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Convergence in the Baltic-Slavic Contact Zone. Triangulation approach

1. Introduction

Our contribution is devoted to the Baltic-Slavic Contact Zone (BSCZ) and its immediate surroundings, first of all to the North(East), where Finnic languages have played a prominent role.

As has been argued for in Wiemer/Erker (2011), Belarusian rural mixed varieties on both sides of the contemporary Belarusian-Lithuanian and Belarusian-Latvian border yield an ideal object for studying what happens in inner-Slavic and Slavic-Baltic language dialect contact if no codifying and "purifying" factors hamper variation on diverse structural levels. These dialects reflect most of the convergent features that are typical for the BSCZ proper. However, many (if not most) of such features have to be judged on a broader areal basis, since they fit both into inner-Slavic dialect continua and into areal clines that cross family boundaries. These boundaries may be "smooth" (as with closely related Baltic) or quite "sharp" (as with genealogically unrelated Finnic).

Below we want to examine hotbeds of structural convergence (a) of the BSCZ proper and (b) the Eastern part of the Circum-Baltic Area (CBA), of which the BSCZ forms part. Among the questions highlighted in the present volume we will concentrate on the following one: Can we really disentangle the "genetic factor" from areal proximity and typological affinity? Apart from this, we will give a rough account of the types of code-copying (according to Johanson's framework; cf. Johanson 2008) found in our data and the literature on the subject. We are eager to add the proviso that the preliminary conclusions based on this account are restricted to the language groups of the chosen area.

The article is structured as follows. In section 2 we give an overview of features of structural convergence in the BSCZ and how they "intersect" with known features of the Eastern part of the CBA. We further select about 12 features which we consider being especially profitable as topics of investigation in the context of the present volume. To a large extent the information given there refers to previous work carried out by ourselves and will be rather sketchy. Section 3 relates these features to Johanson's typology of code-copying phenomena. In section 4 we introduce the notion of 'triangulation' and discuss in more detail two features from among those mentioned in section 2. These sort of abridged case studies are meant to show intricacies we have to cope with if we want to disentangle genetic closeness, areal proximity and typological affinity as (often alleged) independent factors influencing the rise and maintenance of convergence. Section 5 summarizes with conclusions and gives a prospect for further research.

2. Areal convergence in the BSCZ (as part of the CBA)

The notion of 'linguistic area' has only recently been given a more concise shape, among others by Haspelmath (2001: 1492): "A linguistic area can be recognized when a number of geographically contiguous languages share structural features which cannot be due to

retention from a common protolanguage and which give these languages a profile that makes them stand out among the surrounding languages." Implicit to such definitions is the assumption that the coherence of features typical, to some degree or other, for a given area can be judged upon only on the background of broader areas into which the area under question is, as it were, inserted (cf. Wiemer 2004). Thus, the BSCZ can be captured as a subregion of the Eastern part of the CBA, the latter as part of the CBA as a whole, which, in turn, can be seen on the background of entire Europe or northern Eurasia, and so on. We thus get a matrëshka-like or concentric arrangement of areas being included into each other. In addition, we have to look at the BSCZ as the intersection of dialectal continua of both main language groups, namely (East) Slavic (plus Polish, belonging to the Western subbranch of Slavic) and Baltic, and of areal clines that protract into diverse directions (most prominently in NE—SW direction, see below). In any case, in order to call the BSCZ a linguistic area in the sense defined above it is required that the features we find within it are in some respect or other outstanding or even exclusive compared to the more immediate surroundings. The BSCZ can be delimited quite sharply on the basis of the geographical overlap of Slavic and Baltic dialects; it practically does not show any "fuzzy edges" (beside, e.g., some moribund Lithuanian insular dialects in Belarus). For this reason and for its small size it has grown rather compact.

In comparison to the Balkan, phenomena of language convergence in the CBA, in general, and in the BSCZ, in particular, seem to have been attracting the attention of researchers for a much shorter period of time. However, a sort of digest of features demonstrating convergence in the CBA was published by Koptjevskaja-Tamm/Wälchli (2001). The authors gave a list of 23 features representing areal properties of the CBA, ranging from the lexicon (*pluralia tantum*) and phonetics (initial word stress, polytonicity) up to syntax. Their list may be not exhaustive. Nonetheless it is noteworthy that from these 23 features the following 17 features can also be found in the BSCZ:

Table 1: CBA-features (according to Koptjevskaja-Tamm/Wälchli 2001) encountered in the BSCZ

Domain	Correlating Feature		Geographical distribution
Lexicon	(i)	Large amount of pluralia tantum	Baltic, East Slavic
Phonetics	(ii)	Tones on long syllables	Baltic
Morphology	(iii)	Evidential based on perfect participles with no person agreement	Baltic
Morphosyntax	(iv)	Case alternation for marking total vs. partial objects	Baltic, East Slavic, *polszczyzna kresowa*[1] (+ standard Polish)
	(v)	Nominative object	Baltic
	(vi)	Case alternation in non-verbal predication (NOM-INS etc.)	Lithuanian, East Slavic, Polish
	(vii)	Predicative possession not based on HAVE-verbs	Latvian, Latgalian, East Slavic
	(viii)	Syncretism of instrumental and comitative	Latvian, Latgalian, (Lithuanian)
	(ix)	'Goal' (more properly 'replacement') comparatives[2]	all Slavic and Baltic varieties of the BSCZ (except

			Latgalian)
	(x)	Comparatives involving particles	East Slavic, Polish (standard and kresowa), Lithuanian, Latgalian
	(xi)	Reflexive markers as means of valency recession	all varieties of the BSCZ
	(xii)	Adjective agreement	all varieties
	(xiii)	Alternation between case-government and agreement within numeral constructions:	East Slavic, Polish (standard and kresowa), Baltic
Syntax	(xiv)	Non-referential indefinite zero subjects	all varieties
	(xv)	Flexible SVO	all varieties
	(xvi)	SVO / GN	all varieties
	(xvii)	Particle-initial *yes/no*-questions	Baltic, Polish (standard and *kresowa*), Belarusian

Admittedly, these features show an uneven distribution over Slavic and Baltic and the dialects of both language groups. For instance, the nominative object (= v) is relatively infrequent in the dialects of the Lithuanian-Belarusian borderlands. Other features are "unspectacular" in that they are ubiquitous all over Slavic (and probably beyond), like feature (xiv), or they can be considered as Europeanisms (or SAE-features, according to Haspelmath 2001), as, e.g., feature (xi), or they are commonplace especially in Eurasia, as, e.g., feature (vii).

