differ-
ent nasal formations. Verbs with the neu-suffix may have played
a role here, as suggested by the past participle passive in -nov-enъ.
I find it probable that it is the same suffix -nov- which, in the form
-nǫ-, appears in the other past participles, in the aorist and in
the infinitive, being generalized from presents with this suffix.
In Slavic, exactly as in Greek and other Indo-European languages,
this suffix probably was characteristic of transitive verbs. The fact
that it occurs in a passive participle suggests transitiveness, and
the consonantal roots more constantly appearing with -nov-/-nǫ-
in the aorist and the past participles, drъznǫti 'venture' (past part.
pass. drъznovenaja), kosnǫti 'touch' (past part. pass. neprikosno-
veny), sěknǫti 'hew', are in so far transitive, but—note—also
perfective. The vocalic roots, which with the exception of stati
stanǫ 'take a stand' obligatorily maintain the nasal element in

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[1] E. Benveniste, *Origines de la formation des noms en indo-européen* I, Paris
1935, p. 159 ff.

[2] H. Kronasser, *Die Nasalpräsentia und Kretschmers objektive Konjugation im
Indogermanischen*, Sitzungsberichte der Österr. Akademie der Wissenschaften,
Phil.-hist. Kl. 235,2, Vienna 1960.

the past participles and the aorist, are likewise first of all per-
fective. Stang, too, stresses the perfective value of the verbs with
a nasal element throughout the flexion.[1] Nasal verbs, such as
sěknǫti 'hew', *gryznǫti* 'bite', *tlъknǫti* 'strike', arisen as perfectiv-
izations from imperfective verbs with *e/o*-present and sigmatic
aorist (*sěkǫ sěchъ*) and conveying specially the single, non-
iterated action consistently retain the nasalization throughout the
flexion; without the nasal element in the past participles and the
aorist it would not have been possible, in those forms, to disting-
uish them from the corresponding imperfective verbs. These nasal
verbs are, like their imperfective counterparts, transitive (and
effective), but it is highly questionable whether they have had
any *e/o*-aorist; their aorist (*sěknǫchъ*) appears to have been derived
from the sigmatic aorist (*sěchъ*) by simply suffixing *-nǫ-* to the
root. A similar state of affairs is represented by a few other
effective nasal verbs: *tъknǫti* pf. 'thrust' from *tъkati tъkǫ*, and
gъnǫti pf. 'bend', apparently formed on the basis of *gъbati*
(*sъgъbalъ*), whose present fails to be attested and whose aorist
was scarcely an *e/o*-aorist; in these verbs, however, the nasal
element was not compulsory in the past participles and the aorist,
as the forms were still distinguishable from the corresponding
forms of the primary verbs having the suffix *-a-*, and we do find
in the aorist *potъkǫ* alongside with *potъknǫšę*. The verbs cited
here, *sěknǫti*, *gryznǫti*, *tlъknǫti*, *tъknǫti*, and *gъnǫti*, seem, besides
trъgnǫti 'tear' (see below), to be the only Old Church Slavonic
nasal verbs showing a more pronounced effective meaning, but
they are to be considered recent.

On the other hand, we find that the intransitive nasal verbs
denoting a change of state do not maintain the nasal element in
the aorist and the past participles, as far as the verbs with a nasal
infix (*lęgǫ*, *sędǫ*) and *stanǫ* are concerned, respectively are not
attested or, less frequently, occur with this formant in the aorist
and the past participles, as far as the consonantal roots with
ne/o-present are concerned. In the latter group we have to do
with quite a few verbs, *vyknǫti* 'get used to', *gybnǫti* 'perish',
sъchnǫti 'get dry', *gasnǫti* 'cease to burn', *zębnǫti* 'sprout', etc.,
and as a rule they are imperfective. These verbs, or at any rate
the majority of them, originally, as has been convincingly de-

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[1] Stang, *Verbum*, p. 56.

monstrated by Tedesco, took the *je/o*-present, and the replacement
of the *je/o*-present with the *ne/o*-present may be followed in Old
Church Slavonic itself.[1] Consequently aorists with *-nǫ-* are very
recent and do not, in this case, indicate an originally sigmatic
aorist; we may conclude that the *e/o*-aorist, the most frequently
attested aorist, is also the original aorist. This agrees with the
intransitive function of the verbs in question.

We have also a few transitive verbs with a consonantal root
and *ne/o*-present that more constantly occur without nasal en-
largement in the aorist and the past participles. If the less frequent
appearance of the nasal enlargement in those forms is to be
considered to indicate that the *e/o*-aorist was the original aorist,
they, too, must be expected to show an ineffective meaning.
stignǫti pf. 'attain' is pronouncedly ineffective, but *dvignǫti* pf.
'raise' and *tęgnǫti* 'pull' do not involve any modification of the
object either, denoting only a change of place. *tęgnǫti* is imper-
fective, and the combination of transitive and imperfective value
is suspicious; the verb, however, also appears in an intransitive
application 'be heavy', and this might be the primary meaning;
compare ON *þungr* 'heavy'. To be sure, *trъgnǫti* pf. 'tear' is an
effective verb, but may be accounted for on a phonic basis:
all the roots mentioned end in *-g-*.

The fact that some consonantal roots retain the nasal element
in the aorist and the past participles, and others do not, should
not, indeed, be considered decisive; these forms in my view are
in themselves perfective, and the suffixation of *-nǫ-* to convey
the perfective aspect ought to be superfluous, apart from such
cases as *sěknǫti*, in which the verb indicates more specially the
single, non-iterated action. Which of the forms is used, the short
or the long one, often seems to be a matter of chance. It may
be added that *kosnǫti* 'touch' and *drъznǫti* 'venture', even though
they frequently show the suffix *-nǫ-* in the forms in question,
do not indicate a modification of the object. In the same way
rygnǫti 'belch' is ineffective. In these cases the *e/o*-aorist may be
considered old; compare Gk. ἐρυγγάνω ἤρυγον.

All these reflections lead us to the conclusion that the *e/o*-
aorist was ineffective to the same extent as the Greek *e/o*-aorist,

and as a verb in Slavic has in principle only one aorist, this determination is valid also for the verb as a whole, when it takes the *e/o*-aorist. The verbs concerned have usually a nasal present. The nasal verbs are, roughly, ineffective, but certain, apparently very recent perfectivizations, *sěknǫti, gryznǫti, tlъknǫti, gъnǫti,* are effective; their aorist seems to have been an aorist in -*nǫchъ* from the very beginning; these perfectivizations in all likelihood originate from effective *neu*-verbs, with extension of the suffix to the aorist; primitively they had scarcely any connection with the *e/o*-aorist, being associated more likely with the sigmatic aorist.

As the Greek *e/o*-aorist is rather often associated with presents in -νω, -άνω, which also in general show a pronounced tendency to appear with an ineffective value, I am inclined to believe that the Slavic *ne/o*-present is to be compared with precisely those nasal formations in Greek, plausibly closely related also from a phonic point of view. Stang assumes that the verbs with an *ne/o*-present and short forms in the aorist go back to verbs with the *nā*-present, and refers to the Germanic intransitive nasal formations.[1] In Germanic, however, the *nā*-suffix appears to have been generalized to the detriment of other nasal suffixes. We cannot trace the Germanic development in details, but judging from the languages exhibiting also other nasal suffixes, the *nā*-element was not primitively associated with an intransitive or middle value.

The Sigmatic Aorist.

The sigmatic aorist has been generalized to a very high degree, in Slavic just as in Greek, and in the historically documented period it shows no specific meaning in addition to the aoristic aspect. As consonantal roots may occur in Old Church Slavonic both with the sigmatic aorist and the *e/o*-aorist, to the effect that some of them have the sigmatic aorist and others the *e/o*-aorist (a vacillation between the two types of aorists is extremely rare), an analysis of the sigmatic aorists from consonantal roots may reveal the original semantic sphere of this aorist. As I have pointed out previously,[2] consonantal roots taking the *e/o*-flexion

[1] Stang, *Verbum*, pp. 58f.
[2] *Scando-Slavica* 7, p. 266, 271.

in the present and sigmatic forms in the aorist (apart from the
2. and 3. sg. aorist, which has the *e/o*-flexion and root-stress
as the present) are, with very few exceptions, transitive. My
material comprises the verbs with documented sigmatic aorists
and the verbs that in Serbo-Croatian have the corresponding
root-stressed *e/o*-form in the 2. and 3. sg. aorist. The exceptions
are *gręsti* 'go' (S-Cr. 2–3 sg. aor. *grĕde*), which was originally
defective and did not form any aorist, *rasti* 'grow' (S-Cr. *râste*),
probably an old *st*-verb (compare the Baltic *st*-presents), and
tešti 'run' (OCS *tĕchъ*) and *cvisti* 'bloom' (OCS *cvisъ*), which to
all appearance had originally an *ē*-aorist (compare Lith. *tekĕti
tekù*, Russ. *bežát' begú*, Latv. *kvitêt kvitu*, Upper Sorbian *kćěć*,
and OCzech *ktvieti* as infinitive from the *e/o*-present). The ex-
ceptions can, then, be accounted for as recent innovations.

Otherwise the verbs concerned are transitive. A closer look at
the meanings manifested by them reveals that they are nearly all
at the same time effective, in the sense we have assigned to this
term in our analysis of the Greek aorists. First of all I list the
verbs denoting a manufacturing, such verbs being incapable of
forming the *e/o*-aorist in Greek: *skubǫ* 'pluck', *pekǫ* 'bake', *mlьzǫ*
'milk', *prędǫ* 'spin', *vęzǫ* 'tie, wreathe, knit', *pletǫ* 'plait', *vrъchǫ*
'thrash', and *dlъbǫ* 'chisel'. The following verbs may also be said
to indicate a processing of the object: *gryzǫ* 'gnaw', *bodǫ* 'pierce',
strigǫ 'shear', *grebǫ* 'dig', *sĕkǫ* 'hew', *žegǫ* 'burn', *zębǫ* 'tear',
tlъkǫ 'beat', *tepǫ* 'beat', *gnetǫ* 'press', *lękǫ* 'bend', *vrъzǫ* 'tie',
metǫ 'sweep'. Likewise *mętǫ* 'confuse' involves an influence on
the object, even if the influence need not be intended, and *lęgǫ*
'hatch' denotes an action with consequences for the state of the
object. Others of the verbs in view denote only a change of place:
tręsǫ 'shake', *kladǫ* 'put', *nesǫ* 'carry', *vedǫ* 'lead', *vlěkǫ* 'drag',
črъpǫ 'draw (water)', *vezǫ* 'convey'. As to *pasǫ* 'pasture' and
bljudǫ 'watch', they have their place in the very periphery of the
effective verbs, as we can here at most speak of an occasional
intervention,—not to mention *čьtǫ* 'read, count' and *rekǫ* pf. 'say',
which I find directly ineffective. However, in the main the verbs
are effective, and it may be assumed that the transitive group in
question has arisen from a group of effective verbs. We notice
that the distribution of the sigmatic aorist in Slavic may suggest
that the sigmatic aorist was once the marked member of a voice
opposition.

Direct oppositions between sigmatic and *e/o*-aorists from the same root may be found in Slavic, but not to the same extent as in Greek. First of all we must mention the opposition *bljusъ* : (*vъz*)*bъdъ* 'watched' : 'got awake' with a parallel opposition in Greek: πούσας 'wer Kunde gegeben hat' Malla Coll. 5100,3,[1] as against ἐπυθόμην. Since there are no specific middle endings in Slavic, the intransitive present is acquired, as occasionally also in Greek, by nasalization (δύνω beside δύομαι as the present to ἔδυν versus δύω ἔδυσα, τυγχάνω ἔτυχον : τεύχω ἔτευξα, cf. πυν-θάνομαι/πεύθομαι ἐπυθόμην : πεύθω πούσας), and the opposition appears in the present as *bljudǫ* : *-bъnǫ*. The opposition is guaranteed also in *vęsъ* : *vęzъ*, pres. *vęzǫ* tr. 'tie' : *vęznǫ* intr. 'catch', and most likely we have to do with a similar opposition of voice in *lęchъ* : *lękъ*, pres. *lękǫ* tr. 'bend' : *lęknǫ* (*sę*) 'shrink back', and in *zębǫ* tr. 'tear, break up' : *zębnǫ* 'sprout', even if the semantic contiguity is less striking here. Finally we may assume the existence of an opposition *-nisъ* : *-nъzъ*, *-nъzъ* being attested in intransitive application as against *-nъzǫ/-nъznǫ* tr. 'penetrate'.[2]

3. Baltic

It has long been recognized that transitivity plays an important part in the Baltic conjugation. Already Bielenstein and Leskien saw and utilized this in treating the Latvian and Lithuanian verb.[3] Their description of the verbal system was somewhat brief and summary owing to a restricted scope. Their aim was only that of classifying the verbs, and the present form was their point of departure. As the formation of the preterite is to a large extent dependent on the form of the present stem, the voice of the preterite stems had in the main, by this classification, been defined, too. Endzelin, however, was the first to state explicitly that also the preterite was differentiated according to transitivity.[4] The

[1] E. Fraenkel, "Zur *eu*-Erweiterung indogermanischer Wurzeln", *Mélanges Émile Boisacq* 1 = *Annuaire de l'Institut de philologie et d'histoire orientales et slaves* 5, 1937, p. 370.

