

# Borrowing of Morphology

## *With a Case Study of Baltic and Slavic Verbal Prefixes*

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## **1 Introduction**

Borrowing of morphology, namely the transfer of elements of morphological systems between languages in contact, has come to the agenda of linguistics

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only fairly recently. While the interest of scholars in this domain is evidenced by the steadily growing body of publications (besides the classic Thomason and Kaufman 1988, see such monographs and volumes as Field 2002; Myers-Scotton 2002; Matras and Sakel 2007b; Gardani 2008; Johanson and Robbeets 2012; Vanhove et al. 2012; Gardani et al. 2015b; Gardani 2020c; see Gardani 2018, 2020a for recent overviews), it seems to have received much more prominence in the work on typology, language contact and linguistic areas, than in theoretical morphology. This can be due, on the one hand, to the fact that the most conspicuous cases of morphological borrowing are attested in languages and linguistic varieties that have largely evaded the attention of theoretical morphologists, and, on the other hand and more importantly, to the purely synchronic orientation of most morphological theories. However, the very nature of morphology as admittedly the most language-specific and idiosyncratic part of grammar (see Baerman and Corbett 2007; Aronoff 2015) suggests that the understanding of the forces and constraints shaping morphological systems cannot be achieved without an in-depth analysis of the diachronic processes bringing these systems about (Bybee 1985, 1988; Anderson 2005). Therefore, once borrowing has been recognized as an important factor in the evolution of morphological systems, morphological borrowing should find its place in morphological theorizing. The study of morphological borrowing not only can itself benefit from closer interaction with morphological theory, but it can also enrich the latter by shedding new light on well-known notions and phenomena as well as by calling for revision of existing approaches in the light of new data.

This entry first presents a succinct general overview of the current research on morphological borrowing primarily paying attention to the classification of transfer phenomena and their relation to distinctions established in morphological theory. Then it offers a more detailed discussion of the domain we have investigated ourselves, namely borrowing of verbal derivational and aspectual prefixes in selected languages of Eastern Europe. We shall not only show how the classifications and constraints proposed in the literature map onto a particular empirical domain, but also discuss some more general implications of our findings for both morphological borrowing and morphological theory.

## 2 An overview of morphological borrowing

### 2.1 Matter versus pattern borrowing

Outcomes of language contact, including those pertaining to grammar in general and morphology in particular, are usually classified into two broad types based on whether or not interlinguistic transfer of phonological strings from the source language (SL) to the recipient language (RL) has taken place. These types have been known at least since the classic works by Paul (1886), Haugen (1950) and Weinreich (1953) under such names as ‘borrowing (proper)’ versus ‘calquing’ or ‘interference’, ‘direct transfer’ versus ‘indirect transfer’ (Silva-Corvalán 1997), or ‘global copying’ versus ‘selective copying’ (Johanson 1999). The terms currently broadly accepted are ‘matter-borrowing’ (*MAT-borrowing*) and ‘pattern-borrowing’

(PAT-borrowing) introduced by Matras and Sakel (2007a). According to the definitions given by Matras and Sakel (2007a, 829–830), MAT-borrowing involves ‘direct replication of morphemes and phonological shapes from a source language’, while PAT-borrowing consists in ‘re-shaping of language-internal structures’ when ‘it is the patterns of distribution, of grammatical and semantic meaning, and of formal-syntactic arrangement ... that are modeled on an external source’. A finer-grained typology of morphological MAT- and PAT-transfer has been recently proposed by Gardani (2020b). Importantly Gardani (2020b, 265–266) distinguishes a third type of borrowing–MAT&PAT-borrowing, which involves not only MAT-borrowing of a formative but also PAT-borrowing of a new grammatical feature or value that previously did not exist in the RL and entered it by means of borrowing of that formative.

Both MAT- and PAT-borrowing can be illustrated by the data from Abaza and Kabardian, two polysynthetic languages of the Northwest Caucasian family spoken in Russia. While not being very closely genealogically related, Abaza and Kabardian have been in a situation of intense asymmetric contact for several centuries, with many if not most speakers of Abaza being bilingual in Kabardian. As a result of this, besides numerous lexical items, Abaza has borrowed from Kabardian a number of morphemes; for example, the Abaza frequentative verbal suffix *-zapət* shown in (1) clearly corresponds to the Kabardian frequentative marker *zepət*, originally a morphologically complex auxiliary (*ze-pə-t* REC-LOC-stand, lit. ‘be joined together’) that has ultimately become a suffix, see (2).

- (1) Abaza (Northwest Caucasian>Abkhaz-Abaza, Russia; Tabulova 1976, 208)

<i>a-šašəlarta</i>	<i>h<sup>w</sup>ənç-zapətə-n</i>
DEF-entrance	dirty-FREQ-PST
‘The entrance was always dirty.’	

- (2) Besleney Kabardian (Northwest Caucasian>Circassian, Russia; P.A. fieldwork data, textual example)

<i>βemax<sup>w</sup>e-m</i>	<i>otpusk</i>	<i>w-jə-ʔe-ze.pə.tə-ne</i>
summer-OBL	vacation	2SG.PR-POSS-be-FREQ-FUT
‘You’ll always have a vacation in summer.’		

Besides a number of borrowed morphemes, Abaza has also replicated a number of Kabardian morphological patterns (see Arkadiev 2021 for a detailed analysis of one such case). For example, both languages feature verbal suffixes with the meaning of repetition of an event or restitution of a state: Kabardian *-ž(ə)/-ž'(ə)* shown in (3a), Abaza *-χ(ə)* shown in (4a). Notably, in both languages the combination of these repetitive suffixes with negation yields the unusual meaning ‘no longer’, as can be seen in examples (3b) and (4b)).

- (3) Besleney Kabardian (P.A. fieldwork data, textual examples)

a. <i>a-šəpəqə-m</i>	<i>qə-pe.č'e.x<sup>w</sup>e-ž'-a</i>
DEM-INTF-OBL	DIR-meet-RE-PST
‘He met the same person again.’	

- b. *a-xe-r*                    *š'ə-ʔa-ž'-xe-ḡəm*  
 DEM-PL-ABS    LOC-be-RE-PL-NEG  
 'They no longer exist.'

(4) Abaza (Panova 2019, 200–201)

- a. *j-ʃa-h-a-l-h<sup>w</sup>a-χ-d*  
 3SG.N.ABS-DIR-1PL.IO-DAT-3SG.F.ERG-say-RE(AOR)-DCL  
 'She reminded us about it.' (lit. told us again)
- b. *apχ'arta*    *s-g'-a.pχ'a-χ-wa-m*  
 DEF+school 1SG.ABS-NEG-study-RE-IPFV-NEG  
 'I don't study at school any more | \*again.'

That the functional parallels between the Abaza and Kabardian negated repetitives are indeed due to language contact is not immediately evident and can only be established if the evidence from related languages is taken into account (see Heine and Nomachi 2013 for a useful overview of diagnostics of contact-induced pattern replication). Indeed, according to Avidzba (2017, 75–76), the discontinuative function of the negated repetitive is not attested in Abkhaz, the close relative of Abaza spoken on the other side of the Caucasian range not in contact with Kabardian. By contrast, West Circassian, the close relative of Kabardian, which has never been in contact with Abaza, also features the discontinuative interpretation of the negated repetitive (Rogava and Kerasheva 1966, 312–313). This, together with the fact that the semantic development from 'not again P' to 'no longer P' is not fully trivial, constitutes strong evidence for the hypothesis of PAT-borrowing from Kabardian into Abaza. The mechanism behind this transfer is the so-called 'pivot-matching' (Matras and Sakel 2007a, 830), namely identification by bilingual speakers of corresponding elements of both languages on the basis of the similarity of their prominent functions (i.e. the restitutive and repetitive meanings), with the ensuing extension of the use of the morphological pattern of the RL to cover the use range of its model in the SL (for a more detailed discussion, see Gast and van der Auwera 2012).

## 2.2 Identifying matter borrowing of morphology

From the examples just discussed it may appear that while identification of PAT-borrowing is often problematic and requires appeal to indirect arguments, MAT-borrowing is much more straightforward. This, however, is not always the case, and MAT-borrowing has its own methodological issues. An obvious question to ask is what is required of a foreign morphological element in order for it to be counted as a genuine element of the morphological system of a RL. Consider example (5) from Pashto, showing the nominal plural suffixes *-in* and *-āt* borrowed from Arabic.