Other problems in assessing such feature lists are conditioned by the fact that not all features are of the same kind. Thus, many of the properties adduced above are gradable in the sense that either they have spread to different degrees across particular syntactic classes in the lexicon (e.g., features i, iii, iv, xi) or have become more or less mandatory in certain construction types (e.g., features iii, v, vi, xi, xvii). A smaller amount of properties, to the contrary, are expressed in categorial oppositions and, to this extent, are not gradable; compare, for instance, features (ii, xii, xiii). At the moment, it seems unclear how these inherent properties of structural features correlate with areal clines and convergence. It may occur that categorial oppositions form just an extreme pole in the development of gradable features (oppositions). We will not tackle this question here any further.

Given the large amount of coincidences of features between the CBA as a whole and of the Eastern CBA we might conclude that the languages (dialects) of the Eastern CBA do not show any structural peculiarities that would converge only for them and stand out against the immediate geographical background. However, a closer look at distributional facts reveals that Slavic, Baltic and Finnic varieties of the Eastern CBA share features not encountered in the broader CBA. A very prominent case to demonstrate this is the clear-cut morphological marking of the voice-orientation of participles used predicatively in resultative constructions and/or the perfect. Thus, Baltic and Finnic languages consistently keep apart subject- and object-oriented[3] participles used in the perfect (see 4.2). The same obtains for resultatives in East Slavic vernaculars (and the *polszczyzna kresowa*) encountered in the BSCZ and for some NW-Russian dialects of the Pskov region neighboring with the BSCZ, while East Slavic varieties such as Standard Russian, Ukrainian, Belarusian and NE-Russian dialects[4], as well as the remaining CBA languages (such as German, Polish, the Scandinavian languages), lack a clear-cut morphological distinction between predicatively used subject- and object-oriented

participles in the perfect/resultative domain. Even more, in the East Slavic standard languages there is generally no way to encode agent-/subject-oriented resultativity in a distinct manner.

As for Slavic, only dialects of the BSCZ show a productive use of participles (marked with *-vši*) that at once are restricted to active voice (i.e. subject-oriented). Their distribution is identical to the voice-orientation of Baltic past active participles, which are their cognates (the common morphological form was *-*wōs/-us*). In Old Russian, predicative participles deriving from this source were used exclusively in different kinds of subordination contexts (e.g., to encode anteriority) and afterwards became sort of anteriority converb in the standard language; cf. Wiemer (forthc. c: 2.2.1). Contrary to that, in East Slavic dialects belonging to the BSCZ and the region immediately bordering to it in the Northwest (i.e. around Pskov, Novgorod), these participles, although losing their inflection as elsewhere in East Slavic, have developed into main predicates to mark anterior or resultative (extended to perfect) meanings (Trubinskij 1988; Wiemer/Giger 2005: 40f. with further references). In addition, one should notice that indeclinable participles marked with *-vši* get increasingly rarer to the NE of the BSCZ and are virtually inexistent in other Slavic-speaking regions (except for standard languages); in turn, several Russian varieties to the Northeast of the BSCZ use participles suffixed *-n/t-* that increasingly encroach upon the domain of subject-oriented resultatives, first of all of resultatives from one-place verbs (e.g., *Ona*.NOM.F *ujde-n-a* 'She's left'). A clear-cut „share" between two morphological types of participles used in resultatives (suffixed *-vši* vs. *-n/t*) is encountered only in the BSCZ and in a small region near Pskov and Novgorod (Wiemer/Giger 2005: 33 as well as ch. 4–5, following Kuz'mina 1971 and Trubinskij 1984). It is attested nowhere else in Slavic. This geographical distribution can be explained most straightforwardly by Baltic influence[5]. The extent to which Finnic influence might have played a role seems questionable in view of the fact that Finnic varieties, as a rule, also distinguish the voice orientation of resultative/perfect constructions by a clear-cut distribution over suffixes.[6] Given this, it has to be asked why in the area where Finnic contact must have been most influential – i.e. NE to the BSCZ – such a distribution is reflected only in a small area of East Slavic dialects (see above). In any case, if both Finnic and Baltic have had an impact on the complementary diathetical distribution of anteriority participles in Slavic vernaculars, their influence must have been mostly independent from one another, both in terms of geography and chronology.

Similar remarks concerning a more fine-grained level of analysis can be made for East Slavic (let alone Polish) dialects of the BSCZ: they do not show certain properties typically ascribed to the other East Slavic dialects continuing to the NE of the BSCZ. Such features are: (i) case homonymy ("syncretism") of DAT.PL and INS.PL with a unified ending {im}, {am}; (ii) there are hardly any examples of the nominatival object (e.g. *nado trav-a*.NOM *kosit'*.INF '(It's) necessary to mow the grass'); cf. Wiemer/Erker (2011: section 2.4) for a discussion, also of further features.