[2] A. Vaillant, *Manuel du vieux slave* 1, Paris 1948, p. 279.

[3] See A. Leskien, *Der Ablaut der Wurzelsilben im Litauischen*, Abhandlungen d. philol.-hist. Cl. d. Königl. Sächs. Ges. d. Wiss. 9,4, Leipzig 1884, p. 409.

[4] J. Endzelin, "Zum lettischen Präteritum", *Zeitschrift für vergleichende Sprachforschung* (= *KZ*) 43, 1910, p. 34.

different flexion of transitive and intransitive verbs furthermore became the leitmotif of Stang's thorough examination of the Baltic verb[1] and has been subject to a continued discussion in recent research.[2]

In Baltic we very often find a contradistinction between two related verbs, one of which has the *ē*-preterite and the other the *ā*-preterite. As a rule we are then concerned with an opposition of transitivity, so that the verb with the *ē*-preterite is transitive, the verb with the *ā*-preterite intransitive. In the present the opposition regularly manifests itself as a contrast between *je/o*-present (transitive) and a nasal or *st*-present (intransitive). Examples: *baudžiù baudžiaũ* tr. 'chastise' : *bundù budaũ* intr. 'awake', *lenkiù lenkiaũ* tr. : *linkstù linkaũ* intr. 'bend'.

Some scholars regard the *ē*-preterite as a special form of the *ā*-preterite. On the basis of the association between the *ē*-preterite and the *je/o*-present, the advocates of this view assume that the present formant *-j-* has penetrated into the preterite and caused a change *-jā-* > *-ē-*.[3] I find it highly improbable that exactly this present formant, and no others, should spread to the preterite, where in principle the present formants have nothing to do, and in addition it would be difficult to account for the *ē*-preterites from *e/o*-presents, such as *vedžiaũ* from *vedù*. I therefore follow Endzelin and Stang in assuming that the *ē*-preterite and the *ā*-preterite represent two genetically disparate preterite formations.

On the semantic level the Baltic opposition of transitivity between two preterites from the same root bears resemblance to the opposition of voice we have found in Greek and Slavic between the sigmatic and the strong aorist. From a formal point of view, however, there seems to be no conformity between the Baltic and the Greek data, nor between the Baltic and the Slavic

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[1] Chr. S. Stang, *Das slavische und baltische Verbum*, Oslo 1943.

[2] P. Arumaa, "Von der Eigenart des Ablauts und der Diathese im Baltischen", *Zeitschrift für slavische Philologie* 26, 1957, pp. 118 ff., Chr. S. Stang, "Die athematischen Verba im Baltischen", *Scando-Slavica* 8, 1962, pp. 161 ff. In his *Vergleichende Grammatik der Baltischen Sprachen*, Oslo 1966, Stang has changed his view on some points; I have not been able to benefit from that book, but some of Stang's new thoughts concerning the preterites have been known to me from correspondence and oral communications. See also W. P. Schmied, "Baltische Beiträge", *IF* 71, 1966, pp. 286 ff., and 72, 1967, pp. 116 ff.

[3] Cf. Fr. Kurschat, *Grammatik der littauischen Sprache*, Halle 1876, § 1077, A. Vaillant, *Bulletin de la Société de linguistique* 42, Comptes rendus, pp. 156 f., W. R. Schmalstieg, "Baltic *ei* and Depalatalization", *Lingua* 9, 1960, pp. 265–266.

ones, otherwise so often related: Lith. *baudžiù je/o*-present, Slav. *bljudǫ e/o*-present; *baudžiaũ ē*-preterite, *bljusъ* sigmatic aorist; *bundù* present with nasal infix, *-bъnǫ* present with nasal suffix; *budaũ ā*-preterite, *-bъdъ e/o*-aorist.

It might be assumed that the Baltic oppositions of transitivity had arisen without any genetic connection with the corresponding Slavic phenomena, either entirely independently or as the result of a merely structural influence from Slavic. But the question of a genetic connection ought to be examined more closely. As long as also Slavic shows a *je/o*-present, a present with a nasal infix, an *ē*- and *ā*-preterite, it is necessary to examine to what extent there is a functional agreement between those formants in Baltic and Slavic. Only such a comparison can provide us with more cogent arguments to settle the question whether the Baltic distinction may date back to a distinction between the sigmatic and the strong aorist. As we have no direct attestation of these aorists in Baltic,[1] it goes without saying that what we shall be able to present as a solution will be only a more or less probable, tentative hypothesis.

The ā-Preterite.

Examining the possibility of a genetic connection between the oppositions of transitivity in Slavic and Baltic, we have a fairly firm point of departure in the nasal present. In Baltic the nasal element is infixed, but nasal infixes are found in Slavic, too, and in the same function as the nasal suffix, ordinarily met with in Slavic. *lęgǫ* 'lie down' and *sędǫ* 'sit down' do not differ in voice from *lьnǫ* 'cling', *-bъnǫ* 'awake', *vęznǫ* 'stick', etc., see pp. 24 ff. Consequently the question of infixation or suffixation can be left out.

In Baltic the nasal presents as well as the *st*-presents, which are equivalent to them, show a more pronounced ineffective meaning than the nasal presents in Slavic do. This is probably due to the fact that in Baltic the nasal element has not the

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[1] Some scholars assume that the "short" forms of the preterites existing both in Lithuanian and Latvian dialects reflect old non-sigmatic aorists. These preterites, however they are to be explained, are of little importance for the argumentation of the present study. See J. Kazlauskas, "Ostatki formy 3-go lica aorista i imperfekta v baltijskich jazykach", *Voprosy jazykoznanija* 1962, No. 6, pp. 92 ff., with references to further literature.

additional function of perfectivizing the verb, a function which is so predominant in Slavic that even effective verbs may be perfectivized by nasalization (*tlъknǫ : tlъkǫ* 'beat, knock'). The Baltic nasal and *st*-presents are in an overwhelming majority simply intransitive, as is apparent from any list of Baltic verbs, and in most cases they are at the same time inchoative; compare *švintù švitaũ* 'grow light, break as the day' as opposed to *švitéti švitù* 'be bright'. But some are transitive, or occur with an object at least. These transitive nasal and *st*-verbs, however, as far as my knowledge goes, never show an effective meaning, and we are not even faced with border-cases in which there would be doubt as to whether the action is ineffective or not. The transitive verbs concerned denote perception, oblivion, change of owner-ship, and the like, and are clearly ineffective. Examples: *juntù jutaũ* inch. 'feel', in OLith. also intr. 'awake', *iš-girstù -girdaũ* inch. 'hear', *mirštù miršaũ* 'forget', *randù radaũ* 'find', *mégstu mégau* 'like'.

The verbs with a nasal or *st*-present all have the *ā*-preterite. Provided an *ā*-preterite is associated with a nasal or *st*-present —and this is most frequently the case—it has consequently always an ineffective meaning. But the *ā*-preterite also occurs with other present formations.

First of all the peculiar conjugation of the type *kertù kirtaũ* should be considered. With regard to voice, these verbs seem to have at least a peripheral contact with the nasal and *st*-verbs. A number of the verbs are simply intransitive: *sniẽgti/sniẽga* 'snow', dial. *bredù* 'wade', *slenkù* 'crawl, creep', *lendù* 'creep in, force one's way', *telpù* 'get in, find room enough', *sergù* 'be ill', Latv. *pęȓdu (pirdu)*. Signifying slow motions, or restricted mo-bility, rather than inchoation in the proper sense, they deviate from the majority of the nasal and *st*-verbs, but some of them also occur with a nasal or *st*-present: *sniñga, brendù*, dial. *slinkstù*, dial. *tilpstù*. Other representatives of this class deviate from the majority of the nasal and *st*-verbs in being transitive, but are still ineffective. Thus *liekù*, dial. *linkù* 'remain', Kurschat also 'zurücklassen' (cf. *paliekù* 'leave'; Latv. *lìeku* 'let, order', with *pa-* 'remain'), *perkù* (Širv. *pirku*) 'buy', *peršù* 'match, offer in marriage', *renkù* (OPruss. *senrīnka*) 'gather', and *velkù* 'drag' do not denote any reshaping of the object; the object is the same

before and after the action. Further *kremtù* 'gnaw, crunch',
kerpù (Širv. *kirpu*) 'clip, shear', and *kertù* (Širv. *kirtu*) 'hew'
denote destructive actions. Clearly effective are *kemšù* (phonically
associated with *kremtù*) 'stuff', dial. *mélžu mìlžau* (liter. *mélžiu
mélžiau* or *mélžiu mìlžau*) 'milk', and *trenkù* 'wash (hair)'.[1]

It seems out of question that verbs with a nasal or *st*-present
may originally have taken the *e/o*-aorist, as they are clearly
ineffective. The Slavic nasal presents are regularly associated
with the *e/o*-aorist: *sędǫ*, aor. *sědъ*.[2] In the same way it would be
possible, I think, to assume that the verbs of the type *kertù kirtaũ*,
at least as far as the majority of them are concerned, may origin-
ally have had the *e/o*-aorist, as verbs with a similar meaning
in Slavic and Geeek occur with the *e/o*-aorist. On the formal
level it is difficult to make a comparison with Slavic, because
Slavic has not preserved the Indo-European conjugation with a
full-grade present and a zero-grade *e/o*-aorist. We may, on the
basis of the unstable vocalism of *bredǫ* 'wade' (*brъd*- being also
attested) and on the basis of Polish *brnąć*, Slovakian *bŕdnuť*,
assume the existence of a zero-grade *e/o*-aorist *brъdъ*.[3] This
assumption may be said to be supported by the fact that a verb
of cognate meaning but with evidence for a root aorist exhibits
the apophonic alteration concerned: *plyti plovǫ*, Russ. *plylá* 'float,
swim' (see p. 21). However, *bredǫ* is not attested with any
simple aorist (other than 2–3 sg.), neither the *e/o*-aorist, nor the
sigmatic aorist, and we must also keep in mind that *žegǫ/žъgǫ*
tr. 'burn' shows a similar unstable vocalism and has a docu-
mented sigmatic aorist. So the assumption of a flexion *bredǫ
brъdъ remains uncertain. In Greek, of course, we have a greater
possibility of tracing the verbs with a full-grade *e/o*-present and
a zero-grade *e/o*-aorist, and precisely the model example λείπω
ἔλιπον justifies our believing that the Baltic verb *liekù likaũ* must
have originally had an *e/o*-aorist. In addition we may quote
πέρδομαι ἔπαρδον, to be compared with Latv. *pęr̂du pir̂du*. Verbs

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[1] For a detailed discussion of this type see Stang, *Verbum*, pp. 107 ff., and
Arumaa, *ZfslPh* 26, pp. 127 ff.

[2] The various instances of etymological accord between nasal presents in
Baltic and Slavic have been recorded by I. Němec, *Genese slovanského systému
vidového*, Rozpravy Československé akademie věd, řada spol. věd, 68,7, Prague
1958, pp. 41 ff.

[3] Cf. V. Jagić, "Ueber einen Berührungspunkt des altslovenischen mit dem
litauischen Vocalismus", *Archiv für slavische Philologie* 3, 1879, p. 96.

with a similar meaning in Baltic and Greek may be compared,
too: *kerpù, kertù*, Gk. ἔταμον (cf. CS *načrъtnǫti* and Skt. *kr̥ntáti*,
2. sg. aor. *ákr̥taḥ*); *kremtù*, Gk. ἔδακον. The fact that *liekù* in
Old Lithuanian had an athematic present (*liekmì*) is scarcely
relevant in this connection. Also others of the verbs in question
show a clearly secondary present form. Stang assumes, and I
agree with him, that the pres. *perkù, peršù*, with -*er*- instead of
the -*re*- to be expected (compare *prekià, prašýti*), are renewals
on the basis of zero-grade aorists.[1]

From what has been said, it is legitimate to conclude that
verbs which originally in Indo-European took the *e/o*-aorist in
Baltic to a large extent had their present forms regulated according
to the meaning; they preserved or obtained a nasal or *st*-present
in inchoative meaning, but preserved or obtained a present of
the type *kertù* in peripheral ineffective meaning. In this connection
it should be kept in mind that presents of the type *TeRT-e/o-*
in Baltic have been transformed into presents of the type *TeRT-
-je/o-*, as far as verbs with effective meaning are concerned (see
below).