- (5) Pashto (Indo-European>Iranian, Afghanistan)
- a. *mujāhid* 'fighter'    pl. *mujāhid-in* (David 2014, 96)
- b. *haywān* 'animal'    pl. *haywān-āt* (Tegey and Robson 1996, 57)

What does not allow us to consider (5) a genuine example of morphological borrowing is the fact that here not only the plural suffixes but also the lexical stems they occur on are of Arabic origin. In fact, both singular and plural forms in (5) are wholesale borrowings from Arabic, just as the English singular-plural pairs like *focus* ~ *foci*, *phenomenon* ~ *phenomena* or *cherub* ~ *cherubim* are wholesale loans from Latin, Greek and Biblical Hebrew, respectively. While both in Pashto and in English such borrowed singular-plural pairs clearly belong to morphology and follow the relevant morphosyntactic rules, not everyone would speak of Pashto and English having borrowed plural suffixes, because in neither language have these suffixes extended their domain of application beyond the very nouns with which they had been borrowed (see, however, Bauer 2015, 73–74, on marginal productivity of the Latin *-i* in English). Contrast this situation with that of modern Persian, where (6) shows the same plural markers of Arabic origin with native Persian nouns and (7) illustrates how Persian has even adopted the Arabic non-concatenative plural formation (on the borrowing of the Arabic root-and-pattern morphology, see Coghil 2015; Souag 2020, 2021).

(6) Modern Persian (Indo-European > Iranian, Iran; Lazard 1957, 56–57)

- a. *bâzres* ‘inspector’ pl. *bâzres-in*  
 b. *deh* ‘village’ pl. *deh-ât*

(7) a. *soltan* ‘sultan’ pl. *salâtin* (<Arabic)  
 b. *ostad* ‘master’ pl. *asâtid* (native)

The difference between the cases of Pashto and English, on the one hand, and Persian, on the other, lies precisely in the fact that in the latter foreign morphological elements have spread beyond the loan vocabulary they had initially been part of and are now able – even if to a limited extent – to attach to native lexical stock, thus having become an integral part of the morphological system of the RL. According to Gardani (2018, 3), only those ‘foreign formatives that have spread to native bases of an RL ... qualify as instances of morphological borrowing’.

For morphological processes confined to the domain of borrowed lexicon, the term *parallel system borrowing* has been introduced by Kossmann (2010). However, such ‘compartmentalization of structures, where different sets of grammatical markers are employed with different parts of the vocabulary’ (Matras 2004, 193) can yield non-trivial results when morphology that had entered a RL with the lexical items from a  $SL_1$  subsequently extends to loanwords coming from some other  $SL_2$ , but still does not affect the native vocabulary of the RL itself. This has happened in some Romani (Indo-Aryan) varieties. For instance, in Kišen’ovare Romani (originally Moldova, now also spoken in Russia and Ukraine), the diminutive suffix *-el-* of Romanian origin is not only used with Romanian borrowings (more specifically, masculine nouns ending in *-k*; cf. *kopáko* ‘tree’: *kopácélo* ‘little tree’ < Romanian *copac* ‘tree’), but can be further attached to new loans from Russian of the same morphophonology, e.g. *jásiko*: *jasícélo* (< Russian *jaščik* ‘drawer’). This suffix, however, is never used with the inherited lexicon

(Kozhanov 2018, 174). On similar phenomena in the languages of the Balkan area, see Bağrıaçık et al. (2015).

A legitimate question to ask at this point is whether MAT-borrowing of morphological elements has as a prerequisite the borrowing of whole words containing these elements, with a subsequent analogical extension of these elements to the native vocabulary, as has evidently happened with Arabic plural formations in Persian or with numerous French affixes in English such as *-able* or *dis-* (see in particular Dalton-Puffer 1996). The view that MAT-borrowing of morphology can occur only indirectly through lexical borrowing was explicitly expressed by Paul (1886, 346, our translation), who stated that ‘it is only whole words that are borrowed, never derivational or inflectional suffixes’. However, though taken for granted by many linguists addressing the issue of morphological transfer, this hypothesis was formulated in an empirically testable way and confronted with cross-linguistic data only by Seifart (2015), who has argued that by no means all instances of MAT-borrowing are amenable to such an analysis. Turning back to our first example, the borrowing of the Kabardian frequentative morpheme into Abaza could hardly have been mediated by lexical borrowing for the simple reason that the frequentative marker is an optional element that never forms part of lexical stems in Kabardian. Indeed, while there are a number of verbal stems of Kabardian origin in Abaza (see e.g. Shagirov 1989, 54–56), none of them contains the frequentative suffix *-zapət*. This means that the only possibility for such morphological borrowing to occur is *direct* rather than *indirect* borrowing, i.e. ‘extraction of an affix based on knowledge of the donor language, without the mediation of complex loanwords in the recipient language’ (Seifart 2015, 511). The bilingual speakers of Abaza and Kabardian were aware that in Kabardian the element *zepət* can be attached to verbal stems in order to express the frequentative meaning, and started using it to express the same meaning when speaking Abaza by adapting it to Abaza phonology and inserting it into the appropriate morphological slot of Abaza verbs without any mediation of Kabardian loanwords. This process of direct affix borrowing was certainly facilitated not only by widespread bilingualism coupled with a high degree of typological congruence of the two languages (e.g. the complex templatic organization of their verbs is isomorphic to a considerable degree; on the role of structural congruence in borrowing see e.g. Seifart 2014 and Thomason 2015), but also by the fact that the relevant element is highly transparent both formally and semantically, having a salient and invariable form and a clear function (on the relevance of these factors for borrowing, see e.g. Field 2002, Winford 2003, 94–96 and Section 3). As a cross-linguistic investigation by Seifart (2015) has shown, direct and indirect modes of affix borrowing form a scale rather than a clear-cut dichotomy, with most actual cases probably involving both scenarios (see also Gardani 2021 for a reassessment).

### 2.3 Units involved in MAT-borrowing

This discussion leads us to the next important question, namely which types of morphological elements are more or less susceptible to MAT-borrowing under

appropriate sociolinguistic circumstances of language contact. The first systematic discussion of this issue is offered by Weinreich (1953, 29–37), who singles out such parameters as obligatoriness of the formative, its syntagmatic boundness, and degree of complexity of its function (see also a useful overview by Winford 2003, 91–97). Since then, various hierarchies of borrowability have been put forward, such as ‘function word > agglutinating affix > fusional affix’ (Field 2002, 37) or ‘derivational affixes > inflectional affixes’ (cf. Moravcsik 1978, 112). A number of hierarchies related to the content of formatives have been proposed by Matras (2007) on the basis of a survey of about 30 languages, for instance, ‘peripheral local relations > core local relations’ or ‘modality > aspect > future tense > other tenses’.

In a first cross-linguistic study of borrowing of inflectional morphology, Gardani (2008) has shown that, first, borrowing of inflectional formatives is not as rare as usually assumed, and, second, that borrowability of inflectional formatives correlates with the independently established functional distinction between inherent and contextual inflection (Booij 1996). Formatives expressing inherent, that is, semantically contentful, inflection such as nominal number (see in particular Gardani 2012) or semantic case, and verbal aspect and evidentiality, are borrowed significantly more frequently than formatives expressing contextual inflection induced by syntactic government or agreement, such as nominal structural case and verbal person or gender. Thus, a refined version of the borrowing hierarchy can look like ‘derivation > inherent inflection > contextual inflection’ (Gardani et al. 2015a, 9). As an example of borrowing of contextual inflection, consider the dative-accusative case suffix *-lai* in Thulung-Rai, a Sino-Tibetan language of Nepal, borrowed from Nepali (Indo-Aryan), as can be seen in examples (8) and (9).

(8) Nepali (Indo-Aryan, Nepal; Lahaussis 2002, 68–69)

- a. *ma tapaai-lai dekhchu*  
1SG you-OBJ see.NPST.1SG  
‘I see you.’
- b. *meero aamaa ma-lai khaana dinuhuncha*  
my mother 1SG-OBJ food give.NPST.3SG  
‘My mother gives me food.’

(9) Thulung-Rai (Sino-Tibetan > Himalayish; Lahaussis 2002, 65)

- a. *gu-ka khlea-lai jal-y*  
3SG-ERG dog-OBJ hit-3SG>3SG  
‘He hits the dog.’
- b. *go a-mam-lai tsutsu gwak-tomi*  
1SG my-mother-OBJ child give-PST.1SG>3SG  
‘I gave the child to my mother.’

The alleged differential susceptibility of inherent versus contextual inflection to borrowing correlates with the classification of morphological elements into ‘early system morphemes’ and ‘late system morphemes’ by Myers-Scotton (2002),

Myers-Scotton and Jake (2009), who claim that structurally assigned late system morphemes are more resistant to transfer in code-switching, which is one of the frequent mechanisms of morphological borrowing.