Now, we suggest to roughly profile the BSCZ on the basis of 12 selected features which increase the density of convergence towards the centre of the BSCZ:

Table 2: Features profiling the BSCZ

Domain	Correlating Feature	
Phonetics	F1	range of *akan'e* and *jakan'e*
Morphonology	F2	consonant alternations
	F3	vowel alternations
Morphology	F4	gender: different stages in the loss of the neuter
	F5	derivational affixes: heavy global and selective copying interfering with large

		amount of cognate affixes (see section 3)
	F6	verbs marked with a reflexive marker used for changes in argument structure
Morphosyntax	F7	animacy distinctions in morphology and syntax
	F8	spread of verb particles (vs. verb prefixes)
	F9	constructions containing non-canonical realizations of the highest-ranking argument
Syntax	F10	resultatives, perfects, evidentials based on participles
	F11	genitive of indefinite quantity and genitive of negation
	F12	loss of the nominative object

These features have been chosen on the basis of a complex of five criteria that seem viable to get a profitable and workable amount of properties. Some of these criteria are designed to equilibrate one another, since they are actually based on conflicting grounds:

(i) Lack of typological and/or areal triviality. The features have to show non-trivial manifestations, i.e. be typologically rare and/or deviate from manifestations known from a broad Eurasian background. This requirement is met by certain predicate types (F 9–12) that deviate from the prototypical accusative alignment; they show a semantically based case-assignment, which is typically subject to cross-linguistic variation. (ii) Consistency within a broader area. The features have to be included in a larger areal continuum of which the BSCZ forms a (more or less) central part, i.e. features either have to be found in non-Slavic and/or non-Baltic varieties of contiguous areas, or they should be representative of inner-Slavic and/or inner-Baltic dialectal continua (F 1–12). Facts known from dialect geography should thereby counterbalance an assessment of convergent phenomena from a typological and/or broader areal perspective (compare first requirement). (iii) Structural heterogeneity. The features must be distributed over different structural domains. This requirement is motivated by the fact that contact-induced changes (or maintenance) very often encompass processes in different structural domains. The chance that heterogeneous processes (and their results) converge is much smaller than the occurrence of implicationally connected features. This seems to especially hold true for low-scale areas: if features from different structural domains co-occur in varieties of a small region, we may even assume more firmly that this co-occurrence has not arisen by accident. (iv) Varying degree of transparency. The features have to represent different degrees of accessibility for language contact. Thus, a combination of heterogeneous features includes, on the one hand, such features for which copying (or borrowing) into other varieties, except very closely related ones, seems to be highly impeded for structural reasons (see, e.g., F 2–3). On the other hand, we take account of features for which copying can be assumed to happen more easily across boundaries of even not closely related varieties (e.g., word prosody, gender distinctions, verb particles; see F 1, F 4, F 8). We will thus be able to check some more specific assumptions concerning the mutual "(im)permeability" of structural domains where lasting interference is usually assumed to occur only in cases of most intensive contact (see, e.g., the last stage of the 'Borrowing Scale' in Thomason/Kaufman 1988: 74-109, Thomason ^{2}2007: 70f. as well as Matras 2007; 2009: ch. 6 and 8). Baltic and Slavic are particularly well suited to this kind of empirical investigation because, despite their structural similarity, their varieties in the BSCZ still show structural differences that have remained untouched by contact with varieties of the respective other group (compare, e.g., F 7 or F 9). Since structural similarity of Baltic and Slavic is, to a

large part, due to their intimate common IE (pre)history, their varieties offer an excellent playground for trying to counterbalance contact-conditioned factors against typologically expectable development based on commonly inherited patterns and shared etymological fabric. (v) Complex correlations over structural domains. The features should have their bearings in different structural (sub)domains. E.g., akan'e (F 1) is relevant on the level of phonetics, phonology, morphonology and even the lexicon (cf. lexical exclusions to the rule, e.g. the middle vowel in the unstressed Russian particle *no* is not reduced to [a]). The importance of such features lies in the fact that if they occur in contacting varieties together with all their structural intricacy, this considerably enhances the probability (or plausibility) of contact as the decisive factor for areal convergence (cf. the 'Principle of complex correlation' in Seržant 2010).

3. Classification in Johanson's framework

If we now assess features F 1–12 in the framework of Johanson's Code Copying model (Johanson 2002; 2008), we first have to be aware that for some of these features contact – and thus copying – does not seem to be the major factor leading to areal convergence. This holds in particular for the features discussed in section 4 (F 1, F 9–10). But if we abstract away from such cases we notice that for practically all morphosyntactic features (F 4–12) the crucial process to be observed is the expansion (or its reversion, i.e. shrinkage, see, e.g., F 4, F 12) of the combinability of grammatical morphemes (affixes), members of paradigmatic oppositions or constructions (including alignment types) with lexical stems of a relevant syntactic class.[7] It therefore does not astonish that most of these features can be related to selective copying of combinational properties; the increase (or decrease) of frequency is but a natural consequence. Insofar as the extension of combinational properties of a morphosyntactic marker or construction almost inevitably has bearance on its functional range, we furthermore must reckon with a change of its semantic properties. In this sense, all four partial aspects of structure inherent to linguistic units (material, semantic, combinational, frequential properties) are rather tightly interrelated, provided they involve items (a) situated "above" the merely phonic (phonetic, phonological) level and (b) with not too abstract functions. Thus, for instance, very abstract case functions, like those featured under F 11, cannot easily be grasped as an increase (or decrease) of semantic properties (all the more as the function of denoting indefinite quantity can be assumed to have been inherent to the genitive already for a long time before the combinational potential and frequency began to increase). Therefore, as concerns the 12 features presented in Table 2, a change of the semantic properties can be asserted for features F 5–10, but not for F 11. Finally, to assert a change in semantic properties would be senseless for F 4 and F 12, too, since here we are dealing with the retreat or even loss of categorial distinctions (in addition, very abstract one, too).

Global copies, which by necessity include material copying, have been attested only with some derivational affixes (F 5) in Lithuanian insular and borderland dialects and with a couple of verb particles (F 8), for the latter, though, only in inner-Baltic and Baltic-Finnic contact settings (cf. Wiemer, forthc. d; Wälchli 2001, respectively), i.e. not in the BSCZ proper. As concerns F 5, i.e. derivational affixes (but not the reflexive marker, F 6), in some Lithuanian dialects that have been under heavy Slavic influence we observe an apparently free combinability of Baltic root morphemes with Slavic derivational affixes, and vice versa. A big problem is however caused by the fact that many such affixes are cognates, so that often it is hard, if not impossible, to state whether the copy is material or just based on an adaptation of combinational and, thus, frequential properties (for details cf. Wiemer 2009: 358–367). Similar observations can be made with respect to verb particles (F 8), which are however more an inner-Baltic issue with a clear decrease of both type and token frequency from north (Latvian) to south (SE-Lithuanian dialects). All in all, with both derivational affixes and verb

particles selective copying predominates; beside combinational and frequential properties, an adaptation of semantic properties occurs as well (for details cf. Wiemer, forthc. d).