Closely attached to the flexion *kertù kirtaũ* are the following
verbs with apophonic alternation. Intransitive: dial. *į-delu -diliau*[2]
for liter. *dylù dilaũ* 'wear away', Latv. *dẹlu/dilstu dilu* (*ā*), dial.
iš-svelu iš-sviliaũ[3] for liter. *svylù svilaũ* 'scorch', Latv. *svil̃stu/*
3. pers. *svẹl svilu* (*ā*), Latv. *dẹmu/dim̃stu dimu* 'dröhnen', -*gemù/*
gìmstu gimiaũ (Mielcke *gimau*, Latv. *dzimu* (*ā*)) 'be born', **sravù*
sruvaũ, provided that *srawanczio* (Daukša) is an older present
formation to *srūvù sruvaũ*[4] 'flow' rather than to *sravéti sraviù* 'id.',
Latv. *slavu sluvu* 'get known'. Transitive: *menù miniaũ* 'remember'[5]
and *genù giniaũ* (Latv. *dzinu* (*ā*)) 'drive, turn out to grass', both
ineffective, and *vejù vijaũ* 'pursue' and 'twist' (in the latter mean-
ing the verb may be considered effective). The verbs quoted, to
judge from corresponding Slavic verbs, originally had the strong
aorist,—not the *e/o*-aorist, it is true, but the alternate form of the
strong aorist to be expected in case of roots with a final sonant
or vowel, viz. the root aorist; compare *vejù vijaũ*, OCS 2–3 sg.

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[1] Stang, *Verbum*, p. 108.
[2] Compare Arumaa, *ZfslPh* 26, p. 124.
[3] Compare Arumaa, *ZfslPh* 26, p. 127.
[4] See J. Endzelin, *Lettische Grammatik*, Heidelberg 1923, § 626.
[5] Stang, *Verbum*, p. 111, emphasizes the middle meaning of this verb.

aor. *vitъ*, and Latv. *slavu sluvu*, Russ. *slylá* (see p. 21). An
original root aorist may be admitted also for *vérdu viriaũ* (Latv.
viru (ā)) intr. & tr. 'boil', and for *mìrštu miriaũ* (Latv. *miru (ā)*)
'die', compare OCS 2–3 sg. aor. *mrětъ*, for *būvù buvaũ* 'to be'
(OCS 2–3 sg. aor. *bystъ*), and for *gyjù gijaũ* 'recover health'
(OCS 2–3 sg. aor. *žitъ*). In some cases the *ā*-preterite has been
preserved only in Latvian, but it is generally agreed that also the
Lithuanian *ē*-preterites, with unlengthened zero-grade in the root,
date back to older *ā*-preterites.

The *ā*-preterite furthermore occurs with some verbs with the
e/o-present and a deviating acute root vowel. Intransitive are
áugu áugau 'grow', *bėgu (bėgmi) bėgau* (Slav. *bėgǫ bėgъ*) 'run',
púolu púoliau/dial. *púolau*, Latv. *pulu (ā)* 'fall' (compare Slav.
padǫ padъ with a similar meaning), *sėdu sėdau* (OPruss. *sindats*,
syndens, Slav. *sędǫ sėdъ*) 'sit down', *šóku/-šókstu šókau* 'jump'.
kándu kándau 'bite' is transitive, but the object is not clearly
situated outside the subject, the action taking place in the subject
itself; compare Gk. δάκνω ἔδακον of a similar meaning. With
je/o-present we have *léidžiu (léidmi) léidau*/dial. *léidžiau* 'let, let
go' (Latv. *laîžu laîdu (ē)*), which takes an object, but does not
involve any change of it; the verb is clearly ineffective. The Slavic
and Greek aorists quoted suggest that these verbs originally had
the *e/o*-aorist.

In many instances, however, we must assume the *ā*-preterite
to have been generalized on the basis of phonic features, inde-
pendently of the meaning of the verb. This explanation is commonly
accepted as far as vocalic roots with a *je/o*-flexion are concerned
and applies to all secondary verbs as well, with reservation for
the type *sakýti sakaũ sakiaũ*.[1] A generalization is likely to have
taken place also in the flexion of the verbs with a zero-grade
e/o-present: *mýgu mýgau*, *dìrbu dìrbau*, *brukù brukaũ*, etc.; since
already the present shows the zero-grade, the *ā*-preterite, which
itself requires the zero-grade, may be considered predisposed for
penetrating here; in Lithuanian dialects, however, we often find
verbs of the type *brukù brukaũ* attested with the *ē*-preterite.

Furthermore it appears that we are faced with a special
Latvian generalization of the *ā*-preterite in cases in which the
root ends in *-n-* and takes the *e/o*-present: Lith. *minù mýniau*,

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[1] I agree with Stang, *Verbum*, p. 151, that this type has the *ē*-preterite.

Latv. *minu* (*ā*), Latv. dial. **mīńu* (*ē*). On the other hand, we must assume a corresponding Lithuanian generalization of the *ē*-preterite, when in this language, under similar conditions, we meet with preterites like *gimiaũ* from *-gemù/gìmstu* (see above) and *bariaũ* from *barù* (see below).

Due attention must be paid to irregularities and exceptions, above all to the vacillation in the formation of the preterite stem from verbs with *a* as root vowel. We are faced here with *ā*-preterites which cannot be accounted for according to the abovementioned semantic principles, nor as generalizations on a phonic basis.

Examples:

lakù lakiaũ/Univ. *lakaũ* 'lap up', Latv. *lùoku laku* (*ā*)

rakù rakiaũ 'scratch, pick' / Kurschat *rankù rakaũ* 'durch Stochern, Picken öffnen' / Lalis *rankù rakaũ* 'dig, rake', Latv. *rùoku raku* (*ā*) 'dig'

kasù kasiaũ/Univ. *kasaũ* 'dig', Latv. *kašu kasu* (*ā*) 'rake'

ariù ariaũ 'plow', Latv. *aŕu aru* (*ā*)

barù (*bármi*) *bariaũ*/dial. *baraũ* 'scold', Latv. *baŕu baru* (*ā*)/ *bãru* (*ē*)

kalù kaliaũ/dial. *kalaũ* 'forge', Latv. *kal'u kalu* (*ā*)

malù maliaũ/dial. *malaũ* 'grind', Latv. *mal'u malu* (*ā*)

aunù aviaũ/Mielcke *avaũ* 'put on (shoes), put shoes on', Latv. *àunu àvu* (*ē*)/*avu* (*ā*)

káunu kóviau/Širv. and dial. *kavaũ* 'beat', Latv. *kaûju kâvu* (*ē*)/ *kavu* (*ā*)

šáunu šóviau/dial. *šavaũ* 'shoot, push', Latv. *šaûju šãvu* (*ē*)

jáunu jóviau 'mix', Latv. *jàuju jàvu* (*ē*)/*javu* (*ā*)

The verbs listed[1] have all the *ē*-preterite in the Lithuanian literary language, but the *ā*-preterite, attested by old grammarians and in dialects, as well as in Latvian, are doubtless older.[2] From

[1] The following variations are of a somewhat different character: *tampù* Univ. and liter. *tapaũ*/dial. *tapiaũ* 'become', Latv. *tùopu tapu* (*ā*) (for an explanation of this verb, see Chr. S. Stang, "Zum baltisch-slavischen Verbum", *International Journal of Slavic Linguistics and Poetics* 4, 1961, p. 70); *žagiù žagiaũ* / dial. *žagù žagiaũ* or *žangù žagaũ* 'sully' (see Arumaa, *ZfslPh* 26, p. 123), Latv. *zùogu zagu* (*ā*) with deviating meaning 'steal'; *plakù plakiaũ* 'whip', Latv. *plùoku plaku* (*ā*) again deviates in meaning 'become flat'; *suskantù suskataũ*/Mielcke *suskačiaũ* 'leap up', *šqlù šalaũ*/Klein 3. ps. *šãlė* 'freeze'.

[2] For *baraũ*, *kalaũ*, and *malaũ*, see Stang, *Verbum*, p. 107, and for *kavaũ* and *šavaũ*, *ibidem*, p. 48.

a semantic point of view the verbs are remarkable; they are not only transitive (effective), but at the same time denote a repeated action. We are here concerned with the meaning characteristic of primary o-grade verbs: the continued, rhythmically repeated action,[1] and the ā-preterite seems to be dependent on this specific meaning.

Some anomalies in the *je/o*-flexion, liter. *mélžiu mìlžau* 'milk', dial. *grúdžiu grúdau* 'pound', dial. *gréndžiu gréndau* 'scrape', dial. *grindžiù grindaũ* 'board, pave', are to be recorded here, too. Exactly as the o-grade verbs mentioned they denote a long-continued, rhythmically repeated action. On the other hand we cannot entirely leave out of account that such anomalies may be due to contamination.[2]

Finally I want, in connection with the ā-preterite, to mention the verbs with a "second" stem in -ā-, as a second stem in -ā- may be supposed to result from a generalization of a preterite stem in -ā-. In Baltic there exist only five such verbs: *miegóti miegù* (*miegmì*) *miegójau* 'sleep', *giedóti gíedu* (*gíemi*) *giedójau* 'sing, crow', *raudóti ráudu* (*ráumi*) *raudójau* 'lament, wail', *ieškóti íeškau* (Univ. *ieszku*) *ieškójau* 'seek', *sáugoti sáugau* (*sáugmi*) *sáugojau* 'watch'. Their ā-preterite, ending in -*ojau*, is that expected when the infinitive stem ends in a vowel; compare also *tekěti tekù tekějau, sėděti sėdžiu sėdějau*. The verbs all show the full grade throughout the flexion and denote a state as opposed to the zero-grade inchoative verbs with a nasal or *st*-present: *mingù*, *pra-gýstu*, dial. *su-rústu*, dial. *su-yškù*. Once again we have thus to do with verbs denoting continuance.

The flexion with a second stem in -ā- recurs in Slavic, and corresponding with *ieškóti íeškau* (Univ. *ieszku*) *ieškójau*, we have in Slavic *iskati iskǫ iskachъ*. As the number of such verbs is far greater in Slavic, it would be useful to have a closer look at the Slavic material. In a previous study[3] I have pointed out that Slavic verbs with an *e/o*-present and the second stem in -ā- denote actions requiring a rather long time, and in some cases even perseverance, to lead to the result desired: *rъvati* 'tear', *dъrati* 'flay', *kovati* 'forge', *snovati* 'wind', *pъrati* 'tread', *sъsati*

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[1] See Stang, *Verbum*, pp. 39 ff.
[2] See Endzelin, *KZ* 43, p. 32.
[3] "Die *e/o*-Verba im Slavischen", *Scando-Slavica* 7, 1961, p. 275.

'suck', *žъdati* 'wait for', *zъvati* 'call', *iskati* 'seek', *gъnati* 'chase'. All these continuative verbs are at the same time transitive, but it does not mean that the *ā*-stem as such is transitive. The transitive value of the verbs probably results only from the co-existence with the *e/o*-present.[1] With another present form the verb may be intransitive: *sъpati sъpljǫ sъpiši* (: *-sъnǫti*) 'sleep'. As for the regular association of a second stem in -*ā*- with the *je/o*-present, it must be admitted to be due to a generalization, to a large extent; but also in this class we very often meet with verbs signifying a long-continued, respectively rhythmically repeated action: *pъsati* 'write', *lъzati* 'lick', *tesati* 'hew', *česati* 'comb', *orati* 'plow', *zobati* 'peck up', *alkati* 'starve', *stenati* 'groan', *drěmati* 'doze', etc., and I suppose that precisely this continuative value, formerly perhaps even more characteristic of this verb class, has been the basis for creating imperfective verbs with the *je/o*-present and the infinitive in -*ati* from perfective verbs with the strong aorist, e. g. *imati emljǫ* from *jęti* 'take', *dъchati dušǫ* from *dъchnǫti* 'breathe, blow', *lěgati lěžǫ* from *lěsti lęgǫ* 'lie down'.

In Slavic the second stem in -*ā*- very often shows the zero grade, a vocalism expected also from an Indo-European stand-point, and it seems strange that only full-grade *ā*-stems, such as *miegóti*, have been reflected in Baltic. It must be borne in mind, however, that the Baltic representatives occur as stative verbs, and here the full-grade vocalism, alternating with the zero-grade vocalism of the corresponding inchoative verbs, plays a role.

We may, of course, regard the very restricted number of verbs with a second stem in -*ā*- in Baltic as the last residuum of a group originally more widely extended, but it is also quite possible that second stems in -*ā*- have not been developed in Baltic to the same extent as in Slavic and that the Baltic verbs which from a Slavic standpoint might be expected to have had a second stem in -*ā*-, in many cases show a more primitive flexion with suffixation of -*ā*- only in the preterite itself. Several scholars also maintain that the Baltic preterite stem in -*ā*-, in some cases at least, corresponds with a second stem in -*ā*- in Slavic.

I find this view correct. It may be assumed that the second stem in -*ā*-, in Slavic and in Baltic the basis of the non-present

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[1] The present of *sъrati serǫ* and Russ. *vrat' vru* 'lie' probably goes back to an earlier *je/o*-present, compare Russ. *serú/serú* and Slovenian *sérjem*.

forms of the verb, represents a generalization of an -*ā*- found
originally in the preterite indicative only. Sometimes, in Slavistics,
we refer to this preterite, an asigmatic predecessor of *žьdachъ*,
sъsachъ, etc., as an *ā*-aorist, but the term can be misleading. There
are no indications that the *ā*-preterite existed in Indo-European
as an aorist, nor can we speak in the earlier stages of Slavic,
before a new imperfect came into existence, of an aoristic ap-
plication. It is difficult to tell whether the *ā*-preterite has at the
very outset had a meaning of its own, but since in Slavic as well
as in Baltic, verbs with a second stem in -*ā*- denote a long-
continued action, as pointed out above, continuance has probably
been a dominant semantic feature of the *ā*-preterite, too. I assume,
then, a Balto-Slavic *ā*-preterite with a continuative value.