Still more recently, Seifart (2017) has reported on the basis of a 100-language sample and database (Seifart 2013) that the relative frequencies of cases of affix borrowing indeed conform to the hierarchy ‘derivation > inherent inflection > contextual inflection’. This study further shows that borrowing of contextual inflection is actually well attested in the languages of the world and that morphological borrowing can even involve ‘interrelated sets of forms, rather than individual, isolated forms’ (Seifart 2017, 391). One of the most striking cases of the latter situation is Resígaro (Arawakan), which has borrowed whole paradigms of classifiers and number affixes from Bora (Boran), as in example (10).

(10)	Bora (Boran, Colombia)	Resígaro (Arawakan, Colombia)
a.	<i>aɲú-huu</i> burn.NMZ-CM.TUBE ‘rifle’	<i>ókóniigi-húú</i> fire-CM.TUBE ‘rifle’ (Seifart 2012, 484)
b.	<i>aɲú-u</i> burn.NMZ-CM.ROUND ‘bullet’	<i>ókóniigi-úú</i> fire-CM.ROUND ‘bullet’ (Seifart 2012, 484)
c.	<i>okáhi-mútsi</i> tapir-DU.M ‘two tapirs’	<i>aɲóógi-músi</i> tapir-DU.M ‘two tapirs’ (Seifart 2012, 487)
d.	<i>okáhi-múpi</i> tapir-DU.F ‘two female tapirs’	<i>aɲóógi-múpi</i> tapir-DU.F ‘two female tapirs’ (Seifart 2012, 487)
e.	<i>okáhi-muu</i> tapir-PL ‘tapirs’	<i>aɲóógi-muu</i> tapir-PL ‘tapirs’ (Seifart 2012, 487)

The inherent drawback of the discussion of morphological borrowing in terms of derivation versus inflection is the well-known problematic status of these categories (see e.g. Spencer 2013). For example, our first example of MAT-borrowing, namely the transfer of the Kabardian frequentative verbal suffix into Abaza, does not fit well into either class. It differs from canonical inflection in that it does not belong to a clearly delimited paradigm of obligatory markers, and from canonical derivation in being highly productive and fully compositional to the extent that treating all potential combinations of verbal stems with the frequentative as separate verbal lexemes would obviously be counterintuitive. This type of optional, formally and semantically transparent and combinatorially unrestricted affixes was called ‘productive non-inflectional concatenation’ (PNC) by De Reuse (2009), who sets PNC apart from both inflection and derivation and considers it a hallmark of polysynthetic languages. One might hypothesize that due to their high degree of formal and functional salience, PNC-affixes should be particularly susceptible to borrowing in the situation of language contact.



## 2.4 Patterns involved in PAT-borrowing

Let us now turn back to morphological PAT-borrowing. The example we gave above of the replication of the Kabardian discontinuative function of the combination of repetitive with negation by the similar construction in Abaza involves purely functional extension of existing morphological elements without any apparent changes to the formal structure of words. Such *polysemy copying* (see e.g. Heine and Kuteva 2005, ch. 2; Heine 2012) is arguably one of the most widespread phenomena of contact-induced change affecting both lexical and grammatical items. Instances of PAT-borrowing involving replication of more abstract morphological patterns themselves are less well-documented, but do occur as well (see e.g. Renner 2018 for an overview). Thus, the pattern of emphatic reduplication with consonantal epenthesis well attested in Turkic languages (see e.g. example (11) from Turkish) has been copied by a number of languages of the Middle East and the Balkans (see e.g. Haig 2001), for instance, by Armenian, as in (12).

- (11) Turkish (Turkic; Göksel and Kerslake 2005, 90)
- a. *sarı* 'yellow'    *sap-sarı* 'bright yellow'
  - b. *katı* 'hard'    *kas-katı* 'hard as a rock'
- (12) Eastern Armenian (Indo-European; Dum-Tragut 2009, 677)
- a. *deṭin* 'yellow'    *dep'-deṭin* 'very yellow'
  - b. *karmir* 'red'    *kas-karmir* 'very red'

Borrowing can also affect patterns of compounding (see e.g. Bağrıaçık et al. 2017). For example, two unrelated non-Austronesian languages of New Guinea, Yimas and Alambalak, have developed polysynthetic patterns of verb-verb and adverb-verb compounding not shared by the other languages of their respective families, as in (13) and (14). The direction of borrowing, however, is unclear, and pattern matching is not always perfect, as can be seen in the different orders of verbal and adverbial roots in (13b) and (14b).

- (13) Yimas (Lower Sepik-Ramu, Papua New Guinea; Foley 2010, 803–804)
- a. *narm pu-tpul-kamprak-r-akn*  
skin 3PL-hit-break-PERF-3SG  
'They hit and broke his skin.'
  - b. *paŋgra-na-kwanan-kulanaj*  
1PAUC-PROG-aimlessly-walk.about  
'We are walking about aimlessly.'
- (14) Alambalak (Sepik, Papua New Guinea; Foley 2010, 803–804)
- a. *kəfra-e fəh-r tu-finah-an-r*  
spear-INS pig-M throw-arrive-1SG-3SG.M  
'I speared a pig.'
  - b. *yən-r nur-nhen-më-r*  
child-M cry-feignedly-REM-3SG.M  
'The boy cried feignedly.'

Patterns of exponence of particular features can also be borrowed. One of the best-known examples comes from the nominal inflection of certain varieties of Cappadocian Greek, which underwent restructuring, at least some aspects of which are due to the strong long-lasting influence of Turkish (see the classic work by Dawkins 1916 and Karatsareas 2016 for a recent assessment). Thus, in a subset of nouns in Ferték Cappadocian one can observe the Turkic-style separative exponence of number and case as opposed to cumulative exponence of Standard Modern Greek (see Table 1).

Some Ethiopian Semitic languages have developed multiple or extended (circumfixal) exponence of negation under the influence of Cushitic languages (Leslau 1945, 69–70; Harris 2017, 167), as can be seen in the examples from Tigrinya and Harar Oromo in Table 2. By contrast, in the oldest attested Ethiopian Semitic language, Ge'ez, negation was expressed just by a prefix, as in *ʔi-yənnaggər* 'I am not saying' (Bulakh and Kogan 2013, 155, 177).

Even highly irregular patterns such as suppletion can be borrowed. A case in point is the inflection of the third-person pronoun in the eastern Lithuanian dialects spoken in the Baltic-Slavic contact zone (see Section 3.1 for more details). Whereas in standard Lithuanian and the western dialects all forms of the third-person pronoun are based on the stem *j-*, the eastern dialects, whose speakers used to be bilingual in the local East Slavic (Belarusian) varieties, feature the suppletive stem *an-* (originally a distal demonstrative) in the nominative, mirroring the inflection of the third-person pronouns in East Slavic (see Hill 2015), as shown in Table 3. Notably, the Lithuanian and East Slavic forms are etymologically cognate, however, the suppletive pattern is a secondary development in the latter as well.

**Table 1** Nominal inflection in Standard Modern Greek (Holton et al. 2004, 37), Ferték Cappadocian (Karatsareas 2016, 40) and Turkish (Lewis 2001, 29).

		Standard Modern Greek 'woman'	Ferték Cappadocian Greek 'woman'	Turkish 'hand'
SG	NOM	<i>gunek-a</i>	<i>neka</i>	<i>el</i>
	GEN	<i>gunek-as</i>	<i>neka-ju</i>	<i>el-in</i>
PL	NOM	<i>gunek-es</i>	<i>nec-es</i>	<i>el-ler</i>
	GEN	<i>gunek-on</i>	<i>nec-ez-ju</i>	<i>el-ler-in</i>

**Table 2** Negative imperfect forms in Tigrinya (Semitic, Ethiopia; Leslau 1941, 88) and Harar Oromo (Cushitic, Ethiopia; Owens 1985, 66), only singular.

	Tigrinya 'break'	Harar Oromo 'go'
1SG	<i>ʔay-säbbərə-n</i>	<i>hin-déem-u</i>
2SG <sup>a</sup>	<i>ʔay-təsäbbərə-n</i>	<i>hin-déemt-u</i>
3SG.M	<i>ʔay-yəsäbbərə-n</i>	<i>hin-déem-u</i>

<sup>a</sup> For Tigrinya, this means 2SG masculine.

**Table 3** Paradigms of third-person pronouns in Standard Lithuanian, Eastern Lithuanian dialects (Hill 2015, 62–63) and Belarusian (de Bray 1980, 218), only singular.