As concerns the (mor)phonological system (F 1–3), vowel alternations depending on stress (F 1) do not seem to have been copied at all (see 4.1); other vowel alternations (F 3) do not show resemblances to each other which would justify the assumption of calquing; consonant alternations (F 2) happen to be copied "materially" between Slavic varieties, e.g. Belarusian dialects demonstrate a change {d'} → {d3} in the present tense stem (1SG) of the *i*-conjugation, whereas Russian shows {d'} → {3} and Polish {d'} → {dź}. In rural mixed Belarusian the Russian-like alternation seems to have become predominant. However this case also involves an increase in frequency of an alternation that already existed in Belarusian; in this sense, copying of frequential properties appears to have occurred as well (for another similar case cf. Wiemer/Erker 2011: 18). To establish whether the rules of palatalization have been copied to some extent between (East) Slavic and Lithuanian, and in which direction, turns out as a task hardly to be solved: on the one hand, both East Slavic and East Baltic (and, thus, Lithuanian and Latgalian) are situated in the center of an area for which a ±palatalized opposition of consonants can be spotted as a remote common innovation (cf., e.g., Holzer 2001: 35, 43, 47). On the other hand, what has differed in 20th century Lithuanian and East Slavic varieties of the region are the phonotactic conditions under which (de)palatalization occurs, and it is these rules which sometimes seem to be copied in the sense of combinational and, as a consequence, frequential properties. A good case in point would be the pronunciation of consonant clusters in the Polish speech of Turska's (1995 [1982]: 63–68) pre-war multilingual informants: in accordance with Lithuanian (and contrary to Polish, or Russian) phonotactic rules, consonant clusters were often unified as ±palatalized groups depending solely on the ±front character of the vowel following the final consonant (e.g., *zvrut [pren't'k'i] zrobiłam* lit. 'I made a quick turn'; cp. standard Polish *prędki* [prentk'i] 'quick'); for more cases cf. Wiemer (2006).

4. Triangulation: case studies

Since areal linguistics has been developing as a natural response to the observation that typological features are unevenly distributed over continents and smaller regions of the world, attempts have been made to establish typological and areal profiles of particular areas for which in some respect or other salient features have been considered to be outstanding (cf. Sandfeld 1926, Masica 1976, Stolz 1989/90, Haspelmath 2001, Thomason ^{2}2007: ch. 5, Heine/Kuteva 2005: ch. 5; 2006, among many others). As for more geographically restricted areas, in order to explain how bundles of convergent structural features in neighboring languages, irrespective of their genealogical relatedness, might have come about, contact-linguistics and, much later, dialectology, more particularly, dialect geography have become involved, too. However, only quite recently have all three research domains begun to really profit from one another. They complement each other since our understanding of structural convergence in different kinds of linguistic areas has to systematically reckon with at least three kinds of factors, namely: whether the features encountered are (a) inherited from common ancestors ("genealogical"), (b) typologically frequent, (c) contact-induced. These three possible factors need not counteract; instead, they can work in conspiracy (cf. Thomason ^{2}2007; Kuteva/Heine, forthcoming). Attempts at integrating two or all three of these factors have been made, inter alia, by Koptjevskaja-Tamm&Wälchli (2001), Kortmann (ed., 2004), Matras et al. (eds., 2006), Ramat/Roma (eds., 2007).

In the following we will use the term '**Triangulation**' as a cover term for procedures by which phenomena of structural convergence in a dedicated area are systematically equilibrated against the aforementioned three kinds of factors (a-c) (see also 3.2). Such multi-factorial approaches toward modeling linguistic areas have begun to be exploited only

recently and only concerning very large areas (cf. Koptjevskaja-Tamm&Wälchi 2001, Cysouw, forthcoming; Wälchli, forthcoming). Following Wälchli (forthcoming, p. 2), an areal pattern should be understood as "a spatial constellation of linguistic features across languages which is significantly different from a random distribution and which cannot fully be explained by other factors than areality such as genealogic relatedness or universal principles. Areal patterns are cumulative or, put differently, epiphenomena for which it is extremely unlikely that they could have developed without any contact."

The BSCZ seems to be particularly well suited for triangulation, because (a) it represents a paradigm case of small areas whose convergent properties belong to clusters within larger clines and dialect continua, and, (b) the area itself consists predominantly of varieties of two language groups, namely Slavic and Baltic. In this Section we will apply Triangulation to two case studies representing the levels of phonology (4.1) and syntax (4.2).

4.1. Restrictions on occurrence of mid vowels in non-stressed syllables in West Russian, Belarusian, Latvian Latgalian and North East Lithuanian vernaculars

4.1.1 Introduction

Akan'e and *Jakan'e* are notions from East Slavic dialectology and denote that the occurrence of the middle vowels *o* (*akan'e*) and *e* (*jakan'e*) has been restricted to stressed syllables only because the former *o* and *e* of the non-stressed syllables have turned to another vowel, typically *a* (but also *ă*, ∞ and after palatalized consonants *i*; cf. Blinava and Mjacel'skaja 1980: 47; Careva 1962: 70). This change is typical for the whole Middle Russian dialect and for the southwestern parts of the North Russian dialect (cf. the so-called Pskov Group, e.g., the variety of Puškinskie Gory, Careva 1962: 58) as well as the Belarusian varieties to the northwest of Polock (cf. the map N2 in Blinava and Mjacel'skaja 1980: 40): cf. ***d*ó*m*** 'house' (NOM.SG) vs. ***d*a*má*** 'house' (NOM.PL), ***st*ó*ranu*** 'side' (ACC.SG) vs. ***st*a*raná*** (NOM.SG). As can be observed from the examples adduced, structurally, the alternation between *a* and *o* is emic, not etic.