It is doubtful, however, to what degree the Baltic *ā*-preterite,
as the direct successor of that Balto-Slavic *ā*-preterite, may be
said to be continuative. We can state, of course, that the *ā*-preterite
of the *o*-grade verbs, which denote a rhythmically repeated action,
the verbs of the type *lakù lakaũ* mentioned above, is fully under-
standable as a continuative preterite. Some of these verbs have
etymological parallels in Slavic with a second stem in -*ā*-, compare
Balt. *káuju kavaũ*, Slav. *kovǫ/kujǫ kovati*; *šáuju šavaũ, sujǫ sovati*;
Latv. *aŕu aru* (*ā*), *orjǫ orati*; *lakù lakaũ*, ORuss. *ločù lokati*;
kasù kasaũ, češǫ česati. But inasmuch as the verbs concerned are
transitive at the same time, they may in Slavic also have the
sigmatic aorist: *koljǫ*, 2–3 sg. aor. *kla* (without -*tъ*), to be com-
pared with Balt. *kalù kalaũ*.

Also many other verbs with the *ā*-preterite denote continuance.
The *o*-grade is not, of course, to be understood as a necessary
precondition for the occurrence of this meaning, which, then,
may be responsible for the *ā*-preterite in other cases, too. This
explanation is particularly probable in instances in which Slavic
cognates show a second stem in -*ā*-. Thus we have Latv. *dzęnu
dzinu* (*ā*), comparable with Slav. *ženǫ gъnati*. As for *sukù sukaũ*,
ordinarily equated with Russ. *sku skat'*,[1] I see no grounds for

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[1] The Russian present form is scarcely old; compare Russ. *lgu* for OCS *lъžǫ*.
A. Vaillant, *Manuel du vieux slave* 1, Paris 1948, p. 262, gives the flexion *suče-
sъkati*. In Czech, too, the flexion *súču skáti* has probably been the original one,
as J. Gebauer, *Historická mluvnice jazyka českého* 3,2³, Prague 1958, adduces no
examples for the present stem sub *sku, sčeš (ščeš)* ... *skáti* and conversely sub
súkati gives evidence for the present stem only.

denying that the $\bar{a}$-preterite here corresponds with a Slavic $\bar{a}$-stem, but it should be noticed that in Lithuanian dialects we also find the $\bar{e}$-preterite *sukiaũ*. The durative value also, of course, exists with some intransitive verbs: *álkstu* (*álkmi*) *álkau* 'hunger', Slav. *alčǫ alkati*.

However, the great majority of Baltic verbs showing the $\bar{a}$-preterite, viz. all the verbs with a nasal or *st*-present which indicate inchoation rather than continuance in action or state, must be accounted for in a different way. How can we explain that these verbs, which must be supposed originally to have had an *e/o*-aorist, regularly show the $\bar{a}$-preterite in Baltic? I see no reasons for speaking of any transformation or enlargement of the *e/o*-aorist into an $\bar{a}$-preterite, nor of a replacement of the *e/o*-aorist by the $\bar{a}$-preterite. We must assume that the *e/o*-aorist and the $\bar{a}$-preterite once existed side by side, that these verbs took both the *e/o*-aorist and the $\bar{a}$-preterite, and that there existed a semantic contrast between the two preterites, as long as the *e/o*-aorist was intact. Only after the *e/o*-aorist had disappeared, perhaps owing to phonic circumstances,[1] and the $\bar{a}$-preterite remained as the only preterite of those verbs, it became a preterite capable of rendering all preterite functions. As for the concrete character of the opposition which I assume to have existed between the two preterites, I believe it has been a special aspectual opposition on the preterite level, an opposition very similar to the opposition known in other languages as an opposition between aorist and imperfect. In this connection I attach no weight to a possibly inherited aoristic meaning of the *e/o*-aorist, which must be highly questionable in view of the slight traces left by the Indo-European imperfect in Balto-Slavic. What leads me to posit an aspectual opposition is the continuative value of the $\bar{a}$-preterite; if opposed to another preterite, *in casu* the *e/o*-preterite, it has most likely played the role of an imperfect.

At this point a question of particular interest arises: Is the

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[1] Compare Endzelin, *Le. Gr.*, § 679. There is certainly a connection between the fact that Baltic does not distinguish between present and preterite personal endings and the loss of the *e/o*-preterite. But it is difficult to decide what is cause and what is effect. It is possible to imagine, too, that the difference between present and preterite personal endings has been abandoned only after the special preterite stems in -$\bar{e}$- and -$\bar{a}$- having wholly occupied the preterite, and that it was their clear formal contrast as against the present stems that rendered superfluous a distinction in the personal endings.

assumption of an opposition aorist : imperfect supported by
Slavic data? A comparison between the Slavic opposition aorist :
imperfect gives us an impression that the preterites known in
Slavic as aorists have been abandoned in Baltic and that what
has been preserved in Baltic is former imperfects closely related
to the Slavic imperfects. Thus, as many scholars have pointed
out, Balt. *ieškójau* and *sėdėjau* are more similar to the Slavic
imperfects *iskaachъ*, *sěděachъ* than to the aorists *iskachъ*, *sěděchъ*,
and in the same way the *ē*-preterite *vedžiaũ* bears resemblance to
the Slavic imperfect *veděachъ* (: aor. *věsъ*). But precisely in the
case of verbs with the strong aorist (the *e/o*-aorist or the root
aorist), things are rather complicated in Slavic.

In Slavic the imperfects from verbs with the strong aorist do
not end in *-aachъ* as might be expected if the point of departure
were the *ā*-preterite, but end in *-ěachъ*. On the other hand, I
think there are all grounds for questioning the ancientness of
these imperfects. We are here often concerned with perfective
verbs, and their imperfects have a most restricted frequency; in
the Old Church Slavonic translation of the Gospels, *daděachъ* is
the only sure example. Imperfects from perfective verbs, such
as *dъchněachъ*, *paděachъ*, show, to the extent they occur, an
entirely special meaning and signify the non-accomplished re-
iteration of an accomplished action. This function, to all appear-
ance, has come into being only after the distinction between per-
fective and imperfective verbs had been established.[1] Moreover,
the very form of the imperfects from verbs with the strong aorist
gives rise to doubt concerning their ancientness. In forms like
dъchněachъ, *iděachъ*, and *daděachъ* elements (nasal infix, *d*-
enlargement, present reduplication) which were originally present
formants, are linked up with an element *-ē-*, which was not a
present formant. I suppose that such imperfects were possible
only after the nasal element and the *d*-enlargement had been
generalized so as to occur also in the aorist. As for the type
sъchnǫti, the occurrence of the imperfect cannot be surprising,
these verbs being imperfective, but none the less the very form
sъchněachъ is very late, as the nasal present has here replaced,

[1] J. S. Maslov, "Imperfekt glagolov soveršennogo vida v slavjanskich jazykach",
Voprosy slavjanskogo jazykoznanija 1, 1954, p. 137.

in most cases at least, an older *je/o*-present.[1] In my opinion, then, the Slavic imperfects in -*ěachъ* attested from verbs with the strong aorist are all more or less recent and do not disprove our assumption of the *ā*-preterite as a former imperfect in Baltic.

However, we need not content ourselves with this statement. We should not overlook the fact that what functions in Slavic as the normal imperfect to an aorist from a perfective verb is, in virtue of the Slavic aspect system, the imperfect from the corresponding imperfective verb. Consequently we must examine the question whether the Baltic *ā*-preterite does not more likely agree with the imperfect from the imperfective counterparts of perfective verbs with the strong aorist.

A connection between the Baltic *ā*-preterite and Slavic imperfective verbs has already been suggested by Leumann.[1] He compares the Baltic *ā*-preterites -*stójau* (pres. -*stóju*), *sědau* (pres. *sědu*), *běgau* (pres. *běgu*) with the infinitive stem in -*ā*- of *stajati stajǫ*, *sědati sědajǫ*, *běgati běgajǫ*, i. e. the imperfective counterparts of *stati stanǫ* 'rise', *sěsti sędǫ* 'sit down', and *běžati běgǫ* 'run'. It may be difficult to acknowledge Leumann's comparison, as the examples given by him do not show zero grade, so characteristic of the *ā*-preterite, but for that matter parallels with zero-grade verbs can be adduced, too: Balt. *dūstù dusaũ*, Slav. ipf. *dъchati dušǫ* from pf. *dъchnǫti*, aor. *dъchъ*. At any rate the correspondence assumed by Leumann deserves a closer examination.

In this connection due attention must be paid to the fact the verbs acting in Slavic as imperfectivizations of perfective verbs exist in Baltic, too, although in a somewhat different function. I shall discuss them below.

(1) First of all we shall mention the verbs with a second stem in -*ē*-, Balt. *buděti* 'be awake' (: *bùsti*), Slav. *bъděti* (: *vъz-bъnǫti*). Semantically they are ineffective exactly as are the verbs from which they are derived. In Baltic they regularly denote the state resulting from the inchoative action indicated by the nasal or *st*-verb (respectively the primary verb with *ā*-preterite). Occasion-

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[1] P. Tedesco, "Slavic *ne*-Presents from Older *je*-Presents", *Language* 24, 1948, pp. 346–387.

[2] M. Leumann, "Baltisch und Slavisch", *Corolla Linguistica Festschrift Ferdinand Sommer*, Wiesbaden 1955, p. 159.

ally, however, the verb in -*ěti* do not denote a state subsequent
to the action indicated by the basic verb; thus Lith. *mérděti*[1]
(: *miřti* 'die') does not mean *'be dead', it refers to the premortal
phase 'be dying' (but *miřti* is not perfective and occurs in the
same sense as *mérděti*). In other cases the inchoative verb more
specially denotes the initial point of the state, and in such cases
the Baltic opposition inchoative action : subsequent state comes
very close to oppositions conventionally classified in Slavic as
oppositions of aspect. So the opposition *iš-giřsti* : *girděti* 'come to
hear' : 'hear' may be compared with Slav. *uslyšati* pf. : *slyšati*.
In Slavic the verbs in -*ěti* are as a rule stative, too, but the situation
is complicated precisely because of the differentiation of verbs
according to aspect, and as a consequence of this differentiation,
the nasal verbs signify, when perfective, only the initial point of
the state, the development of the inchoative action being indicated
by specific imperfective verbs. In the series *sědati* : *sěsti* : *sěděti*,
sědati denotes the action in its course of development 'be sitting
down', *sěsti* the final point of the action, respectively, as com-
pared with *sěděti*, the initial point of the state 'have sat down',
sěděti denotes the state 'sit'. We have here to do with an opposition
of three members imperfective : perfective : stative verb, and in
this light it turns out that the opposition mentioned, *uslyšati* :
slyšati, equivalent to *sěsti* : *sěděti*, is actually an opposition between
a perfective and a stative verb. But in Slavic the verb in -*ěti*
may occasionally assume the meaning of an imperfective verb.
This applies to oppositions such as *dyšati* : *dъchnọti* 'breathe,
blow', *kričati* : *kriknọti* 'shout', known in Russian and other
Slavic languages, but not attested in Old Church Slavonic. It has
been objected that *kričati* : *kriknọti* does not represent a purely
aspectual opposition, but an opposition between a repeated and
a single action; this, however, does not hold good. In Czech, at
least, *křičet* may refer to one or more cries, and the same is true
of *křiknout*. In my view the opposition Czech *křičet* : *křiknout* is
comparable with that of *sědati* : *sěsti*, cf. Czech *Křikl*: "*Ticho*"
'He cried: "Silence"' vs. *Slyšel jsem, jak křičí*: "*Ticho*" 'I heard
him cry: "Silence"'. On the other hand me must admit that
kričati lacks the idea of development otherwise characteristic of
imperfective verbs.

[1] See Stang, *Verbum*, p. 24.