	Standard Lithuanian		Eastern Lithuanian		Belarusian	
	Masculine	Feminine	Masculine	Feminine	Masculine	Feminine
NOM	<i>jis</i>	<i>ji</i>	<i>anas</i>	<i>ana</i>	<i>ён/jon/</i>	<i>jana</i>
GEN	<i>jo</i>	<i>jos</i>	<i>jo</i>	<i>jos</i>	<i>jaho</i>	<i>jae</i>
DAT	<i>jam</i>	<i>jai</i>	<i>jam</i>	<i>jai</i>	<i>jamu</i>	<i>ěj/voj/</i>
ACC	<i>jį</i>	<i>ją</i>	<i>jį</i>	<i>ją</i>	<i>jaho</i>	<i>jae</i>
INS	<i>juo</i>	<i>ja</i>	<i>juo</i>	<i>ja</i>	<i>im</i>	<i>ěju/joju/</i>
LOC	<i>jame</i>	<i>joje</i>	<i>jame</i>	<i>joje</i>	<i>im</i>	<i>ěj/voj/</i>

**Table 4** Two types of contact-induced grammaticalization according to Heine and Kuteva (2005).

Ordinary contact-induced grammaticalization	Replica grammaticalization
a. Speakers notice that in SL there is a grammatical category Sx.	
b. They create an equivalent category Rx in RL on the basis of use patterns available in RL	b. They create an equivalent category Rx in RL, using material available in RL
c. To this end, they draw on universal strategies of grammaticalization, using construction Ry in order to develop Rx	c. To this end, they replicate a grammaticalization process they assume to have taken place in SL, using an analogical formula of the kind [Sy>Sx]:[Ry>Rx]
	d. They grammaticalize Ry to Rx.

## 2.5 PAT-borrowing and grammaticalization

Another mechanism of morphological PAT-borrowing is the so-called *contact-induced grammaticalization* (Heine and Kuteva 2003, 2005; Kuteva and Heine 2012; Wiemer et al. 2012), a process whereby a new grammatical category is created in a RL on the model of a SL by means of the familiar mechanisms of grammaticalization, that is, functional extension and increase of frequency of lexical items that ultimately turn into grammatical markers and may undergo decategorialization, phonological erosion and morphological bonding. Heine and Kuteva (2005, 80–100) distinguish two types of contact-induced grammaticalization, which they call ‘ordinary contact-induced grammaticalization’ and ‘replica grammaticalization’. In ordinary contact-induced grammaticalization only the result of the grammaticalization processes that occurred in the SL is replicated, while in replica grammaticalization it is the grammaticalization process itself that undergoes transfer from the SL to the RL. Table 4, based on Heine and Kuteva (2005, 81, 92) compares the two types.

Although Heine and Kuteva (2005, 92) contend that replica grammaticalization ‘appears to be even more common’, it remains unclear to what extent the very distinction between the two types of contact-induced grammaticalization is justified.

As Johanson (2013, 104) argues, language ‘users cannot copy diachronic processes that have already taken place’, therefore ‘the copying act does not repeat the gradual process from less grammaticalized to more grammaticalized stages’ (Johanson 2013, 106), so that in all cases ‘what is copied is the *result* of the grammaticalization process, not the process itself’ (Johanson 2013, 105). Instead, Johanson proposes the notion of ‘shared grammaticalization’, namely parallel developments of similar elements along similar paths in contacting languages (see Gast and van der Auwera 2012; Robbeets and Cuyckens 2013).

Terminological and notional controversies notwithstanding, instances of contact-induced grammaticalization are widely attested. In most known cases, however, they involve analytic constructions with such elements as adpositions, particles and auxiliary verbs. However, examples of contact-induced grammaticalization leading to the emergence of new bound morphology are also attested. One such case comes from Khasi, an Austroasiatic language of India, where a lexical verb ‘send’ has developed into a causative verbal affix, as can be seen in the examples in (15). Coupe (2018, 206) suggests that this change, which is not found in the languages of the family outside India, has been triggered by contact with Tibeto-Burman languages, such as Mongsen Ao, which shows a similar polyfunctionality, as evidenced by example (15).

(15) Khasi (Austroasiatic; Northeast India; Tensen and Koshy 2011, 249, 248)

- a. *u-jən u-p<sup>h</sup>aʔ ya-u-peter*  
 M-John 3SG.M-**send** ACC-M-Peter  
 ‘John sent Peter.’
- b. *u-jən u-p<sup>h</sup>aʔ-ba:m ya-u-səʔpe:ŋ ha-u-bil*  
 M-John 3SG.M-CAUS-eat ACC-M-mango DAT-M-Bill  
 ‘John made Bill eat the mango.’

(16) Mongsen Ao (Tibeto-Burman; Northeast India; Coupe 2018, 204; glossing simplified)

- a. *kiphuɯ nə áwkla khə əjila nət áhlu nə zək*  
 owner AGT pig and dog two field ALL **send**[PST]  
 ‘The owner sent his pig and his dog to his field.’
- b. *tshəluŋla nə asì-juk-zək-pàʔ sə*  
 fox AGT deceive-PFV-CAUS-NMZ DEM  
 ‘the fox that deceived him (lit. caused him to be deceived)’

Notably, in Mongsen Ao the verb ‘send’ became a causative suffix whereas in Khasi it has turned into a prefix, in accordance with the word order constraints of the respective languages. This shows that contact-induced grammaticalization does not lead to fully isomorphic structures.

## 2.6 Interim summary

To conclude this overview, we have seen that there are two major types of morphological borrowing, MAT-borrowing and PAT-borrowing, each with its

own subtypes and peculiarities. In the domain of MAT-borrowing, only those SL-origin morphological elements that combine with the native lexemes of the RL are counted as genuine borrowed morphology that has to be distinguished from parallel system borrowing. Although it has long been claimed that transfer of morphological formatives can only proceed indirectly via analogical extension from morphologically complex loanwords to the native vocabulary, robust cross-linguistic evidence exists for direct borrowing of affixes as well. While formatives belonging to both derivation and inflection (as well as to domains of morphology lying in between, such as productive non-inflectional concatenation), and, within inflection, to both inherent and contextual subtypes thereof, can be borrowed, functional and formal transparency seem to be among the most important prerequisites for transfer. In the domain of PAT-borrowing, polysemy copying and contact-induced grammaticalization are the best-known mechanisms of transfer, although copying of such purely morphological patterns as reduplication, and certain types of compounding or multiple exponence, are also attested.

### 3 Borrowing of verbal prefixes in the Balto-Slavic contact area

This section offers a more detailed discussion of MAT- and PAT-borrowing as well as contact-induced grammaticalization on the basis of verbal prefixation in Slavic, Baltic and neighbouring languages. This domain, which is quite salient in the grammars of Slavic and Baltic languages, has been involved in numerous contact-induced developments, which nicely illustrate both the borrowing phenomena described above and the problems in their identification and assessment.

#### 3.1 Overview

Baltic and Slavic are clear cases of ‘satellite-framed’ languages in terms of Talmy (1985, 2000), where the event denoted by the verbal root is further specified by ‘satellites’, namely free or bound elements expressing such meanings as path and direction of motion, partial versus full realization of the event and other types of more or less compositional modification, as well as the aspectual function of perfectivization (see Section 3.4). Verbal satellites in Baltic and Slavic can be either bound morphemes, namely prefixes also called *preverbs*, or free-standing particles. The sets of preverbs in Baltic and Slavic are to a great extent similar; many prefixes are etymological cognates, and moreover share common historical sources with prepositions, such as the Polish preverb *przy-* and preposition *przy* and the Lithuanian preverb *pri-* and preposition *prie* with the meaning ‘at, by’. Verb particles, by contrast, are a later innovation, commonly found only in Latvian and Latgalian, which share this feature with the Baltic-Finnic languages (see e.g. Wälchli 2001), some north-eastern Lithuanian dialects, and those Slavic languages that have experienced considerable influence from German (e.g. Sorbian; see e.g. Bayer 2006, 171–245).

Table 5 illustrates how various prefixes modify the semantics of verbs expressing motion and other types of event in Russian, and Table 6 lists the most common preverbs found in Slavic and Baltic.