In Seržant (2010: 197–201) it has been shown that Eastern Latvian and some Eastern Lithuanian varieties realize these phonotactic rules of akan'e and jakan'e to a high extent (though not exceptionless). Thus, while Standard Latvian (also Proto-Latvian) does not attest short *o* in genuine Latvian words and in most loanwords at all, the High Latvian dialect does have a genuine *o*. The latter may occur in its Northeastern and Southwestern Latgalian varieties exclusively, and elsewhere mostly, in stressed syllables, cf. *oíz-**g*a*ld**-a* 'a part of a wooden shed' and ***góld**-s* 'table', *pó-**v*a*d**-a* 'rein' and ***v*ó*d**-uot* 'lead' (from Alūksne (NE), adopted from Brencis 1914: 111), whereby the underlined strings encode the same morpheme, etymologically the same root. Hence, at a contemporary stage the alternation between *a* and *o* in this High Latvian variety structurally very much resembles akan'e in East Slavic, as in both cases the alternation is phonologically relevant. Analogically, though phonetically somewhat differently, instances of a short *o/å* can be found in the Northeast Lithuanian varieties also in stressed syllables only; cf. *rotai/råtai* (our spelling) in Anykščiai or Kupiškis (Zinkevičius 1966: 50; V. Kardelis, p.c.). However, it seems that this alternation is only of a phonetic type. Additionally, in Latgalian, there is also a strong preference for *e* to occur mainly in stressed syllables approaching, thereby, to a structural parallelism with jakan'e in East Slavic.

4.1.2 Triangulation-account
4.1.2.1 Typological background

The *World Atlas of Language Structures* (see http://wals.info/) does not register features similar to akan'e/jakan'e, and we do not know of any other comparative work from which it would be possible to judge whether such kinds of phonological alternations are more wide-spread among the languages of the world or, rather, belong to typological rarities. In the CBA no other akan'e- and jakan'e-like phenomena are attested. In a broader perspective, the next comparable phenomenon is *akan'e* in Mordvinian (Veenker 1967; Stipa 1973).

4.1.2.2 Contact

While not going into further detail here, we state that in this area there is a common tendency to restrict the occurrence of the middle vowels to stressed syllables only. Now, since these restrictions are not trivial phonetic correspondences that may have developed independently in each language, but rather structural correlations that affect such domains as segmental phonology and phonotactics, hence the phonological organization of the languages of concern, it is extremely likely that such correlations are not accidental (cf. the 'Principle of Complex Correlations' in Seržant 2010). Furthermore, there is an obvious areal cline stretching from those Northwest and Middle Russian and North Belarusian varieties that do not allow *o* and *e* in unstressed syllables, to the west into High Latvian and Eastern Lithuanian. Among them we find dialects that allow for *o* and *e* in unstressed syllables, although the phonotactic conditions are more specific and may differ.[8]

4.1.2.3 Properties inherited from common ancestors

Interestingly, the historical conditions that have led to these structural correlations were very different in Russian and Belarusian, on the one hand, and Latvian and Lithuanian, on the other.

In Russian and Belarusian, the former middle vowels *o* and *e* in unstressed syllables became targets of a number of phonetic changes (without an account of their chronology): (i) *e* became a palatalizing *a* (spelled henceforth *'a*), (ii) *o* turned into *a* and then became subject to further reductions. Thus, only stressed syllables have retained the original vowel diversity. The story of Latgalian and (partly) East Lithuanian is completely different. Neither Latvian nor Lithuanian did ever have a short *o* in their vowel system (only a short *a*). Very early, short *a* had acquired a labialized allophone, assumedly something like **å*, in a non-palatal context, while *a* was retained in palatal context (the so-called '2nd Latgalian Umlaut', cf. Seržant 2005). The allophone **å* became later a short *o* which was a new sound in the vowel system of Proto-Latgalian. The allophonic status of both *a* and the new *o* has been changed into a phonemic one due to two subsequent processes: (i) former *e* has turned into *a* in non-palatal contexts, thus filling the gap and destroying the complementary distribution (*a* in the palatal contexts and *o* in non-palatal contexts); (ii) as a later process and, probably, since the rules of the complementary distribution of *o* have been bleached by (i), paradigmatic leveling (cf. 1 > 2 below) took place and *o* has been lexicalized:

1. Originally: *mozs* 'small' (nom.sg., non-palatal context) ~ *mazi* (nom.pl, palatal context)
2. Leveling: *mozs* ~ *mozi*

Paradigmatic leveling has been considerably expanding in the modern Latgalian varieties; the old alternations known from the descriptions from the 19th c. vanish, thus giving rise to an emic status of *o* in Latgalian.

4.1.2.4 Conclusions

Seržant (2010) argues that *akan'e* and *jakan'e* in East Slavic varieties and a number of combinatorial sound changes in Latgalian, partly NE Lithuanian as well, lead, as a result, from no correlations at the proto-stage to an increasing degree of coherence, or unification, of the phonological systems of these languages in their later stages. The rise of *akan'e* and *jakan'e* in East Slavic, on the one hand, and Latgalian and Northeast Lithuanian, on the other, went through completely different paths with different internal motivations. Thus, in Latgalian, the rise of *o* (< *a*) in stressed syllables was motivated by a combination of umlaut processes and other sound changes (Seržant 2005: 51–55), while the vowel reduction in the unstressed syllables was the main stimulus in East Slavic. The internal motivations prevail to such an extent that it is in fact difficult to pinpoint a particular step in the development that is arguably triggered by language-contact.

We assume, however, that an independent and internal process of rounding in Latgalian and NE Lithuanian must have been facilitated and constrained by the neighboring East Slavic idioms to the extent that the rounding has consistently been preferred only in the stressed syllables. This phonological distribution has been copied from East Slavic as an emerging short *o* to Latgalian and (partly) East Lithuanian.