(2) Next I shall discuss the verbs with an $\bar{a}$-suffix and length-
ened zero grade throughout the flexion, represented in Baltic by
the type *kýboti kýbau kýbojau* intr. 'hang' (: *kimbù kibaũ* intr.
'catch'). In Baltic these verbs are all intransitive, and they have
a pronounced stative value, as they denote a remaining in a
particular position. They are also, with a somewhat inappropriate
term, referred to as "intensive"; in this connection I want to
reproduce Leskien's definition of that term: "*Intensiva.* So
möchte ich die intransitiven Verba nennen, die ein gewissermassen
energisches Verharren in einem Zustande bedeuten, z. B. *rýmau
rýmoti* dauernd aufgestützt dasitzen".[1] The corresponding Slavic
formations with the $\bar{a}$-suffix and lengthened root vowel (preferably
lengthened zero grade) mainly occur as imperfectivizations of
perfective verbs, e. g. *sědati sědajǫ* from *sěsti* or *dychati dychajǫ*
from *dъchnǫti*. This function does not presuppose a specific voice
of the basic verb, and particularly in reimperfectivizations we
often meet with this derivation also when the basic verb is effective,
compare *sъžešti* pf. : *sъžidzati* ipf. 'burn up (tr.)'. However, if the
basic verb is ineffective, the verb derived from it is not always
imperfective in the proper sense of this term, but may stand for
a state as well. Thus *kasati sę* 'touch' may be used not only
referring to the action preceding the turning point denoted by
kosnǫti sę, but also referring to the state following that turning
point 'be in contact with'; *kasati sę*, then, represents a neutrali-
zation of the two meanings, the imperfective one and the stative
one, kept apart in the series *sědati* : *sěsti* : *sěděti*. From a syn-
chronic point of view the imperfective function must be regarded
as the specific value of the verbs under examination, but historic-
ally it is probably the stative meaning, found also with the
corresponding Baltic verbs, that is the primary function.

(3) A third group of stative verbs in Baltic is constituted by
the verbs with a full-grade *je/o*-present. Their preterite is the
$\bar{e}$-preterite, which, however, need not be old, as we must assume
the $\bar{e}$-preterite to have been generalized with verbs taking the
je/o-present. These verbs have as a rule an animate subject and
denote a long-continued internal function. The stative meaning
is not, perhaps, very pronounced, but the semantic contrast
between the derived and the basic verbs is the same as in the

[1] Leskien, *Ablaut*, p. 430.

preceding cases; the basic verb denotes a phase preceding the phase referred to by the derived verb. In principle we are not concerned with oppositions of aspect here. The Baltic oppositions of inchoation may frequently, it is true, bear resemblance to oppositions conventionally classified in Slavic as oppositions of aspect, compare *su-bliūvù : bliáunu* 'begin to bleat': 'bleat' with Russ. *zablejat' : blejat'*, but here again we actually in Slavic have the same relation as in *sěsti : sěděti* rather than the opposition imperfective : perfective met with in *sědati : sěsti*. As further examples I adduce: *šviečiù* 'shine' to *švintù* 'grow light, break as the day', *jaučiù* 'feel' to *juntù* 'notice', *snáudžiu* 'nod, doze' to *snústu* 'doze off', *verkiù* 'weep' to *pra-vìrkstu* 'burst into tears', *klykiù* 'scream' to *su-klinkù* 'begin to scream'.

The corresponding Slavic derivatives with full-grade *je/o*-present have a zero-grade second stem in *-ā-*. Examples: *dъchati dušǫ*[1] 'blow' to *dъchnǫti*, *trъdzati trěžǫ* 'tear' to *trъgnǫti*, *plъzati plěžǫ* 'crawl' to *plъznǫti*, *zijati zějǫ* 'yawn' to *zinǫti*, *plъvati pljujǫ* 'spit' to *plinǫti*, *kъvati (kyjǫ)* 'nod' to *kynǫti*, *imati emljǫ* 'take' to *jęti imǫ*, 2–3 sg. aor. *jętъ*. The second stem in *-ā-* might be due to generalization, as nearly all *je/o*-presents have a second stem in *-ā-*, but in the present case it may be said to be motivated by the imperfective meaning of the verbs. We usually record them as imperfectivizations, but this determination should not be taken too rigorously. They are used obligatorily when the phase preceding the maximum denoted by the basic perfective verbs has to be expressed, but may also stand for the state following that maximum. So OCS *imati : jęti* normally renders a distinction between the course of development of the action and the final point of the action, but in the context *imati věrǫ : jęti věrǫ*, verbatim 'take belief', *imati* expresses the state resulting from *jęti* and is equivalent to the stative verb *iměti* 'have'. In younger texts we also frequently find *iměti věrǫ* as a substitute for *imati věrǫ*. This case is consequently analogous to the preceding case (2), and once again I assume that the imperfective function found in Slavic historically represents a secondary evolution.

Previous scholars have already operated with the hypothesis that the Slavic opposition of aspect is genetically related to the

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[1] The attestation of this verb is feeble, see Vaillant, *Manuel* 1, p. 262.

opposition inchoation : state.[1] In my opinion this idea is correct,[2] and at any rate I find it striking that we so often are faced with an opposition of aspect in Slavic, where we have an opposition inchoation : state in Baltic, as pointed out above. Very characteristic in this respect is a case in which all three formations mentioned above are attested to one and the same root: Slav. *dyšati* (1), *dychati dychajǫ* (2), and *dъchati dušǫ* (3) (secondarily also *dychati dyšǫ*) are all imperfective in contradistinction to *dъchnǫti* 'breathe, blow', whereas the corresponding Baltic formations *dūsěti* (1) 'breathe hard' and *dvesiù dvėsiaũ* (3) 'perish', Kurschat: "eigentl. *hauchen*; gewöhnlich vom Sterben der Thiere, *verenden*", Latv. *dvešu dvèsu* 'blow, breathe hard', are stative as compared with *dūstù dusaũ* 'lose one's breath'.

Reverting now to the problems concerning the relationship between the Baltic *ā*-preterite and the special Slavic imperfective verbs in *-ati*, we may state that the imperfectivizations of the third type *dъchati dušǫ* actually have a second stem *dъcha-* comparable, also in vocalism, with the preterite stem in *-ā-* of the nasal and *st*-verbs in Baltic, cf. *dūstù*, pret. *dusaũ*. As the corresponding Baltic *je/o*-verbs, such as *dvesiù dvėsiaũ* (3), agree with them only in the present, their preterite being an *ē*-preterite, the second stem in *-ā-* of Slav. *dъchati* need not have belonged originally to the *je/o*-present, but may be supposed to be the reflex of the posited imperfective *ā*-preterite, or *ā*-imperfect, of the inchoative verb, reflected in Baltic as *dusaũ*; the simplest solution is that this imperfective *ā*-preterite has been associated, in Slavic, with the *je/o*-present of the stative verbs only after these verbs had been reinterpreted into imperfective verbs.

We may now set up a tentative hypothesis explaining the creation of special imperfects in Baltic and Slavic. I suppose that the initial stages of the development were common to the two language groups. The *ā*-preterite, originally the preterite of continuative verbs (Balt. *ieškóti*, Slav. *iskati*) only, spread and was used also in a more special sense, as an imperfective preterite,

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[1] See J. Kuryłowicz, "La genèse d'aspects verbaux slaves", *Prace filologiczne* 14, 1929, pp. 644–657 (cf. *Sbornik praci I sjezdu slovanských filologů* 2, 1932, pp. 572–576, and *Sprawozdania Towarzystwa naukowego we Lwowie* 9, 1929, pp. 70–74), Stang, *Verbum*, p. 19, and Němec, *Genese slovanského systému vidového*, passim.

[2] See my article "Aspekt und Diathese im Slavischen", *Scando-Slavica* 12, 1966, pp. 75 ff.

or imperfect (*dusaũ*, *dъcha-*), as opposed to the strong aorist (*dъchъ*) of the inchoative nasal verbs (*dūstù*, *dъchnǫ*). Then the continuatives, after the distinction aorist : imperfect had been established among the inchoative verbs, became themselves subject to aspectual differentiation on the preterite level; their preterite in -*ā*- bifurcated into an aorist *iskachъ* and an imperfect *iskaa-chъ* (Balt. *ieškójo*), the latter form created by adding once more the suffix -*ā*-[1] (compare the equation Balt. *dùsti* : *dusaũ* = *ieškóti* : *ieškójau* = Slav. *iskati* : *iskaachъ*). In Slavic, however, the association of the *ā*-preterite (*dъcha-*) with the *je/o*-present (*dušǫ*) caused it formally to lose its character of an imperfect and to become the preterite of an independent (imperfective) verb. The outcome of this, besides the creation of a second stem in -*ā*-, was that imperfective verbs of the type *dъchati dušǫ* followed the continuatives and developed their preterite in -*ā*- into a clear imperfect form in -*āā*- : *dъchaa-chъ*. Specific Slavic is also the sigmatization of the imperfect. It must be due to influence from the aorist, where the sigmatization is obligatory precisely after stems ending in a long vowel. As for the thematic flexion of the Slavic imperfect (3. sg. *dъchaaše*) I assume, following a hypothesis advanced by Kuryłowicz,[2] that there was an intercrossing between the athematic predecessor of *dъchaaše* (to pres. *dušǫ*) and a preterite, 3. sg. **dychaje(t)* (sigmatized into **dychaše*), representing the continuation of the Indo-European imperfect to the thematic present 3. sg. *dychajetъ*. I find that the preterites of these two semantically closely related types of verbs, *dъchati* and *dychati*, both appearing in Slavic as imperfectivizations, may easily have influenced each other and have exerted an influence on the forming of the imperfect. The intercrossing resulted in

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[1] I give the terminations of the Slavic imperfect as -*ěachъ*, -*aachъ* in accordance with the spelling in our Old Church Slavonic texts, which give no testimony of an intervocalic *j* in this case, as emphasized by M. Weingart, *Rukověť jazyka staroslověnského* 2, Prague 1938, p. 349. The Proto-Slavic terminations, in my opinion, may well have been *-*ějachъ*, *-*ajachъ*, compare Balt. *sėdějau*, *ieškójau*; in Old Church Slavonic an intervocalic *j* was lost to a very great extent, especially between vowels of the same timbre (cf. such spellings as *děati*, *daati*); in the case of the imperfect no morphological restitution of the *j* was possible in Old Church Slavonic, because in the imperfect terminations there were no other positions than *ě-a*, *a-a*.

[2] J. Kuryłowicz, "Imperfectum i aspekt w języku staro-cerkiewno-słowiańskim", *Zeszyty naukowe Uniwersytetu Jagiellońskiego* 24, 1960, pp. 7ff. The article has also appeared in French in the *International Journal of Slavic Linguistics and Poetics* 1–2, 1959.

imperfects in *-aaše*, clearly distinct from any aorist: *dъchaaše*, *dychaaše, iskaaše,* etc. To sum up the prehistoric evolution I have posited: **dus-e- *eisk-ā-* → **dus-e-* : **dus-ā-* → **eiskā-* : **eiskā-ā-* → **dъch-e-* : **dъch-aa-* × **dychaje-* → *dъše* : *dъchaaše/dychaaše*.

Our Old Church Slavonic texts offer a situation in which all verbs with infinitives ending in *-ati* have aorists in *-achъ* and imperfects in *-aachъ*. Here, of course, we must realize that the attestation of the preterites depends on the meaning of the verb. The meaning of the continuatives, such as *iskati*, is not incompatible with the meaning of the aorist, and we do find both aorists and imperfects (*žьdachъ* : *žьdaachъ*). However, the Old Church Slavonic translation of the Gospels does not offer any sure attestation in the aorist of imperfectivizations, provided that they are really imperfective (in the simplex *dъchati, dychati,* or as reimperfectivizations *sъbirati*, whereas perfective prefixations such as *prě-dajati* do occur in the aorist).[1] Thus the type *dъchati dušǫ* is attested only in the imperfect (*imaachъ*), the aorist being taken from the paradigm of the perfective verb (*jęsъ* from *jęti*).

Leumann in his treatment[2] identifies the Baltic *ā*-preterite, 3. p. *stójo*, with the 3. sg. aor. from the Slavic imperfective verb: *staja* from *stajati*. This identification is formally quite correct, but in the case of imperfectivizations, such as *dъchati, imati, stajati,* etc., the attestation of the aorist is so feeble that it is difficult to assume the *ā*-preterite to be continued as an aorist in Slavic. As apparent from the considerations above, I believe it is the imperfect (in *-aaše*) from those verbs which continues the Balto-Slavic *ā*-preterite represented in Baltic by *dusaũ*.

The *ē*-Preterite.

Verbs with *TeT*-root and with pure *e/o*-present and *ē*-preterite constitute in Baltic a special transitive class: *bedù bedžiaũ* 'dig', *degù* 'burn', *kepù* 'bake', *lesù* 'peck up', *metù* 'throw', *mezgù* 'tie, knit', *nešù* 'carry', *pešù* 'pluck', *rezgù* 'knit, net', *segù* 'pin', *sekù* 'follow' and 'tell', *tepù* 'smear', *vedù* 'lead', *vežù* 'convey'. With the exception of *sekù*,[1] these verbs all denote a creation or

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[1] Cf. my article "Vidové problémy v staroslověnštině", *Universitas Carolina* 1957, Philol. 3,1, p. 81.

[2] Leumann, *Corolla Linguistica*, p. 159.

[3] As for *nùseku nùsekiau* intr. 'sink' I consider this flexion secondary as against *nusenkù nusekaũ*. See Arumaa, *ZfslPh* 26, p. 124.

change of the object (although we must admit that the change in some cases, such as *nešù*, is only a change of place). Therefore this transitive class may be assumed to originate from a class of effective verbs. Above (p. 29) we arrived at a similar conclusion in the case of Slavic. The corresponding verbs with *e/o*-present in Slavic, *bodǫ*, *žegǫ*, *pekǫ*, *nesǫ*, *tepǫ*, *vedǫ*, to mention only the etymological cognates, show, apart from *bodǫ*, the same vocalism. Their aorist is sigmatic (see p. 29), and nothing prevents us from assuming that the verbs in question had originally the sigmatic aorist in Baltic, too.