**Table 5** Preverbs with different types of verbs in Russian.

<i>bežat'</i> 'run'	<i>pisat'</i> 'write'
<i>dobežat'</i> 'reach by running'	<i>dopisat'</i> 'finish writing'
<i>izbežat'</i> 'avoid'	<i>ispisat'</i> 'exhaust by writing'
<i>nabežat'</i> 'run in a large number'	<i>napisat'</i> 'write on a surface; write up'
	<i>nadpisat'</i> 'inscribe'
<i>obežat'</i> 'run around'	<i>opisat'</i> 'describe'
<i>otbežat'</i> 'distance oneself by running'	<i>otpisat'</i> 'reply in writing'
<i>perebežat'</i> 'cross by running'	<i>perepisat'</i> 'copy; rewrite'
<i>pobežat'</i> 'start running'	<i>popisat'</i> 'write for some time'
<i>podbežat'</i> 'run up to'	<i>podpisat'</i> 'undersign'
	<i>predpisat'</i> 'prescribe, order'
<i>pribežat'</i> 'arrive by running'	<i>pripisat'</i> 'add by writing; ascribe'
<i>probežat'</i> 'run a distance'	<i>propisat'</i> 'prescribe'
<i>razbežat'</i> 'sja' 'run in different directions'	<i>raspisat'</i> 'write in detail'
<i>sbežat'</i> 'run down; flee'	<i>spisat'</i> 'copy; cheat at an exam'
<i>ubežat'</i> 'run away'	<i>upisat'</i> 'write in'
<i>vbežat'</i> 'run into'	<i>vpisat'</i> 'inscribe'
<i>vybežat'</i> 'run out'	<i>vypisat'</i> 'write out'
<i>vzbežat'</i> 'run up'	
<i>zabežat'</i> 'run behind'	<i>zapisat'</i> 'write down; record'

**Table 6** Preverbs in Slavic and Baltic.

Slavic (represented by Russian)	Baltic
<i>do-</i> 'until'	? <i>da-</i> (see section 3.2)
<i>iz-</i> 'out of'	Lith. <i>iš-</i> , Latv. <i>iz-</i> 'out of'
<i>na-</i> 'on top'	Lith. <i>nu-</i> , Latv. <i>nuo-</i> 'from top'
<i>o(b)-</i> 'around'	<i>ap-</i> 'around'
<i>ot-</i> 'away'	<i>at-</i> 'towards'
	Lith. <i>par-</i> 'home, to the ground', Latv. <i>pār-</i> 'across, home'
<i>pere-</i> 'across'	Lith. <i>per-</i> 'across'
<i>po-</i> 'surface'	<i>pa-</i> 'under'
<i>pod-</i> 'under'	
<i>pri-</i> 'near'	Lith. <i>pri-</i> , Latv. <i>pie-</i> 'near'
<i>pro-</i> 'through'	Lith. <i>pra-</i> 'through'
<i>raz-</i> 'apart'	
<i>s(o)-</i> 'from a surface'; 'together'	Lith. <i>su-</i> , Latv. <i>sa-</i> 'together'
<i>u-</i> 'away'	
<i>v(o)-</i> 'into'	Lith. <i>į-</i> , Latv. <i>ie-</i> 'into'
<i>vy-</i> 'out'	
<i>v(o)z-</i> 'up'	Lith. <i>už-</i> 'behind; up', Latv. <i>uz-</i> 'up'
<i>za-</i> 'behind'	Latv. <i>aiz-</i> 'behind'

Verbal prefixation in Slavic and Baltic seems to belong clearly to derivation; individual prefixes differ widely in their productivity and many combinations of lexical stems with prefixes are semantically non-compositional or even completely opaque. However, at least in Slavic, prefixation also shows certain aspects of PNC referred to above in connection to polysynthetic languages. Certain prefixes have completely transparent functions and combine with verbs in a compositional fashion, moreover, they can even attach to verbs already containing prefixes thus yielding multiply prefixed verbs, consider example (17) from Russian:

- (17) Russian (Slavic < Indo-European, Tatevosov 2013, 1)
- a. *pisat'* 'write'
  - b. *za-pisat'* 'record'
  - c. *pere-za-pisat'* 'record again'
  - d. *do-pere-za-pisat'* 'finish recording again'

The prefixes *pere-* 'again' and *do-* 'to completion' in Russian can function as the so-called external, or superlexical, prefixes (see e.g. Romanova 2004), which are highly productive, fully compositional, and allow stacking shown in (17c–d). This makes them similar to the productive affixes of polysynthetic languages and can arguably facilitate borrowing. However, this trait is not shared by Baltic, where (standard) Lithuanian does not allow prefix stacking at all, and Latvian admits it only to a limited extent.

The Balto-Slavic contact area is located in the north-east of Europe, with its core spread primarily along the borders of the current states of Lithuania, Latvia and Belarus. The same area is sometimes viewed as a prominent part of the so-called Circum-Baltic linguistic area (see Dahl and Koptjevskaja-Tamm 2001). The core languages of the area are Baltic (Lithuanian, Latvian and Latvian) and Slavic (Polish, Belarusian and Russian). Moreover, in the same territory one can find the speakers of Karaim (Turkic), which used to be spoken predominantly in the vicinity of Trakai (near Vilnius in Lithuania) but now is nearly extinct. The dialects of Yiddish (Indo-European > Germanic) and Romani (Indo-European > Indo-Aryan) were non-territorial, as they were spoken all over the area. Finally, the northern part of the area used to include Livonian (Uralic > Finnic), now extinct, which had been in close contact with Latvian for centuries. The area, especially in its southern part, had been evolving under strong Slavic influence at least since the late Middle Ages (Wiemer 2003). For a long time, an East Slavic language referred to as Ruthenian, Chancery Slavonic, Old Belarusian, etc. was the official language of the Grand Duchy of Lithuania, and later was gradually replaced by Polish. However, East Slavic dialects continued to be commonly used among the rural population, with Polish gaining more influence only in the nineteenth century. At the same time, in the western and northern parts of the area, Germanic languages (Swedish and especially German) were also prominent, exerting their influence primarily on the written varieties of the local languages. Russian appeared in the area after this territory became a part of the Russian Empire in the end of the eighteenth century. However, Russian was used primarily by the city administration and did not have much influence on the speakers of the Baltic and Slavic dialects

in the rural areas. The situation changed in the twentieth century, when the Baltic states became part of the Soviet Union, and the post-war Soviet policy of Russification made Russian the main SL in the contact situations in the area, including its northern part where the influence of Slavic was traditionally lower.

In Sections 3.2 and 3.3 we survey examples of MAT- and PAT-borrowing of Slavic and Baltic verbal prefixes both across these two groups of languages and into the other languages in contact with them. We also discuss to what extent such borrowing has resulted in a concomitant development of what is commonly referred to as ‘Slavic-style aspect’ (for more details see Arkadiev 2017) in Section 3.4.

### 3.2 Matter-borrowing

One can find numerous examples of MAT-borrowing of preverbs in the languages of the area. These comprise borrowing of both particular prefixes and full systems of preverbs. If the RL already has preverbs as a productive derivational pattern, it still can borrow individual preverbs from a contact language. In the languages of the Balto-Slavic area there are examples of some Slavic preverbs being added to the systems of preverbs already existing in Baltic. This has happened in dialects that were or still are in close contact with Slavic. It is noteworthy that in both Lithuanian and Latgalian dialects the same Slavic preverbs are borrowed (i.e. *da-* ‘toward, until’, *roz-* ‘apart’ and *pod-* ~ *pad-* ‘near, below’; cf. Latgalian *īt* ‘go’ : *daīt* ‘come to, make it to’, *rozait* ‘go into different directions’, *padīt* ‘go near’). The possible explanation for the fact that precisely these particular preverbs were borrowed is that these Slavic preverbs do not have exact semantic counterparts in Baltic and thus their borrowing fills gaps in the system of the RLs.

The case of Balto-Slavic language contact always brings up the problem of cognates versus copies, as it is not always an easy task to distinguish between borrowed and inherent elements in closely related languages (see e.g. Pat-El 2013). This holds for the borrowing of preverbs as well. Thus, the status of the preverb *da-* in Baltic has been a subject of heated discussions for a long time. Even though it is found in the dialects of all three Baltic languages (including those that are not in immediate contact with Slavic) and looks exactly like an inherited cognate element, there is a tradition of treating this preverb as a borrowing from Slavic *do-*. The final answer in this discussion can hardly be achieved (see Kozhanov 2014 for an overview and references).

Borrowing of just single preverbs is also possible into languages lacking productive verbal prefixation of the Balto-Slavic type. Thus, Vlach Romanian spoken in Serbia has borrowed the Slavic completive prefix *do-* (Petrović Rignault 2008), and standard Romanian has borrowed the Slavic prefix *răz-/răs-* ‘apart’ (Mallinson 1986, 316); other Slavic prefixes do not seem to have made their way into the systems of these languages.

However, under intense contact a whole system of verbal prefixation can be borrowed into a language that lacked this morphological device before contact. The north-eastern dialects of Romani spoken in the area are a clear case of such borrowing from Slavic (cf. example (18) and a discussion (with the data from Russian Romani) in Rusakov 2001, 314–318).



- (18) Russian Romani (Indo-European > Indo-Aryan; Russia)
- a. *džal* 'go'
  - b. *vydžal* 'go out'      Russian *vyjti* 'go out'
  - c. *udžal* 'go away'      Russian *ujti* 'go away'
  - d. *zadžal* 'come over'      Russian *zajti* 'come over'

Another example of borrowing of a whole set of preverbs is Livonian, a Finnic language which used to be spoken in north-western Latvia (see de Sivers 1971). Being in close contact with Latvian for centuries, Livonian has borrowed the system of preverbs otherwise absent in Finnic languages, as can be seen in example (19). Given that Livonian also has a considerable number of both simplex and prefixed verbal borrowings of Latvian origin, it is likely that the Latvian preverbs first made their way into Livonian indirectly, by analogical extension from borrowed verbs to native ones; however, direct borrowing through knowledge of Latvian may have also contributed to the process.