4.2. Perfect (resultative) with non-canonically encoded subject in North Russian and neighboring languages

4.2.1 Introduction

The North Russian perfect consists of a copular verb (with zero realization in the present tense form) and a passive perfect participle formed with an allomorphic *n/t*-suffix. With a transitive verb both arguments are coded non-canonically: the highest-ranking argument (Actor) is case-marked with an adessive PP consisting of the preposition *u* 'at' governing the genitive, while the lower-ranking argument (Undergoer) is case-marked with the nominative which however does not trigger agreement on the verb:

(1) North Russian
U menja *ruka* ***porane-n-o***
at me hand:NOM.SG.F injure-PPP-NOM.NEUTR.SG=INVAR
'I have injured my hand'

In some NW Russian varieties the Undergoer can be marked with the accusative. The PP coding the Actor patterns syntactically like a subject (Timberlake 1975).

Holvoet (2001) was probably the first to argue that there are striking similarities across the ("possessive"[9]) perfect constructions in Latvian, Estonian and Votic. He thus correctly interpreted this pattern as areally induced:

(2) Latvian
Viņam *viss* *jau* *bija* ***izteik-t-s***
him:DAT.SG all:NOM.SG already be:PAST.3 say-PPP-NOM.SG.MASC
'He had already said everything (he had to say).'

(3) Estonian (cited from Pihlak 1993: 81)
Tal *oli* *kõik* *juba* ***öel-tud***
him:ADESS.SG be:PAST.3.SG all already say:PPP
'He had already said everything (he had to say).'

As has been shown in Seržant (2012), these perfect constructions parallel the North Russian perfect (see ex. 1) both formally and functionally. Standard Russian and Karelian attest this construction, too.

In all constructions mentioned so far the first, subject-like argument is encoded in a way that shares functions typical for the dative domain (as, e.g., Experiencer, External and Predicative Possessor or Beneficiary) in the given language. While the languages just mentioned follow coherently this pattern, Lithuanian deviates in two respects: first, the meaning of the Lithuanian construction has developed further: it has only an evidential meaning; second, the Actor patterns with the internal possessor and is case-marked with the genitive instead of the otherwise expectable dative, cf. (4):

(4) Lithuanian (cited from Jablonskis 1922: 141)
Senų *miškai* ***mylė-t-a***
elders:GEN.PL forrest:NOM.PL love-PPP-SG.NEUTR
'The elders [apparently] loved the forests.'

The Undergoer is case-marked with nominative in Standard Lithuanian and accusative in some eastern varieties (cf., inter alia, Danylenko 2005). Although this construction occurs only rarely with transitive verbs, it must be considered as belonging to a more general areal pattern based on a copular construction with a predicative patient-oriented resultative participle, the subject being realized non-canonically (like a possessor) and having 'perfect' meaning or an extension of it (Jung 2007: 154; Seržant 2012). This is suggested by the fact that there is, first, structural and etymological correspondence to the Latvian and Russian construction and structural correspondence to the Estonian, Votic and Karelian perfect (in both cases except for the genitive case-marking of the Actor). Second, given that the evidential function evolved out of a perfect (Holvoet 2007: 92-96), we observe tight functional correspondences across the languages of concern.[10]

In addition, Polish and Finnish – i.e. languages that are on opposite margins of the BSCZ and its immediate surroundings – attest structurally similar patterns except for the "slot" of the highest-ranking argument, which cannot be expressed overtly:

(5) Polish
*Zawiezio-**n-o*** *go* *do szpitala*
carry-PPP-NOM.INVAR he:ACC to hospital
'[They] brought him to hospital'

(6) Finnish (cited from Karlsson 1987: 151)
On ***ol-tu*** *myös* *sitä* *mieltä,* *että …*
be:AUX.3.SG be-PPP.INVAR also this:PART.SG opinion:PART.SG that
'[People] have also been of the opinion, that …'

Even though the Polish construction matches etymologically the North Russian perfect construction, there are synchronically considerable differences between them: (i) the Polish construction is used in the functions of a generalized past and (ii) there are almost no restrictions on the lexical input if only the highest-ranking (or sole) argument represents a human being, (iii) the higher-ranking argument (= human) can never be expressed, although it remains implicit semantically, (iv) object-NPs are always clearly marked as such (with the case marking corresponding to active voice); cf. Wiemer (forthc. a; forthc. b). These differences allow us to assume that, despite a high degree of (superficial) structural identity, these cognate participial constructions in Slavic varieties of the CBA are based on (at least)

two different hotbeds of spread: NW-Russian dialects and Polish (for a more elaborate argumentation cf. Seržant 2012; Wiemer forthc. a; Wiemer/Hansen forthc.: 2.4).

Areally related Ukrainian shows the same construction type even though, in comparison to its Polish cognate, this construction shows more passive-like syntax except for the accusative marking on the object (Lavine 2005; Lavine forthc.); in addition, its restriction to the perfect-resultative domain is arguable (cf. Wiemer/Giger 2005: 63f.). Seržant (2012) suggests that the passive properties of the Ukrainian construction have to be explained internally, namely, due to strong influence by the corresponding passive construction. For the Soviet period, however, one cannot exclude Russian influence (i.e. contact), either.

In the following table we summarize the main characteristics of those constructions discussed in this subsection which unanimously represent a perfect (thus, excluded are Finnish, Polish and Ukrainian):

Table 3: Perfect construction with highest-ranked argument realized non-canonically

Language	Actor		Undergoer	Morphosyntactic organization	Function and aspect
	Morphology	Syntax			
North Russian	adessive PP	subject	-nom./acc.	active	perfect
Estonian, Karelian, Votic	adessive	subject-like	-nom./acc.	active-like	perfect
Latvian	dative	subject-like	+nom.	active-like	perfect
Standard Russian	adessive PP	subject-like	+nom.	active-like	perfect
Lithuanian	genitive	subject-like	-nom./acc.	active-like	evidential perfect

+nom - nominative and agreement; -nom - nominative with no agreement

At a first glance, the constructions of concern differ from each other not only as to their morphosyntax but also, partly, as to their function. Nevertheless, a closer examination of the developmental paths of the constructions in every particular language reveals striking correspondences among them that are highly unlikely to be accidental. The common developmental path of all constructions can be subsumed as in the following table (Seržant 2012):

Table 4: From resultative to agented perfect in the Eastern CBA

	Stage of development	Reconstructed meaning	
Stage A	P-oriented resultative construction	*the work is done*	
Stage B	impersonal perfect construction	*the work has been done*	
Stage C	split into active and passive perfect constructions/readings	*there has been done the work*	*the work has been done (by s.o.)*
Stage D	subject becomes object	*there has been done the work*	*evolution of passive*
Stage E	agented perfect	*at me, there has been done the work*	

Thus, all the languages mentioned start with a P(atient)-oriented resultative construction at their proto-level. Baltic and Slavic languages employ etymologically exactly the same construction, as do the Finnic languages; in all languages the relevant construction acquires (to a different extent) active morphosyntax; in a later process, they acquire a syntactic slot for the highest-ranking argument that gradually overtakes behavioural properties of a subject.