Previous scholars, as far as I know, have not explicitly stated that the verb class in question is transitive. We are concerned with a restricted number of verbs only, it is true, but the corresponding, somewhat more numerous Slavic group legitimates the assumption of a transitive group also in Baltic. Endzelin, however, was not far from the correct view: "Ja saknē ir *e*, tad tīrajiem tag. *o*-celmiem atbilstošie pag. celmi pa laikam beidzas ar *ē* (piem., *vedē-*, *nesē-*), atskaitot vienīgi intransitīvo *dẹgā-* un dial. *tẹkā-*; no trans. un intrans. *cept* pa laikam *cepē-*, bet izloksnēs ar intrans. nozīmi arī 3. p. -*cẹpa* Pas. III 478, IX 322''.[1]

Direct oppositions of transitivity between verbs with the *ē*-preterite and verbs with the *ā*-preterite are not numerous, as far as the *TeT*-roots are concerned, this root type admitting alternation between full and zero grade only in special cases, but *mezgù mezgiaũ* : *mỹzgù mizgaũ* and *rezgù rezgiaũ* : *rỹzgù rizgaũ* may be quoted. Without apophonic alternation it would be difficult to keep apart the pair verbs in the infinitive (and some other forms) as seen in the case of *kèpti kepù kepiaũ* tr. 'backen, braten' : dial. *kèpti kempù kepaũ* intr. 'gebacken, gebraten werden; gerinnen (vom Blute)', cf. *kem̃pti kempstù kempaũ* 'hart werden (vom Brot), trocknen'.[2] The opposition *kepù* : *kempù* is scarcely old. Old is here, to all appearance, only the opposition in the preterite *kepiaũ* : *kepaũ*, recurring in Latvian as *cepu* (*ē*) : -*cẹpa* (*ā*).[3] As for *degù degiaũ* (dial. also *dengù*, and in the preterite also *degaũ*, Latv. *dẹgu dẹgu/dedzu*), which is used mostly without object, Slav. *žegǫ* and further cognates (Alb. *djek*, Skt. *dáhati*) suggest

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[1] J. Endzelin, *Latviešu valodas skaņas un formas*, Riga 1938, p. 190.
[2] Cf. Arumaa, *ZfslPh* 26, p. 125.
[3] Cf. the quotation above.

that it is the transitive function which is the older one, and in so far the flexion *degù degiaũ* is the one expected. But as shown by Endzelin, the *ā*-preterite is attested in intransitive function, in OLith. (Univ.) *degù degaũ* 'gorę', and in Latv. dial. (Lizums) *dagu* (: tr. *dadzu*).[1] Here again we are faced with an old opposition of transitivity in the preterite.[2] Otherwise language has resort to lexical contrasts: *vedù* : *einù* 'lead' : 'go', *vežù* : *jóju* 'convey' : 'ride'.

The *ē*-preterite is furthermore the nearly obligatory preterite of verbs with the *je/o*-present. These verbs are for the most part transitive. This statistic fact, however, cannot be decisive for us; the number of exceptions is so great that it is impossible to speak of a pronounced transitive group. It does not mean that we do not attach weight to the verbs with *je/o*-present and *ē*-preterite functioning as transitive counterparts of verbs from the same root with a nasal or *st*-present and an *ā*-preterite. Such direct oppositions exist, as we know, in not a few cases: *baudžiù baudžiaũ* tr. 'chastise' : *bundù budaũ* intr. 'awake', *verčiù verčiaũ* tr. : *virstù virtaũ* intr. 'turn, tumble', etc. It should be emphasized, however, that even if the Baltic *je/o*-verbs are often opposed to corresponding nasal or *st*-verbs in an opposition of transitivity, they may, in other cases, show the same voice as the correlates with nasal or *st*-presents, the opposition being then an opposition between state and inchoation: *jaučiù jaučiaũ* 'feel' : *juntù jutaũ* 'notice', *verkiù verkiaũ* 'weep' : *pra-vìrkstu -vìrkau* 'burst into tears' (cf. p. 46). What is essential here is of course the fact that the nasal and *st*-verbs are characterized by two semantic features, normally present at the same time, viz. intransitive (ineffective) value and inchoation. This causes the derivatives among the *je/o*-verbs to differ in meaning according to the semantic feature that is the starting point of the derivation; they appear, then, in diametrically opposed meanings, denoting either a transitive action or an intransitive (ineffective) state. A question of great concern is the distribution of the two meanings. In our considerations above concerning Greek (see p. 8) we have developed the thought that one and the same formal distinction need not anywhere

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[1] Endzelin, *KZ* 43, pp. 18f., *Le. Gr.*, § 606. Klein gives an opposition in the present *degù* 'ardeo' : *degiù* 'accendo'.

[2] Compare also Latv. *dzešu dzèsu* (*ē*) tr. 'extinguish' : *dziēstu dzisu* (*ā*) intr. 'cease to burn, go out', cf. Lith. *gęstù gesaũ* intr. 'id.'.

represent the same semantic distinction, but may be utilized to render different semantic distinctions, provided surroundings are different. In the present case the two semantic oppositions should, then, occur under different contextual conditions, which seems to hold good. If a nasal or *st*-verb appears preferably with a personal subject or at any rate with an animate subject, then the corresponding *je/o*-verb is stative: *juntù* 'notice' : *jaučiù* 'feel', *-vìrkstu* 'burst into tears' : *verkiù* 'weep', etc., although an opposition of transitivity or causation would have been conceivable, too (if the meaning of the *je/o*-verbs had been *"*'make feel' or *"*'make weep'). And inversely, if the subject of the nasal or *st*-verb is normally inanimate or passive (e. g. a sleeping person), the corresponding *je/o*-verb is transitive: *plýštu* intr. : *plėšiu* tr. 'tear', *lū́žtu* intr. : *láužiu* tr. 'break', *bundù* intr. 'awake' : *baudžiù* tr. 'chastise', etc., even if oppositions of inchoation would also be conceivable (if the *je/o*-derivatives had meant something like *"*'be in pieces', *"*'be awake'). Of course, in some instances there may be doubt as to whether the subject is to be conceived as animate or inanimate, and in an isolated case, under special phonic conditions, a nasal verb is attested both with a transitive verb and a stative verb: *švintù* 'grow light, break (as the day)' : *šveičiù* 'polish' (opposition of transitivity) and *švintù* : *šviečiù* 'shine' (opposition of inchoation). The rule given here for the repartition of the two oppositions applies to most cases, but ought to be formulated with more accuracy as far as details are concerned. In any case, the problems concerning the semantic divergence attached to the distinction between *je/o*-verbs and nasal verbs would deserve greater attention than hitherto given to them.

As for the flexion, the *je/o*-present of the stative derivatives is old, cf. Slav. *emljǫ*, *dušǫ* (p. 46). Perhaps they have originally had the sigmatic aorist, if this has been unmarked in meaning. The corresponding Slavic derivatives have a second stem in *-a-* (*imati*, *dъchati*), but an *ā*-preterite need not have come into existence until the verbs concerned had been reinterpreted into imperfective verbs; we have no secure indications that the *ā*-preterite was used especially frequently as a preterite of stative verbs.

The transitive *je/o*-verbs at the same time are usually effective and may be assumed originally to have had the sigmatic aorist,

as corresponding Slavic verbs show the sigmatic aorist; compare *bljudǫ bljusъ* tr. 'watch' : *vъz-bъnǫ -bъdъ* intr. 'awake' with the same apophonic alternation as Balt. *baudžiù baudžiaũ* : *bundù budaũ*, and Slav. *lękǫ lęchъ* tr. 'bend' : *lękno sę lękъ* intr. 'shrink back', Balt. *lenkiù lenkiaũ* : *linkstù linkaũ*.

We may find it surprising that these transitive verbs take the *je/o*-present in Baltic. From an etymological point of view we must assume that the roots concerned in many cases had the *e/o*-present in Indo-European, compare *baudžiù*, Slav. *bljudǫ*, Gk. πεύθομαι, Skt. *bódhati*; *verčiù*, Lat. *verto*, Skt. *vártate*. Here the structure of the root plays a role. In Slavic both *TeT*-roots and *T(e)RT*-roots are represented among the verbs with an *e/o*-present and s-aorist: *nesǫ něsъ*, and *bljudǫ bljusъ*, *vrъzǫ vrěsъ*. In Baltic the verbs with the *ē*-preterite retain the *e/o*-present only if the root is of the type *TeT*-,[1] whereas the *T(e)RT*-roots take the *je/o*-present (provided the *ē*-preterite is preserved): *nešù*, but *baudžiù*, *veržiù*. The background of the differentiation of the present stem has apparently been the different attitude of the roots towards apophonic alternation. The *TeRT*-roots change easily to the zero grade, while the type *TeT*-, as pointed out, was in principle incapable of this vocalic alternation. This is of importance for the occurrence of pair verbs distinguished in transitivity. We may assume, then, that the opposition of voice in the preterite, the contradistinction between the *ē*-preterite and the *ā*-preterite (*verčiaũ* : *virtaũ*), respectively between the sigmatic and the strong aorist, motivates a differentiation also of the present stem. If the intransitive verbs never had a present of the type *T(e)RT-e/o-*, as is practically the case in Slavic (exceptions: *cvьtǫ* 'bloom', *grędǫ* 'go'), there should be no serious problems; the transitive verbs might then take the *e/o*-present (Slav. *bljudǫ*). But in Baltic we have also, besides the nasal presents and the *st*-presents, intransitive presents such as *švitù* to *švitěti* 'be bright', and some intransitive presents belonging to the type *kertù kirtaũ*, cf. Latv. dial. *vęrtu virtu* intr. 'become', and under these circumstances the *je/o*-flexion of the transitive verbs is at least equally appropriate (Balt. *baudžiù*, *verčiù*).

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[1] We disregard here the tendency existing in Latvian to replace the *e/o*-present by the *je/o*-present, when the first *T* in a *TeT*-root is an occlusive or *s*: *bežu*, *tepju* et al.

It seems doubtful to me that the *je/o*-present should have been associated with a transitive value from the very beginning in Baltic. On the contrary, the frequency with which this present appears with a transitive value may be due to the fact that quite a number of roots, when transitive, replaced their original *e/o*-present by a *je/o*-present and that this present became a productive model for shaping transitive counterparts of intransitive nasal or *st*-verbs.

On the other hand, it should be emphasized that the Indo-European sigmatic aorist in all likelihood did not directly require the *e/o*-present, but also, and very often, was associated with the *je/o*-present; compare the Greek primary verbs in *-jω*, which regularly take the sigmatic aorist and are transitive to a very great extent (πλήσσω ἔπληξα et al.). We must assume, then, that several of the transitive *je/o*-verbs are of Balto-Slavic age, as also appears from some etymological parallels: Balt. *liežiù* 'lick', Slav. *ližǫ*, Gk. aor. ἔλειξα;; Latv. *tešu* 'hew', Slav. *tešǫ*; Balt. *júosiu* 'gird', Slav. *-jašǫ*, Gk. aor. ἔзωσα; Balt. *žiedžiù* 'form', Slav. *ziždǫ*; Balt. *piešiù* 'sketch, draw', Slav. *pišǫ*; Balt. *rěžiu* 'cut', Slav. *rěžǫ*, Gk. aor. ἔρρηξα; Balt. *plěkiu* (liter. *plíekiu*!) 'whip', Slav. *plačǫ* (*sę*), Gk. aor. ἔπληξα. The early existence of such transitive verbs within the *je/o*-flexion is, of course, a precondition of verbs like *verčiù* being transferred to it from the *e/o*-flexion.

A precious indication how the replacement of *e/o*-flexion by *je/o*-flexion took place is afforded by Slavic. Here we have, as opposed to the intransitive *vęznǫ* 'get entangled', two transitive verbs from the same root, one with the *e/o*-present, *vęzǫ*, and the other with the *je/o*-present, *vęžǫ* 'tie'. All three verbs are imperfective, so that it is impossible to consider *vęzati vęžǫ* an imperfectivization of *vęzti vęzǫ*, nor can it be considered the iterative verb of *vęzti vęzǫ*; compare Dostál's semantic determination of *vęzati vęžǫ*: "Lexikální význam, jako u mnohých jiných sloves, lze si dějově představiti tak, že se několikrát za sebou opakuje jistá činnost. Někdy se však u *vęzati* myslí na *vázání* a *poutání* jediné, nelze proto viděti v tomto slovese významové iterativum".[1] The same may perhaps apply to *lękǫ* 'bend, stretch' and *lęčǫ* as against *lęknǫ* (*sę*) 'shrink back'; cf. Balt. *lenkiù* : *linkstù*.[2]

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[1] A. Dostál, *Studie o vidovém systému v staroslověnštině*, Prague 1954, p. 185.

[2] See also Endzelin, *Le. Gr.*, § 625 d.