- (19) Livonian (Fino-Ugric)      Latvian (Indo-European > Baltic)
- a. *aizlādō* 'go out'      *aiziet* 'go out'
  - b. *aplādō* 'go around'      *apiet* 'go around'
  - c. *ielādō* 'go in'      *ieiet* 'go in'

A particularly interesting example is constituted by Lotfitka, a Romani dialect of Latvia and Estonia, which has been under significant influence of Latvian (see Manuš-Belugin 1973). The ancestors of Lotfitka Roma migrating from Germany to the Baltic region first borrowed a number of preverbs from Slavic (probably from Polish in the sixteenth century), and later supplemented this system with a number of additional preverbs now of Baltic origin (probably in the territory of the contemporary Latvia in the eighteenth and nineteenth centuries; cf. example (20)). Thus the preverb system of Lotfitka is a 'hybrid' one that does not fully correspond to any of the SLs (see also Ariste 1973, Kozhanov 2011).

- (20) Lotfitka (Indo-European > Indo-Aryan; Latvia)
- a. *vidžal* 'go out'      ~ Russian *vyjti* 'go out'
  - b. *iedžal* 'go in'      ~ Latvian *ieiet* 'go in'
  - c. *nodžal* 'pass, go off'      ~ Latvian *noiet* 'pass'

Two caveats concerning the facts listed above are required. First, neither relatively low sociolinguistic status of a RL nor its intensive contacts with the languages possessing systems of preverbs necessarily leads to MAT-borrowing of preverbs, as is evidenced by Yiddish or Karaim (Turkic), which have otherwise experienced considerable influence from Slavic and Baltic (on Yiddish see Section 3.3). Second, when a language that had borrowed a system of preverbs from some SL<sub>1</sub> enters a new contact environment with a different SL<sub>2</sub> also featuring preverbs, this does not lead to the complete 'levelling-off' of its system of preverbs with those of the SL<sub>2</sub>. For instance, the preverbs in Russian Romani, which most probably had originally been borrowed from Polish and some East Slavic dialects (possibly West Polesian),

do not fully mirror the system of preverbs in Russian, the immediate contact language. Thus, the Russian preverbs *iz-*, *uz-* and *na-* are absent from the speech of many speakers, and moreover the preverbs do not reflect the so-called ‘akanje’ (the realization of unstressed /o/ as /a/), which is found in immediate contact varieties of Russian: Russian Romani uses the preverbs *pod-*, *roz-*, *od-*, not *\*\*pad-*, *raz-*, *ad-*. In other words, the borrowed preverbs retain the phonetics of the original SL (the same preverbs found in other north-eastern dialects of Romani do not have the traces of ‘akanje’ either).

### 3.3 Pattern borrowing

Verbal prefixes in the languages of the Balto-Slavic contact area often influence each other without any MAT-borrowing involved. For such interference to occur, preverbs of the contact languages should be identified (cf. the notion of pivot-matching above). The equivalence between morphological elements of a SL and a RL is established on the basis of either formal (phonetic) or semantic similarity. In the case of Baltic and Slavic systems of preverbs, this is achieved fairly easily due to the immediately recognizable cognancy of most of the preverbs, so that both formal and functional similarities play a role. When the languages in contact are not closely related, as is the case with Yiddish (Germanic) and Slavic, pivot-matching is primarily semantically based (cf. the discussion of the semantic similarity of Yiddish *tse-* and Slavic *roz-* and the influence of the latter on the former in Talmy 1982, 235–237).

PAT-borrowing in the domain of preverbs falls into several subtypes. In the first one, the equivalent preverb in the RL is used for the creation of loan translations, i.e. item-by-item translations of a morphologically complex unit, in our case prefixed verbs, of the SL. Such loan translations are essentially instances of lexical borrowing. For instance, in Lithuanian dialects one can find the verb *pri-si-eiti* ‘need, have to; have a chance to’, which consists of the simplex verb *eiti* ‘go’, the reflexive marker *-si-* and the preverb *pri-* ‘towards’, as can be seen in example (21). There is no doubt that all elements of this verb are inherently Baltic, yet the combination of these elements with this particular meaning is lacking in Standard Lithuanian, but has parallels in Slavic, such as the Belarusian verb *pry-jsci-s’a* PVB-go.INF-RFL with the same structure and meaning in (22).

- (21) Lithuanian, Eastern Aukštaitian (TriMCo corpus)

*ga<sup>l</sup> t<sup>au</sup> tai ne-p<sup>j</sup>ri-s-è-j-e<sup>’</sup>*  
 maybe 2SG.DAT DEM NEG-PVB-RFL-go-PST.3  
*gi<sup>r</sup>dle:-t<sup>j</sup>*  
 hear-INF  
 ‘Maybe you didn’t have a chance to hear it.’

- (22) Belarusian, dialects in Lithuania (TriMCo corpus)

*pry-šl-o-s’a jamú žaní-ca*  
 PVB-go.PST-SG.N-RFL 3SG.M.DAT get.married-INF.RFL  
 ‘He had to get married.’

All this points to the conclusion that in Lithuanian dialects this verb is a loan translation from Slavic. However, as was the case of MAT-borrowed preverbs, the identification of Slavic PAT-borrowings in Baltic is not always straightforward. The close affinity of the languages in contact and the formal similarity of their systems of preverbs do not rule out a possibility of parallel development that did not make it into the standard language.

The second type of PAT-borrowing is the transfer of the meanings of preverbs between languages, namely polysemy copying. In Yiddish, most notably in its eastern varieties, there are quite a few examples where Germanic preverbs copy the meanings of their Slavic counterparts (see e.g. Wexler 1964, 1972, Talmy 1982, and most recently Shishigin 2016). This is illustrated in (23) for two prefixes; note that in some cases the use of the reflexive marker (Russian *-sja*, Yiddish *zikh*) is also replicated. The Yiddish prefix *on-* shared with the Slavic prefix *na-* the spatial meaning 'on (top of)' and has acquired from Slavic the cumulative meaning 'V a (large) quantity' (23a). The Yiddish prefix *far-* has perhaps been identified with the Slavic prefix *za-* in the meaning 'cover, enclose' (Wexler 1972, 103) and has acquired such functions as ingressive as well as various partly lexicalized uses (23b).

- |      |                    |  |
|------|--------------------|--|
| (23) | Yiddish            | Russian  |
| a.   | <i>on-raysn</i>    | <i>na-rvat'</i> 'pick a quantity (of flowers)'                     |
|      | <i>on-gisn</i>     | <i>na-lit'</i> 'pour a quantity (of liquid)'                       |
|      | <i>on-zen zikh</i> | <i>na-smotret'-sja</i> 'have seen one's fill'<br>(Talmy 1982, 236) |
| b.   | <i>far-blijen</i>  | <i>za-cvesti</i> 'start blooming'                                  |
|      | <i>far-trinken</i> | <i>za-pit'</i> 'drink down after'                                  |
|      | <i>far-shraybn</i> | <i>za-pisat'</i> 'write down'<br>(Wexler 1972, 99–100)             |

An interesting case is represented by the Baltic dialects of Romani. After having MAT-borrowed the system of preverbs from Slavic, the speakers of these dialects migrated further into the realm of Baltic languages and started PAT-borrowing the functions of Baltic preverbs. Consider example (24), where the preverb *ot-* (originally borrowed from Slavic) is used in the meaning of approaching the landmark, typical of Baltic languages and contrasting with the Slavic, where this preverb with verbs of motion has the opposite meaning of moving away from the landmark.

- |      |   |
|------|---|
| (24) | Lithuanian Romani (RMS, LT-005)   |
|      | <i>Mir-í</i> <i>c'ótk-a</i> <i>ot-tradyj-á</i>                                    |
|      | my-NOM.SG.F      aunt-NOM.SG                      PVB-drive-PST.3SG               |
|      | <i>tas'á</i> <i>Varšavá-te</i>  |
|      | yesterday                      Warsaw-ABL/LOC.SG                                  |
|      | 'My aunt arrived from Warsaw yesterday' (cf. Lithuanian <i>at-važiavo</i>         |
|      | 'arrived' vs Russian <i>pri-jexala</i> 'arrived', <i>ot-jexala</i> 'drove away'). |

Finally, an interesting example of PAT-borrowing is the emergence of multiple prefixation in some Lithuanian dialects (see Kozhanov 2015, 341–349). Even though, as was already pointed out, in Baltic, unlike Slavic, preverbs cannot be added to already prefixed verbs, in some South-Eastern Aukštaitian dialects of Lithuanian the preverb *pa-* and its reduplicated variant *papa-* can function as superlexical prefixes expressing the distributive meaning, as can be seen in the examples in (25) from the Lithuanian dialect of Dieveniškės.