4.2.2. Triangulation

4.2.2.1. Typologically frequent patterns of diachronic change

Typologically frequent (or dominant) are not only features at the synchronic level of observation but also several diachronic processes can be subsumed under this category. The most prominent case is the loss of a marked value, e.g., in morphology (Koptjevskaja-Tamm&Wälchli 2001:628). There are also different developmental clines that are very frequently found cross-linguistically and, in principal, need not be motivated (e.g., by language contact). We are going to illustrate this later case.

The construction of concern undergoes developments from A at its proto-stage to E (see Table 4) along two major recurrent clines. The first cline (i) is well-attested cross-linguistically (Litwinow 1989; Bybee and Dahl 1989: 73–4; Bybee et al. 1994):

Cline (i) *resultative >> perfect >> aorist >> simple past*

The second cline (ii) consists in the activization of an originally middle-like predicate as regards both its morphosyntax and semantics: the Undergoer argument ceases to promote into subject and another, Actor, argument intrudes into the event structure of the predicate:

Cline (ii) *middle >> active*

Notably, both clines are implicationally interrelated, since the resultative is a middle-like category (typically one-place even with transitive verbs, low on transitivity scale, etc.) whereas perfect or past is rather active by default (two-place with transitive verbs, no restrictions on transitivity, etc.). Additionally, cline (ii) implies yet another cline (iii), recently formulated as 'Behaviour-before-Coding-Principle' (Haspelmath 2010).

Cline (iii) *loss of syntactic subjecthood (control, equi-pro deletion etc.*
>> loss of morphosyntactic subjecthood (e.g. verbal agreement)
>> loss of morphological subjecthood (nominative case)
>> acquisition of accusative case-marking

4.2.2.2. Properties inherited from common ancestors

As has been argued for in Seržant (2012), all languages of concern start at their proto-level with a P(atient)-oriented resultative copular construction (see Table 4). The external evidence for this is comparative data from ancient Indo-European languages (such as, e.g., Early Vedic Sanskrit), but also from earlier stages of, e.g., Old Russian. This evidence witnesses the P-oriented resultative as the earliest function of this construction. Thanks to this comparative evidence we are eligible to claim that the activization[11] process found (at least to some extent) in all the languages of concern is not a feature that was somehow anchored in the construction of the ancestor languages. From this it follows that the activization must be a common (though partially independent, see below) innovation in the languages of concern. *Mutatis mutandis*, the morphology of the construction remains stable throughout the discussed

developmental stages, while its morphosyntactic and syntactic organization changes dramatically. Now, what is the reason then for the striking correlations in these later changes?

4.2.2.3. Contact

After the etymology and recurrent clines of the construction have been established, we can proceed by trying to isolate the impact of language contact. We shall thus exclude correlations that can sufficiently be explained by independent processes as a drift along the same cline(s) only or as shared inheritances.

Given the contiguity of the varieties at stake that show the process of activization as well as the lack of active properties in the respective proto-languages, it is convenient to assume that the trigger instigating the simultaneous drift along the clines (i) and (ii) in these languages must have been due to language contact. There is also some evidence that the languages have stepwisely selectively copied or, rather, adjusted their new morphosyntactic properties of this construction to the respective counterparts (Seržant 2012).

For instance, the rise of an invariant form of the participle in Slavic and Baltic varieties, which was instigated by the failure of the nominative argument to control verbal agreement, exhibits striking correlations that are unlikely to be accidental. Thus, these languages first loose agreement on the participle and retain it on the copular verb; only at a second stage also the copular verb fails to agree with the nominative argument (Matveenko 1961: 111; Seržant 2012). Furthermore, the invariant form of the participle is the neuter singular (except Finnic where there is no gender distinction at all), while some southern varieties of NW-Russian (around Velikie Luki, Pskov), at the borderline with Latvia, employ the form of the masculine nominative in *-n/-t* as the default form (cf. Kuz'mina 1993: 136), exactly as does Latvian, thus yielding a micro-subarea.

At the same time, the result of language contact and drift along the clines was also disturbed by stronger simultaneous processes such as language internal developments partly distorting the homogeneity of areal diffusion. For example, the total abandonment of (non-agreeing) nominative objects in the history of Standard Russian interfered with the cline in (iii): frequently attested lack of agreement between the nominative argument and the participle as well as the subsequent replacement of the nominative case with accusative attested in Late Moscow Russian of the 17th c. (Nikiforov 1952: 319, 320, 322) was replaced by obligatory agreement with the participle in the modern language. This thereby ran counter to the cline in (iii), since it removed the achieved changes along it. Other local disturbances are due to the influence of parallel, near-homonymous passive constructions that employ the same auxiliary and participle. Thus, the use of the instrumental case in Ukrainian and the genitive case in Lithuanian are assumedly due to the influence of the case-marking of the respective Actor arguments in the passive.

Another point of language contact has been the activation of the developmental chain leading towards the formation of a syntactic subject slot in the construction of concern (see stage E in Table 4). The highest-ranking argument is realized non-canonically, in identical fashion across the languages of concern. And, generally, the very fact that exactly the same clines in the same order were instigated by a number of geographically neighboring languages suggests that language contact must have been an important factor here.