We must assume that there was some difference in meaning between *vęzǫ* and *vęžǫ*, and between *lękǫ* and *lęčǫ*, but the difference has scarcely any connection with aspect or iteration. It is thinkable that similar doublets have existed in Baltic, too, a verb with *e/o*-flexion side by side with a verb with *je/o*-flexion, both showing transitive value and differentiated at most in shades of that value. At any rate, it deserves to be stressed that the opposition of voice between *je/o-* and nasal present is not a specific Baltic pheno-menon, but is represented also in Slavic by *vęžǫ* : *vęznǫ*, a fact that has been overlooked in previous investigations.

Finally some isolated cases of the *ē*-preterite: *ēdu* (*ēdmi*) *ēdžiau* 'eat' and, with a deviating vocalism in the preterite, *dúodu* (*dúomi*) *daviaũ*, dial. *deviaũ*, Latv. *devu* (*ē*) 'give', and of opposite meaning *imù ėmiaũ* 'take'. The somewhat obscure vocalism may cause uncertainty towards these preterite forms, but in my opinion their ancientness cannot be questioned. All three verbs are transitive, and in so far the *ē*-preterite is the preterite to be expected. However, the verbs mentioned are not effective, and in Slavic the corresponding verbs, *jamь*, *damь*, *imǫ*, form the root aorist: 2. and 3. sg. *jastъ*, *dastъ*, *jętъ*. Consequently, besides the ordinary correspondence between Baltic *ē*-preterite and Slavic *s*-aorist, it would be prudent to take into consideration also a correspondence between the Baltic *ē*-preterite and the Slavic root aorist with the 2. and 3. sg. in -(*s*)*tъ*.

The fact that two of the verbs in question are old athematic verbs claims attention.[1] I find it highly probable that the athematic verbs were the group in which the *ē*-preterite, as a preterite with a stem in -*ē*- found only in the preterite itself, came into existence

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[1] I conceive the Lithuanian athematic verbs as a group of ineffective verbs. Stang has dealt with the Old Lithuanian athematic verbs, and according to him we are to distinguish between an old group of athematic verbs, with cognates in other Indo-European languages and without distinct meaning as to voice, and a group developed in Baltic itself and showing intransitive or stative value (see Chr. S. Stang, "Die athematischen Verba im Baltischen", *Scando-Slavica* 8, 1962, pp. 161 ff.). I believe there was no sharp semantic contrast between those two groups. The athematic verbs inherited from Indo-European, *bū́ti* 'be', *dúoti* 'give', *dė́ti* 'put', *eĩti* 'go', *ė́sti* 'eat', *raudóti* 'lament, wail', 3 ps. pres. *velti* 'wishes', do not indicate any creation or reshaping of an object lying outside the subject; they are ineffective, and this meaning joins all the Old Lithuanian athematic verbs. Cf. p. 12. That they have been productive only in a narrower meaning, in intransitive function, may be compared with the fact that the nasal and *st*-verbs, as to voice ineffective, too, have likewise been productive only in intransitive function.—Also the Slavic *mi*-verbs may be considered ineffective (*byti* 'to be', *dati* 'give', *iměti* 'have', *jasti* 'eat', *věděti* 'know').

and had its first spread. The reason why I assume this, is that
in Slavic we have one $\bar{e}$-preterite, viz. *běchъ* 'eram' from *byti*
'esse, fieri', with an $\bar{e}$-formative found nowhere else in the flexion
of the verb. The corresponding present, *jesmь* 'sum', is athematic.
In the preterite we observe an opposition between *běchъ* and the
root aorist *bychъ*, 2–3 sg. *bystъ*, classified as an opposition im-
perfect : aorist; *běchъ* suggests, then, that also the Baltic $\bar{e}$-pre-
terites formerly, as long as the aorists were intact in Baltic,
functioned as imperfects. However, at the same time the opposition
bychъ : *běchъ* 'factus sum' : 'eram' also represents an opposition
inchoation : state, and this gives rise to some remarks concerning
the special character of the Slavic opposition aorist : imperfect.

It must be borne in mind that the Slavic opposition between
aorist and imperfect has only these very members, whereas the
Greek opposition has three members, viz. present stem : aorist
stem : perfect stem, cf. ἵσταμαι ἔστησα ἔστηκα. Also the Slavic
opposition of aspect has three members, viz. imperfective verb :
perfective verb : stative verb, cf. *sědati* : *sěsti* : *sěděti*. The formal
distinction between the three members normally refers to a
semantic distinction, action in its course of development : critical
point : state. In Greek a state may be expressed markedly by
the perfect stem, but by virtue of the unmarked character of the
present stem, also the present stem can stand for a state, and in
this case the aorist may denote *either* the attainment of the final
point of that state, e. g. βασιλεύω 'I am a king' : ἐβασίλευσα (τρι-
άκοντα ἔτη) 'I was a king (for 30 years)', in the same way as
ἔστην denotes the final point as against ἵσταμαι, *or* the initial
point of the state, βασιλεύω 'I am a king' : ἐβασίλευσα 'I became
a king', in semantic concurrence with the relation ἔστηκα : ἔστην.
The basic function of the Greek aorist as compared with the
present, is the signification of the final point of an action, whereas
the signification of the initial point of a state results from a
comparison with the perfect, or with a present functioning as
a perfect. The same applies to the aspectual opposition between
verbs in Slavic. The perfective verb signifies in principle, as
opposed to an imperfective verb, the final point of an action, e. g.
sěsti : *sědati* 'have sat down' : 'be sitting down', but if a special
stative verb does not exist, the imperfective verb may be used in a
stative sense, and then the opposition, e. g. *kosnǫti sę* : *kasati sę*
'have come in contact with' : 'be in contact with', is equivalent

with that of *sěsti* : *sěděti* 'have sat down' : 'sit'. Owing to the fact
that it has only two members, the nature of the opposition between
aorist and imperfect in Slavic is different. The two semantic
contrasts mentioned, final point : preceding action and initial
point : following state, are not kept apart formally, being only
two manifestations of the distinction critical point : phase. The
marked member of the opposition is the imperfect, as, precisely
in the case of stative verbs, the aorist need not refer to a critical
point. So the imperfect *imě̌achъ* always denotes the possession as
a phase, as a state we are in, whereas the aorist *imě̌chъ* may
refer to the initial or final point of the phase, or to the phase
itself.[1] Under these circumstances I find it legitimate to regard
bychъ : *bě̌chъ* as an opposition between aorist and imperfect.

The stative imperfect *bě̌chъ* formally agrees with the aorist of
the stative verbs in *-ě̌ti*, e. g. *sěděchъ* from *sěděti*, and thus clearly
points to a model. In order to explain the evolution leading to
the creation of imperfects in *-ē-*, we must start from the opposition
between inchoative verbs and stative verbs with a second stem
in *-ē-*, Slav. *sěsti* : *sěděti*, Balt. *sèsti* : *sėdė́ti*. Their aorists, the
strong aorist *sědъ* and the (later sigmatized) *ē*-aorist *sěděchъ* were
probably originally only preterites without aspectual status, op-
posed to each other as the other forms of the verbs, i. e. in an
opposition of inchoation as Balt. *sèsti* : *sėdė́ti*. Following the
pattern *sědъ* : *sěděchъ*, *byti* then develops a stative preterite *bě̌-chъ*
to the root aorist *bychъ*, 2–3 sg. *bystъ*, but here, probably owing
to the existence of the stative present *jesmь*, a special stative verb
in *-ě̌ti* did not arise, and the opposition *bychъ* : *bě̌chъ* was inter-
preted as an opposition aorist : imperfect. Baltic seems to have
had a similar *ē*-preterite from the verb 'to be', compare OPruss.
ast bēi/bē/be.[2] From this verb the imperfect in *-ē-* had probably
a first spread to other verbs with the athematic present and root
aorist, cf. Slav. *jamь*, 2–3 sg. aor. *jastъ*, impf. *jaděachъ*, Balt.
ě̌dmi ě̌džiau, Slav. *damь*, 2–3 sg. aor. *dastъ*, impf. (*daděachъ*),
Balt. *dúomi daviaũ*.[3] From these transitive verbs, then, a further

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[1] Cf. V. V. Borodič, "K voprosu o vidovych otnošenijach staroslavjanskogo
glagola", *Učenye zapiski Instituta slavjanovedenija* 9, 1954, pp. 73 f.

[2] Stang, *Verbum*, pp. 197 f.

[3] In view of the *mi*-present *imamь* 'have', it cannot be entirely excluded that
the relations between *imamь*, aor. *imě̌xъ*, *imǫ* 'take', 2–3 sg. aor. *jętъ* were originally
the same as between *jesmь*, impf. *bě̌xъ*, "perfective" present *bǫdǫ*, 2–3 sg. aor. *bystъ*
and that the second stem in *-ē-* (*iměti*, etc.) to the present *imamь* has been developed
only later. Compare Balt. *imù ěmiaũ*.

expansion took place, so that also verbs with old sigmatic aorist developed a special imperfect in -ē-, Slav. *vedǫ*, aor. *věsъ*, impf. *vedě-achъ*, Balt. *vedù vedžiaũ*. As verbs with old sigmatic aorist are transitive, the *ē*-suffix, in being utilized to form the imperfect to the sigmatic aorist, loses its contact with the intransitive (in-effective) meaning characteristic of the stative verbs with a second stem in -ē-. Furthermore, the shift of voice involves a shift of phase: the imperfects to old sigmatic aorists do not denote the phase resulting *from* a maximum but the phase resulting *in* a maximum, because in the case of an effective verb it is the latter phase that is of primary interest (In Homeric Greek effective verbs have present and aorist but no perfect; in Slavic effective actions may be expressed imperfectively or perfectively, but not by a stative verb). The *ē*-suffix was certainly the mark of the non-present forms of stative verbs in Balto-Slavic, but what we must keep in mind here is that stativeness actually consists of three components: ineffectiveness, continuativeness, and consecutive-ness, and that it was the continuativeness which was deciding for its spread as a mark of the imperfect. It must be considered normal, I think, than when a formative expands in one semantic direction, it loses, in the new sphere of application, the contact with possibly other semantic features characteristic of its original sphere of application. The posited development was in brief: *sēd-e- *sēd-ē- → *bū- : *bē- → *vēd-s- : *ved-ē-.

As in the case of continuative verbs with a second stem in -ā-, I assume that also the stative verbs with a second stem in -ē-, after being the point of departure for the creation of the *ē*-imper-fect, became themselves subject to aspectual differentiation in the preterite, so that besides the aorist *sěděchъ* we get an imperfect *sěděa-chъ*, created by adding the *ā*-suffix; compare Balt. pret. *sědějau* (*eiskā- : *eiskā-ā- → *sēdē- : *sēdē-ā-).

In Slavic, then, also the *ē*-imperfects redundantly obtained the *ā*-suffix: *jaděachъ*, *veděachъ*, and in this way they clearly became distinguishable from aorists in -ě-. This, however, does not apply to *běchъ*, which shows the longer form with -ěa- only in the third person, besides the shorter one (*bě/běaše*). The archaic flexion *běchъ bě* is certainly due to the special position the verb *byti* takes up in the verbal system.

As for sigmatization and thematization, see above p. 48.

It remains to deal with some problems concerning the vocalism of the Baltic *ē*-preterite and the Slavic imperfect in *-ěachъ*. Assuming that the *ē*-suffix used in forming those preterites originates from the *ē*-suffix of the stative verbs, we should have expected them to have the zero grade just as the stative verbs (compare Balt. *buděti, švitěti*, Slav. *bъděti, svьtěti*), but the Baltic *ē*-preterite has in case of *T(e)RT*-root the full grade (*baudžiù baudžiaũ, veržiù veržiaũ*), and the full grade is also partly attested in the Slavic imperfect in *-ěachъ* (*bljudǫ bljuděachъ*, but *vrъzǫ vrъzěachъ*).

As emphasized by Stang,[1] the Slavic imperfect in *-ěachъ* exhibits the same vocalism as the present: *bljudǫ bljuděachъ, vrъzǫ vrъzěachъ, vedǫ veděachъ, klьnǫ klьněachъ*, etc. This rule applies after all, when we disregard entirely isolated cases as *imù ėmiaũ*, to Baltic as well: The *ē*-preterite has the full grade or the zero grade in agreement with the vocalism in the present, with the sole modification that the full grade as well as the zero grade is lengthened according to special rules. So we have, with lengthening in the preterite, *ginù gýniau, lekiù lėkiaũ*, etc., whereas *TeT*-roots with an *e/o*-present and *TeRT*-roots with a *je/o*-present show no lengthening: *vedù vedžiaũ*, and *veržiù veržiaũ*.

When the *ē*-preterite so frequently shows the full grade, it must consequently be seen in connection with the fact that the corresponding present equally frequently has the full grade. The question is how primitive the vocalism of the present is. In some cases of *T(e)RT*-roots, such as *veržiù*, the old age of the *e*-vocalism of the present must be questioned, since corresponding Slavic presents have the zero grade (*vrъzǫ*). In other cases, however, the full grade seems to be primitive in the present (*baudžiù*, Slav. *bljudǫ*, Gk. πεύθομαι), and from such presents the full grade may have spread to the preterite, and to other verbs as well.