- (25) a. *Tėv-as*                    *vis-íemu*                    *vaik-āmu*                    *pa-nu-pišk-o*                    *pirki-às*  
 father-NOM.SG    all-DAT.PL.M    child-DAT.PL    PVB-PVB-buy-PST.3    house-ACC.PL  
 ‘Father bought houses for all children.’
- b. *Papa-su-veži-au*                    *vis-us*                    *pėd-us*  
 PVB-PVB-carry-PST.1SG    all-ACC.PL.M    sheaf-ACC.PL  
 ‘I brought all the sheaves.’

The ability of the preverbs *pa-* and *papa-* to attach to already prefixed verbs seems to have developed due to language contact with Belarusian. There are several arguments in favour of this hypothesis. First, multiple prefixation is productive only in those South-Eastern Lithuanian dialects that are in especially intensive contact with Slavic. Second, the use of the reduplicated prefix *papa-*, which does not have any counterparts in other Baltic varieties, is very similar to that of the Belarusian preverb *papa-* (see Hajdukevič 1961). Finally, one of the few differences between the (standard) Lithuanian preverb *pa-* and its Slavic counterpart is that the former does not have a distributive function. Thus, this case of interference between the Belarusian and Lithuanian preverbs consists of several layers: on the one hand, a new function (distributive) of the prefix *pa-* is PAT-borrowed together with its ability to occupy the second prefixal slot in the morphological structure of the verb, and on the other hand, the prefix *papa-* in the same function appears to be MAT-borrowed (alternatively, its reduplication in the distributive function has been PAT-borrowed). However, this case of borrowing did not lead to the development of the other Lithuanian preverbs into superlexical prefixes.

In other words, PAT-borrowing of preverbs arguably never results in a total matching of the semantic spaces of the preverbs found in SL and RL. More common is the situation of partial borrowing when the RL transfers some functions and rejects the others (cf. the notion of ‘hybrid polysemy’ in the discussion of Yiddish in Talmy 1982). This idea can be even better illustrated by the fate of the aspectual functions of Slavic and Baltic preverbs in the contact languages, to which we now turn.

### 3.4 Verbal prefixation and Slavic-style aspect in contact

The term ‘Slavic-style aspect’ was originally coined by Dahl (1985, 84–89) to describe the aspectual systems of languages sharing the following characteristics: (i) ‘perfective’ and ‘imperfective’ are expressed not within the inflectional system but rather by (productive) derivational categories; (ii) simplex verbs are predominantly imperfective and denote unbounded events (processes and

states); (iii) perfective verbs denoting bounded events, notably, culminations of telic processes, are derived from simplex verbs by means of lexically selective perfectivizing elements such as prefixes (preverbs). The literature on aspect in Slavic and the role of verbal prefixation therein is so huge and heterogeneous that it hardly makes any sense to list even a representative sample of it here. Importantly, however, aspectual systems sharing with Slavic ones the properties (i)–(iii) are found in other languages as well, most notably in those geographically close to Slavic. These are the Baltic languages, Yiddish and Hungarian in Eastern Europe, and Ossetic and Kartvelian languages in the Caucasus (see Arkadiev 2014 for an areal-typological perspective and further references, and Arkadiev and Shluinsky 2016 for a broader cross-linguistic outlook; cf. also Wiemer and Seržant 2017).

Thus, in the languages with Slavic-style aspect, preverbs not only modify the lexical meaning of the verb but also change its actional and aspectual characteristics. Prefixes usually perfectivize verbs: simplex verbs are normally imperfective ( $\approx$  describe ongoing or habitual situations), whereas prefixed verbs derived from simplex verbs are perfective ( $\approx$  describe completed situations). The functions of lexical modification and perfectivization go hand in hand and are often hard to tease apart. Thus, all Russian prefixed verbs given in Table 4 differ from the simplex verbs from which they are derived not only in lexical meaning, but in the aspectual value as well.

Due to the advanced grammaticalization of the aspectual categories in Slavic, one finds there so called ‘empty prefixes’, which merely perfectivize verbs without affecting their lexical meanings. This is a result of both mutual semantic accommodation of the verb and the prefix, known as ‘subsumption’ or ‘the Vey-Schooneveld effect’, and semantic bleaching whereby particular prefixes become default perfectivizers (on this phenomenon across Slavic see in particular Dickey 2008). This has resulted in a situation where different prefixes serve as perfectivizers with different verbs depending on the mutual semantic affinity of their meanings (cf. Russian *napisat’* ‘write’ (*na-* ‘surface’), *razrezat’* ‘cut’ (*raz-* ‘apart’), *vskipet’* ‘boil’ (*vz-/vs-* ‘up’); see Janda et al. 2013). Similar phenomena are also attested in other languages with Slavic-style aspect.

Another manifestation of a high degree of grammaticalization of aspect in Slavic, which is not shared by most other languages with otherwise similar aspectual systems, is the phenomenon of secondary imperfectivization alongside perfectivization, namely derivation of an imperfective verb from a prefixal perfective verb by means of suffixation, e.g. Rus. *vjazat’* ‘bind, tie (IPFV)’: *za-vjazat’* ‘bind up, tie up (PFV)’: *za-vjaz-yvat’* ‘bind up, tie up (IPFV)’. This process, which has become especially productive in the eastern part of Slavic, has led to obligatoriness and paradigmaticization of the aspectual opposition, whereby a majority of verbs have both perfective and imperfective variants differing in aspectual value, but not in lexical meaning. This goes hand in hand with the fact that in Slavic we find a nearly complementary distribution of aspects across contexts partly defined in terms of morphosyntax rather than semantics (e.g. the consistent use of the imperfective with phasal verbs; on inner-Slavic variation in this domain, see Dickey 2000).

**Table 7** Comparison of the aspectual functions of prefixed versus simplex verbs in Yiddish and Russian (Talmy 1982, 241).

Function	Yiddish	Russian
On-going activity ('is writing')	Simplex	Simplex
Accomplishment in progress ('is writing a letter')	Prefixed	Simplex
Habitual completed event ('writes a letter every day')	Prefixed	Simplex
Single completed event ('wrote a letter')	Prefixed	Prefixed

Turning to the impact of language contact and in particular of morphological borrowing on aspectual systems, we can observe that both preverbs MAT-borrowed from Slavic or Baltic and native preverbs whose functions have been altered by PAT-borrowing tend to develop the perfectivizing ability in addition to the more concrete meanings. This has been reported for Yiddish, Romani and Istro-Romanian in contact with Slavic and for Livonian in contact with Latvian. However, on closer inspection it turns out that the matching between the aspectual systems of the RLs and the SLs is never perfect (see Arkadiev 2017).

Thus, while it has been claimed that Yiddish has replicated the ability of the Slavic preverbs to turn imperfective verbs into perfective ones, as shown in (26), this does not mean that the aspectual opposition between simplex and prefixed verbs has attained in Yiddish the degree of grammaticalization similar to that found in Slavic (see Talmy 1982, 241–242; Aronson 1985; Gold 1999). For instance, prefixed verbs can be used under phasal predicates (27), which is impossible for their Slavic counterparts unless secondary imperfectivization is applied. Table 7 (adapted from Talmy 1982, 242) clearly illustrates how Yiddish and Russian differ in the way they distribute simplex and prefixed verbs across several functions (with respect to Russian 'simplex' also comprises secondary imperfective derivatives of prefixed verbs).

- (26) Yiddish      Russian (Talmy 1982, 241)  
*sharfn*      *točit'* 'sharpen (IPFV)'  
*on-sharfn*    *na-točit'* 'sharpen (PFV)'

- (27) Yiddish (YNC, quoted after Arkadiev 2017, 6)  
*Es*      *hob-n*                      *on-ge-hoyb-n*                      *aroy-s-gey-n*  
it      have-PRS.3PL              PVB-PTCP-start-PTCP      PVB-go-INF  
*etlekhe*    *pedagogishe*              *zhurnal-n.*  
several    pedagogical              magazine-PL  
'There started being published (lit. go out) several pedagogical magazines.'

A similar situation is found in those Romani dialects that have borrowed Slavic verbal prefixes. On the one hand, the borrowed Slavic prefixes perfectivize Romani verbs; moreover, in some cases their function seems to be purely aspectual, as can be seen in the examples in (28). On the other hand, the usage patterns of simplex

versus prefixed verbs in Romani as observed in corpora in many respects differ from the distribution of imperfective versus perfective verbs in such languages as Russian (Rusakov 2001). Thus, the Romani prefixed verbs can be used in habitual contexts (29), where Russian only allows (secondary) imperfectives, while simplex verbs can even alternate with prefixed verbs in clearly perfective contexts (30).