5. Conclusions and prospect

In section 4, we have examined two features in two closely related family branches, Baltic and (East) Slavic. One of these features, akan'e / jakan'e, does not show congruence at the proto-stage, whereas the other one, perfect / resultative, does. Already this difference suggests that convergent features in a dedicated area, like the DSCZ and its immediate surroundings, cannot have emerged in an identical way, in particular that internally motivated changes and contact influence must have played a role to different extents and, probably, at different periods.

More particularly, we have argued that the rounding of [a] in Latgalian and Northeast Lithuanian represents an internal development which was overridden by phonotactic restrictions induced by, or copied from, West Russian and/or Belarusian vernaculars. An account in terms of convergence alone cannot sufficiently capture the processes that took place in Latgalian, Russian and Eastern Lithuanian altogether (see 4.1), since these languages started with quite different, incongruent proto-stages and attest different diachronic processes that were not systematically related to each other at their start; and yet in their contemporary stage we observe a certain degree of unification of the respective phonological systems. Likewise, the rise of perfect constructions with non-canonically marked arguments in the Eastern CBA and of etymologically and functionally related constructions in Polish and Ukrainian which show similar behavior at the syntax-semantics interface, but differ in their aspectual characteristics and the admissible lexical input (see 4.2), demonstrates that there must have been ad least two separate hotbeds from which this construction has dispersed across the Eastern (and Southern) part of the CBA. The development of perfect constructions as a whole must be accounted for by assuming a long lasting parallel development consisting of a chain of bi- or multilateral adjustments of a common pattern. This pattern was consistently innovated due to internal motivations independently in all subareas of the eastern CBA.

We conceive of the triangulation method as an approach that integrates different types of explanatory keys for any kind of non-random distribution of particular features across languages in a dedicated area. We have tried to demonstrate that the application of triangulation allows for a near-to exhaustive and coherent analysis of non-random correlations across languages belonging to a given area, even if their varieties are very closely related genetically. Notably, it has repeatedly been claimed that language contact is even more likely to occur between genetically related languages and with features that are typologically frequent (cf. Wälchli, forthc.). Triangulation is thus our answer on how language contact between closely related languages (even on a dialectal level) should be approached. Our point of departure was the assumption that once the original constellation of the respective category in some proto-stage is established, any other non-trivial correlations must be analyzed as subject to convergence effects. We tried thus to shed light on how internally motivated changes can be influenced by language contact and how, thus, areal proximity may be disentangled from the "genetic factor" and typological affinity, provided there is sufficient empirical data. To which extent convergence has resulted from typologically expectable clines or rather from adjustments caused by contact cannot be decided upon in a wholesale manner, and it happens that the available data does not allow for an unanimous decision on this issue.

Finally, while, in general, studies in language contact are unavoidably biased toward spectacular cases or "quirks" that are highly unlikely to be accidental thanks to their idiosyncratic nature (Wälchli, forthc.), the high zoom-in level of the triangulation analysis allows seeing the individual properties also of typologically more trivial features. A particular constellation of individual properties – if complex correlations in their properties are found in several neighbouring languages – creates uniqueness or idiosyncracy, which thereby creates the necessary evidence for its areal diffusion (cf. the 'Principle of Complex Correlations' in Seržant 2010).

[1] Here and further we have in mind the northern variety of Polish spoken beyond ethnical Poland on the territory of southern and eastern Lithuania and northern Belarus'.

[2] Usually, the 'behind'-type is named as the CBA-representative of this type (e.g., Lith. *už*). However, contrary to what is written in the literature (Koptjevskaja-Tamm/Wälchli 2001: 684, with further references; Wiemer 2004: 505–506), the original meaning of this type of preposition was probably 'for, instead of', not 'behind'. In Lithuanian we can see this from the required case: *už* 'behind' governs the genitive, whereas in

the meaning 'for, instead' it governs the accusative; it is the latter government we find with *už* as a comparison particle.

[3] We use these terms in accordance with Nedjalkov and Jaxontov (1988), *A*- and *P-oriented*, respectively, in Nedjalkov (2001).

[4] For a comprehensive overview and analysis cf. the relevant chapters in Wiemer/Giger (2005).

[5] The voice-orientation of the resultative participles of Old Russian (subject-oriented *l*-resultatives vs. object-oriented *n/t*-resultatives) has been lost in all modern East Slavic varieties to the extent that *l*-participles have turned into past forms thereby losing their original resultative meaning. *vši*-participles took over their role: before they had been used with resultative meaning, but had not been used as main predicates (with copula). This renewal of a morphologically-driven voice orientation with the resultative/perfect participles in the BSCZ is extremely likely to be due to Baltic impact – even though, by now, it could not be decided whether Baltic has really changed or stabilized voice-orientation of Slavic participles, or whether it rather has played the role of a conserving factor.

[6] E.g., Finnish *-(n)ut/-(n)yt* encodes subject-oriented participle, whereas the perfect with a non-referential agent is expressed by the participle based on suffix *-ttu*.

[7] As for animacy distinctions (F 7) cf. Wiemer (2004: 507–511), Wiemer/Erker (2011: 20–22); as for the genitive in quantificational contexts (F 11) and the nominatival object (F 12) cf. Koptjevskaja-Tamm/Wälchli (2001: 649–663), with further references therein.

[8] For instance, *-o-* in unstressed syllables may occur in some (not all!) Latgalian vernaculars if and only if there is another *-o-* in the stressed syllable, too, cf. *vokors* (Standard Latvian *vakars* 'evening'), *vosora* (Standard Latvian *vasara* 'summer').

[9] As has been shown in Seržant (forthc.), the historical development of this perfect was not related to the respective possessive construction.

[10] In general, close diachronic relationships between perfects and evidentials are well-attested cross-linguistically (cf. Litwinow 1989; Bybee and Dahl 1989: 73–4; Bybee et al. 1994).

[11] The term *activization* was first used in Gołąb (1975: 29) for the Polish *no/to*-construction to refer to the change from the nominative toward accusative marking of the Undergoer. This change constitutes yet another step toward a full-fledged active construction.

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