The generalization of the *e*-vocalism of the *ē*-preterite (from *TeRT*-roots) may, after all, easily be explained, if we take into account the derivation that takes place between the various classes of verbs. If we confront derivates from the same root, we see that if it were not for the distinction in vocalism, some forms (the infinitive and other forms based on it) from the transitive verb (Balt. *baũsti*, Slav. *bljusti*) would not differ from the corresponding forms of the inchoative verb (*bùsti, -bъnǫti*) or the stative verb

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[1] Stang, *Verbum*, p. 83.

itself (*budĕti*, *bъdĕti*); compare oppositions such as Balt. *baũsti* : *bùsti*, Slav. *bljulъ* : -*bъlъ*, *bljudĕachъ* : *bъdĕachъ*. Slavic has remained at this stage: the transitive $T(e)RT$-roots require the *e*-vocalism only if they are opposed to intransitive formations from the same root (*bljudǫ* : -*bъnǫ* as *baudžiù* : *bundù*). In Baltic the derivation plays a far greater role, and the *e*-vocalism has spread to most *je/o*-verbs (*veržiù*, *gráužiu* versus Slav. *vrъzǫ*, *gryzǫ*).

Conclusion

In his classic study "Sur l'aoriste sigmatique"[1] Meillet arrived at the conclusion that the sigmatic aorist is a late Indo-European innovation. Since then, new important material, the sigmatic formations in the verbal paradigm of Tocharian and Hittite, has been included in the discussion of the origin of the sigmatic aorist, but the investigation of this new material has, generally speaking, rather confirmed Meillet's view than modified it. Yet the correctness of his view may be questioned: Meillet, and his followers as well, have built up their hypotheses almost exclusively on the basis of formal criteria.

Only Watkins has more concretely dealt with problems concerning the meaning of the sigmatic aorist.[2] The idea that the sigmatic aorist, as an innovation, may be expected originally to have had a clear-cut sphere of use is in itself plausible, and the hypothesis would only gain in certainty, if we could determine the primitive sphere of use on the basis of languages with a more limited use of sigmatic preterites. No doubt Watkins' observation of the fact that the sigmatic element, in certain languages, Tocharian, Hittite, and Sanskrit, first of all appears in middle forms is significant. In my opinion, however, it is somewhat bold to conclude from this fact only that the *s*-morpheme "had a distinct affinity with middle or intransitive value",[3] in so far as we may assume that the middle endings were sufficient to signalize the middle value; a comparison between sigmatic and non-sigmatic

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[1] *Mélanges de Saussure*, Paris 1908, pp. 81 ff.

[2] C. Watkins, *Indo-European Origins of the Celtic Verb, I. The Sigmatic Aorist*, Dublin 1962.

[3] Watkins, *ibidem*, p. 97, cf. Vjač. Vs. Ivanov, *Obščeindoevropejskaja, praslavjanskaja i anatolijskaja jazykovye sistemi*, Moscow 1965, pp. 139 ff. (stresses the fact that the Hittite iteratives in -*šša*- are incorporated in the *hi*-conjugation).

forms within the same voice would have been more conclusive. In the case of s-preterites to Hittite *hi*-presents, whose endings, as we know, correspond with the middle endings of other Indo-European languages, a special association with the middle meaning seems more probable.[1] However, the question is whether these Hittite s-preterites, attested only in the 2nd and 3rd singular, actually are the predecessors of the classical sigmatic aorist. Watkins follows Burrow and compares the Hittite 2. and 3. sg. preterite form ending in -*š* with Sanskrit 2. and 3. sg. aor. *dhās*;[2] I find this equation correct, but it must be borne in mind that *dhās* appears in the paradigm of a root aorist, not in that of a fully developed sigmatic aorist. In Slavic, too, we are probably faced with an s-element in the 2. and 3. sg. aor. *bystъ*[3] from *byti*, with an ending -*tъ* indicating an original root aorist, cf. Gk. ἔφυν.

Watkins' hypotheses concerning the derivation of the sigmatic aorist open new vistas to the problem whether the various types of aorists in Indo-European have been semantically differentiated. In the present study I have not been able to take up this problem on a large scale. My aim has been to elucidate the Slavic aorists on the basis of data from language groups showing similarities with Slavic as regards the use of the preterites. However, a comparison of those languages, Slavic, Greek, and Baltic, suggests that the strong aorist rather than the sigmatic aorist was the preterite showing "affinity with middle or intransitive value".

In Greek the strong aorist is middle (ineffective) to approximately the same degree as the perfect in Homer, and the sigmatic aorist is obligatorily used to express the opposite meaning. This opposition makes itself felt particularly in cases of a derivational rapport between the sigmatic and the strong aorist, as ἔστησα : ἔστην.

It has been a common assumption that such sigmatic aorists as ἔστησα are due to a Greek innovation, but a similar derivational rapport is attested in Slavic, too; compare *bljusъ* : *vъz-bъdъ* and the feebly attested Gk. opposition πούσας : ἐπυθόμην, or *za-by* : *bystъ* and Gk. ἔφυσα : ἔφυν. In Slavic the perfect disappeared as well as the distinction between active and middle endings; thus

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[1] According to Watkins, *op. cit.*, p. 79, the *hi*-conjugation forms reflect "the Indo-European stative-intransitive perfect and a diathesis lost in Hittite itself".
[2] Watkins, *ibidem*, p. 99.
[3] But Stang, *Verbum*, p. 71, assumes *bystъ* < *byd-tъ*.

there was little support in the Slavic conjugation for a preservation
of the opposition as an opposition of voice in the strictest sense.
This might be the explanation why the opposition we are faced
with in Slavic is rather an opposition of transitivity (*bljusti* tr.
'watch' : *vъz-bъnǫti* intr. 'awake', *za-byti* tr. 'forget' : *byti* 'to be'),
but at any rate it seems possible to deduce the Slavic opposition
from an opposition of voice as that in Greek.

It seems to me that the agreement between Greek and Slavic
in the application of the aorists is too special to be the result of
a parallel development in either language group. Moreover, it
is impossible to explain the agreement as a common innovation:
no one regards those language groups as especially closely related,
they seem never to have been in close contact with each other.
We must thus assume that the agreement represents a common
inheritance of an interdialectal opposition. Whether the opposition
has been known originally throughout the Indo-European area
or only in a part of it is another question; perhaps future in-
vestigations including also other language groups and other pre-
terite formations may put more light to that problem.

The opposition of voice found in Greek and Slavic then to all
appearance is very old. However, even if the opposition as such
may be of considerable age, we cannot exclude the possibility
that the utilization of the sigmatic aorist as a member of that
opposition is a comparatively late phenomenon. Semantically the
Greek reduplicated aorist shows some similarity with the sigmatic
aorist (cf. ἔπεισα/πέπιθον : ἐπιθόμην), and when we take into
account the very restricted use of the reduplicated aorist in Greek,
and its absence in Slavic, it seems possible to conclude that the
sigmatic aorist to no small extent has replaced the reduplicated
aorist. Hence there are no strong reasons for questioning Meillet's
view that the sigmatic aorist has been generalized to a very great
extent, in Greek as well as in Slavic.

A somewhat different case is the relation between Slavic and
Baltic. As generally known, Meillet rejected the theory of a
Balto-Slavic unity,[1] and from this standpoint it is of course
possible to account for the non-existence of the sigmatic aorist
in Baltic without special difficulties. If the sigmatic aorist existed
in Indo-European only as brittle sprouts, then it may simply

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[1] A. Meillet, *Les dialectes indo-européens*, Paris 1908, pp. 40 ff.

be assumed that those sprouts were stifled in some language groups (Baltic), but were subject to further development in others (Slavic). Now, things are more complicated. In Baltic (and in Germanic as well) we are faced with a situation where no aorists are attested at all, and we cannot disregard the possibility that the sigmatic aorist may have developed and flourished also in Baltic and have existed there side by side with other aorist formations and then ultimately have disappeared together with those other aorists (in a similar way as the aorists have got lost in the neighbouring Slavic languages). Already the late documentation of Baltic may make us take this alternative into account. It seems to me, too, that Slavic and Baltic show so many similarities that we cannot ignore the possibility of a correspondence in the development of the aorists.

In Baltic we have an opposition of voice that gives the impression of being of a considerable age, viz. the opposition between verbs with *e/o-* or *je/o-*present and *ē*-preterite on the one hand and verbs with nasal or *st*-present and *ā*-preterite on the other. In case of direct opposition between etymologically related verbs, we record the semantic contrast as a contrast in transitivity, e. g. *baudžiù baudžiaũ* tr. : *bundù budaũ* intr. But to all appearance this contrast is based on a distinction between effective and ineffective actions. We have observed (p. 50) that verbs with a non-generalized *ē*-preterite, i. e. the *TeT*-roots that have the *e/o-*present, are, with a single exception, all effective; they presuppose a change of the object and thus show a meaning narrower than transitiveness, and reversely we may state (see p. 33) that the nasal and *st*-presents are to be defined as ineffective, since some of them are not intransitive, but still do not denote a reshaping of the object. From a purely semantic point of view there is thus no reason for separating the Baltic opposition from the one found in Slavic.

From a formal point of view there are also points of support for a comparison. In both language groups the verbs involved in the opposition are "primary", i. e. either pure *e/o*-verbs or *e/o*-verbs with some enlargement. The intransitive nasal verbs in Baltic (*bundù*) parallel nasal verbs in Slavic (*vъz-bъnǫ*), and the present of the transitives also agrees, provided the root is a *TeT*-root: Balt. *vedù* as Slav. *vedǫ*. If the root is a *TeRT*-root, then

the Baltic transitives always show the *je/o*-present *baudžiù, lenkiù*, whereas Slavic usually has an *e/o*-present: *bljudǫ*. This disagreement, however, is scarcely essential. We may assume that the Baltic *je/o*-presents in some cases go back to *e/o*-presents; compare *baudžiù*, Slav. *bljudǫ*, Gk. πεύϑομαι, and on the other hand we may observe that the *je/o*-present is not unknown in Slavic: some of the Slavic transitives are attested also with *je/o*-present, cf. *lękǫ/lęčǫ, vęzǫ/vęžǫ*.

In the preterite the situation is not so clear. If we regard the Baltic preterites as former imperfects opposed to aorists which were lost already in a prehistoric period, we may assume that the *ā*-preterite was associated with the strong aorist (compare Balt. *bundù budaũ*, Slav. *vъz-bъnǫ -bъdъ*) and the *ē*-preterite with the sigmatic aorist (Balt. *baudžiù baudžiaũ*, Slav. *bljudǫ bljusъ*). Moreover, it seems possible to assume that the Baltic preterites are genetically related to the Slavic imperfects, which end in -*aachъ* or -*ěachъ*. We should expect, then, an accord in distribution between the Baltic preterites and the Slavic imperfects. This seems to hold good. In any case the *ē*-preterite regularly corresponds with the imperfect in -*ěachъ*: *vedžiaũ, baudžiaũ* as *veděachъ, bljuděachъ*, and the *ā*-preterite may be considered reflected in Slavic as the imperfect of a special type of verbs (*imati emljǫ*) serving as imperfective counterparts of perfective verbs with the strong aorist: *dusaũ* (pres. *dūstù*) as *dъchaachъ* from *dъchati dušǫ*, imperfective of *dъchnǫ*, aor. *dъchъ*. Imperfects such as *dъchněachъ* I consider to be late, and I explain the limited frequency of imperfects such as *dъchaachъ* by the fact that another more productive type of imperfectivization, *dychati dychajǫ*, has spread to the detriment of the type *dъchati dušǫ*.

Viewed in this way the formatives of the Baltic opposition of voice are comparable to those of the Slavic opposition. In the present we meet with an opposition between *e/o*- and *je/o*-presents on one hand and nasal presents on the other; in the preterite (imperfect) the formant -*ē*- was opposed to a formant -*ā*-. In Slavic we have furthermore a contrast in the aorist, that between the sigmatic and the strong aorist; this contrast is to be considered older, as we find it also in Greek; nothing prevents us from assuming that a similar contrast existed in Baltic.

I conclude, then, that the Baltic opposition of voice rests on

a distinction between the sigmatic and the strong aorist and that the opposition as such is as old as the opposition found in Slavic or Greek. I suppose that this triad of language groups has inherited an old opposition of voice in the aorist.

I emphasize that the assumption of a common opposition of voice in Baltic and Slavic between the sigmatic and the strong aorist by no means involves particularly intimate relations between these two language groups, as the same opposition is found in Greek. On the other hand the firm establishment of a corresponding opposition in the present between e/o- and nasal presents may be considered a Balto-Slavic innovation; even if some nasal presents show a tendency to express the ineffective action also in Greek, the situation in Baltic and Slavic is none the less different: the old distinction between active and middle endings was lost, and therefore the distinction in the present stem attains a greater weight than it has in Greek. In the same way the development of $\bar{e}$- and $\bar{a}$-preterites in both languages may be considered a specific Balto-Slavic feature, as pointed out already by previous scholars.

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