(28) Russian Romani (K.K., fieldwork data)

- a. *phandél* 'tie (IPFV)': *priphandél* 'tie up, over (PFV)' (~ Rus. *perevjazat'*)  
 b. *kerél* 'do, make (IPFV)': *skerél* 'do, make (PFV)' (~ Rus. *sdelat'*)

(29) *o*            *kustyk-á*            *kaj*    *postyn-á*            *piri-phand-éna*  
 ART.PL    girdle-DIR.PL    REL    overcoat-DIR.PL    PVB-tie-PRS.3PL  
 'the girdles with which they tie up (PFV) the overcoats' (~ Rus. *perevjazyvajut* 'tie up (IPFV)')

(30) a. *patóm*    *khér*                    *lać-ó*                    *ker-dé*  
           then    house.DIR.SG    good-DIR.SG.M    make-PST.3PL  
           'Then they built a good house.'  
 b. *adáj*      *khér*                    *s-ker-dé*  
           here    house.DIR.SG    PVB-make-PST.3PL  
           'They built a house here.'

One could argue that borrowing of preverbs does not lead to the full grammaticalization of a Slavic-style aspect system because it is not accompanied by borrowing of imperfectivizing suffixes available in Slavic. Indeed, neither Yiddish nor Russian Romani possess any formal means of deriving imperfective verbs from prefixed perfective verbs that would allow their speakers to both keep the concrete semantic contribution of the preverb and 'cancel' its perfectivizing aspectual force. However, the exceptional case of Istro-Romanian, an Eastern Romance language that has been in close contact with Croatian (South Slavic) for centuries, shows that even borrowing of both perfectivizing prefixes and imperfectivizing suffixes does not amount to exact copying of the Slavic aspectual system (Hurren 1969; Arkadiev 2017).

Istro-Romanian has borrowed from Croatian not only a system of perfectivizing verbal prefixes (31), but the imperfectivizing suffix *-va* as well. The latter attaches to both simplex (32a) and prefixed verbs (32b) thus functioning as a secondary imperfective.

(31) Istro-Romanian (Indo-European > Romance; Croatia; Klepikova 1959)

- a. *lega* 'tie'                    *rez-lega* ~ Croatian *razvezati* 'untie'  
 b. *plânje* 'weep'            *ze-plânje* ~ Croatian *zaplakati* 'burst into tears'  
 c. *ćira* 'have supper'      *poćira* ~ Croatian *povečerati* 'have supper (PFV)'

(32) a. *a scutat-av* 's/he heard'    *scutaveit-a* 's/he was listening'  
 b. *res-cl'ide* 'open!'            *res-cl'idaveit-a* 's/he kept opening'

According to Hurren (1969), Istro-Romanian has developed a grammaticalized aspectual opposition between imperfective and perfective verbs related to each other by means of prefixation, suffixation, inflection class change and suppletion. However, this aspectual system is markedly different from the Slavic ones. The distribution of simplex versus suffixal verbs appears to have been remodelled on the basis of the opposition between (mostly prefixal) perfectives and suffixal secondary imperfectives, rendering many simplex verbs, including some Slavic originally imperfective verbal loans, perfective (33), a situation that is quite peculiar from a Slavic perspective.

(33) Istro-Romanian (Klepikova 1959, 52)

- a. *ši=av*                      *pisei-t*                      *un*      *libr-u*.  
 and=have.PRS.3SG      **write**[PFV]-PTCP      INDF      book-SG  
 'and s/he wrote (Croatian perfective *napisao*) a book.'
- b. *le*              *nu*      *l'=a*                      *iedānaist*      *an*  
 he.NOM      NEG      they.DAT=have.PRS.3SG      eleven      year  
*pis-ivei-t*.  
**write**-IPFV-PTCP  
 'He didn't **write** (Croatian imperfective *pisao*) to them for 11 years.'

## 4 Conclusion

The discussion of the borrowing phenomena in the domain of verbal prefixes in Baltic, Slavic and neighbouring languages illustrates several more general issues in the study of morphological borrowing and highlights some problematic points. First, we have seen how productive derivational morphology is MAT-borrowed from a dominant SL to a RL under intense contact. This process most likely involves both indirect transfer whose vehicles are sets of simplex and prefixed borrowed verbs and direct transfer facilitated by extensive asymmetric bilingualism as well as a considerable degree of formal and functional salience and transparency of the formatives in question. Notably, there is no reason to assume that mere presence of borrowed verbs in the RL excludes direct borrowing of preverbs, and more sophisticated methods are needed in order to disentangle these two processes (see Seifart 2015). Second, we have seen that verbal prefixes can be borrowed both into RLs that already have productive verbal prefixation, thus filling functional gaps in their prefixal systems, and into RLs that did not have verbal prefixation (at least of the Balto-Slavic type) before contact. The latter situation often results in MAT-borrowing of not just isolated preverbs but whole prefixal systems, which leads to a creation of a new derivational category in the RL (MAT&PAT-borrowing in terms of Gardani 2020b).

Third, the discussion of the MAT-borrowing of Slavic verbal prefixes into Baltic dialects has highlighted the specific problem of contact situations involving closely related languages, i.e. the question of how borrowed formatives can be distinguished from regular cognates. This problem, which cannot be easily resolved in all cases, is further aggravated by the fact that cognate formatives in the situation of



language contact between genealogically related languages can be especially prone to convergent functional development, i.e. PAT-borrowing.

Fourth, we have seen that, however widespread and extensive, PAT-borrowing does not actually lead to the system of the RL becoming a complete mirror-image of the SL. Thus, even though Yiddish has remodelled the functions of a number of its verbal prefixes replicating the polysemies of the Slavic preverbs, this matching is never perfect, and testifies to both selective replication and independent development. This becomes especially evident when we look at the fate of the aspectual perfectivizing force of the Slavic preverbs in the contact languages. Indeed, while both MAT-borrowing of preverbs and PAT-borrowing of their functions leads to the emergence of perfectivization in the RLs, the resulting aspectual systems differ from the Slavic ones in the distribution and use of prefixed versus simplex verbs and hardly ever attain the degree of obligatoriness and grammaticalization found in the SL, confirming the observation by Heine (2012, 132) that ‘replica categories are generally less grammaticalized than the corresponding model categories’. Moreover, the case of Istro-Romanian, which has borrowed not only the Slavic verbal prefixes but even the imperfectivizing suffix, clearly shows that even a grammatical system fully based on borrowed morphological matter can still considerably diverge from the model system in its functional makeup.

We hope that both our general exposition of the domain of morphological borrowing and our case study of borrowing of verbal prefixes in the Balto-Slavic domain have demonstrated that theoretical morphology and the study of morphological borrowing can be mutually informative and that the empirical results accumulated in the latter deserve the attention of the former and can even call for refinement of its methods and conceptual apparatus.

**SEE ALSO:** Grammaticalization; Morphological Manifestations of Aspect in Slavic; Multiple and Cumulative Exponence; Polysemy of Affixes: A Slavic Perspective; Root and Pattern in Semitic – and Beyond.

## Abbreviations

1	1st person
2	2nd person
3	3rd person
ABL	ablative
ABS	absolutive
ACC	accusative
AGT	agentive
ALL	allative
AOR	aurist
ART	article
CAUS	causative
CM	class marker

DAT	dative
DCL	declarative
DEF	definiteness
DEM	demonstrative
DIR	directional; direct case
DU	dual
ERG	ergative
F	feminine
FREQ	frequentative
FUT	future
INDF	indefinite
INF	infinitive
INS	instrumental
INTF	intensifier
IO	indirect object
IPFV	imperfective
LOC	locative
M	masculine
N	neuter
NEG	negation
NMZ	nominalization
NOM	nominative
NPST	non-past
OBJ	object
OBL	oblique
PAUC	paucal
PERF	perfect
PFV	perfective
PL	plural
POSS	possessive
PR	possessor
PROG	progressive
PRS	present
PST	past
PTCP	participle
PVB	preverb
RE	repetitive
REC	reciprocal
REL	relativizer
REM	remote past
RFL	reflexive
ROUND	classifier of round objects
SG	singular
TUBE	classifier of tube-like objects

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TRiMCo: The corpus of Baltic and Slavic languages created within the project 'Triangulation approach for modelling convergence with a high zoom-in factor', <https://www.trimco.uni-mainz.de/trimco-dialectal-corpus/>, not fully available online.

YNC: Corpus of Modern Yiddish <http://corpustechnologies.com:8080/YNC>.

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