# Is Lithuanian a polysynthetic language?

### **Peter Arkadiev**

Institute of Slavic Studies of the Russian Academy of Sciences, Moscow, Russia Russian State University for the Humanities, Moscow, Russia Vilnius University, Vilnius, Lithuania

Abstract. This paper reviews the definitions and operationalisations of the notion of "polysynthesis" proposed in the typological literature and applies them to Lithuanian (verbal) morphology. It is shown that while Lithuanian falls short of polysynthesis in terms of morphemes-to-words ratio and lacks such features as polypersonalism and incorporation, it still possesses certain properties associated with polysynthesis. These include the so-called lexical affixes (it is argued that Lithuanian verbal prefixes are an example of these) and, to a limited extent, "productive non-inflectional concatenation", i.e. morphemes with a high combinatory potential and compositional meanings, including successively applying verbalisers and nominalisers. These observations not only shed novel light on some well-known facts of Lithuanian grammar, but also further underscore the multifactorial and vague nature of polysynthesis.

**Keywords**: Lithuanian, morphology, polysynthesis, typology, verb

Perhaps most linguists working on Lithuanian would consider the question put in the title of this article provocative, and the answer to it obviously in the negative. Indeed, how can a well-behaved conservative Indo-European language be reasonably compared with "exotic" tongues spoken in remote places, such as Chukchi, West Greenlandic or Abkhaz? However, once the strong impetus for a typologically-informed and unbiased approach to Baltic languages has been

given by such scholars as the current Festschriftee, it is precisely by means of comparison to other languages, including the most "exotic" and "remote", that the sometimes peculiar and often neglected features of Lithuanian can be highlighted and properly understood. The goal of this essay is certainly not to convince anybody that the answer to the question in the title is in the affirmative—rather it is to argue that this question, however provocative it may seem, is nevertheless legitimate and that by addressing it seriously one can throw some new light both on certain aspects of the grammar of Lithuanian and on the notion of "polysynthesis" itself.

Let us start with the observation that there is no accepted and operational definition of "polysynthesis" in linguistics comparable to the definitions of other typological notions such as "ergativity" or "evidentiality". While there are clear and unequivocal criteria that can be applicable to any given language L and tell whether a construction X in L exhibits ergativity, the treatment of particular languages as polysynthetic has largely relied on tradition (linguists consider Eskimoan or Chukotkan languages polysynthetic because these languages have served as textbook examples of this language type) or family resemblance (languages of Northern Australia are considered polysynthetic because they show certain similarities to languages of North America, to which this term has been initially applied, cf. Evans & Sasse 2002, 1–3); see Lander 2011 and Zúñiga 2019 for reviews of the different understandings of the term "polysynthesis". This notorious lack of a rigid definition is, however, not accidental, since the very notion of "polysynthesis" has been conceived as an overarching concept capturing important properties of whole linguistic systems rather than features of particular constructions (see again Evans & Sasse 2002, 4; Zúñiga 2019, 2, 4). Indeed, while linguists, confronted with the cross-linguistic variation and complexity of alignment types often coexisting in a single language, have largely ceased speaking of "accusative languages" or "ergative languages", the epithet "polysynthetic" is most commonly applied precisely to whole languages. This holistic nature of the concept of polysynthesis has inevitably led to its being broad enough to be applicable to languages widely differing in their grammatical makeup (see e.g. Mattissen 2004, 2006) but sharing some features general and important enough to be considered sufficient to group these languages in one necessarily vague type.

As (Fortescue et al. 2017, 1) put it, "[m]ost would agree that polysynthetic languages are characterized by words consisting of many meaningful parts", and in particular this high or even extreme morphological complexity pertains to the verb, which can "serve alone as a free-standing utterance without reliance on context" (Evans, Sasse 2002, 3). Examples in (1)–(3) illustrate, on the one hand, the degree of complexity verbal forms can achieve in polysynthetic languages, and, on the other hand, the degree of cross-linguistic dissimilarity in their structures and in the information they encode.

Abaza (Northwest Caucasian, Russia; own fieldwork data, textual example)

(1) s-z-a-la-nəqˈwa-wa-ʒə-j-š'a-ṭ 1SG.ABS-POT-3SG.N.IO-PVB-pass-IPF-PVB-3SG.IO-seem(AOR)-DCL 'It seemed to him that I would be able to pass there.'

Barbareño Chumash (Chumashan, California, extinct; Applegate 2017, 233)

(2) s-iy-qili-wali-?iša-s-axwiwik
3.SBJ-PL.SBJ-HAB-PRIOR-PART-CAUS-dry
'They first semi-dry it.'

Tiwi (Tiwi, Northern Australia; Osborne 1974, 47)

(3) *ji-məni-ŋilimpaŋ-alipi-aŋkina* 3sg.sbj-1sg.obj-sleeping-meat-steal 'He stole my meat while I was asleep.'

Exuberant as this complexity may seem, one should neither assume that **all** verbal forms in Abaza, Barbareño, Tiwi and other languages called polysynthetic are as complex, nor be surprised when encountering verbal forms of comparable complexity in Lithuanian as well, cf. example (4).

Lithuanian (DLKT)

(4) *ne-be-su-si-skamb-in-dav-o-me*NEG-CNT-PVB:together-REC-ring-CAUS-HAB-PST-1PL
'We did not habitually call each other any more.'

The naturally occurring verbal form given in (4) is clearly longer than average for Lithuanian. However, it is not in any way exceptional. By contrast, the

Abaza verbal form in (1), which features two distinct lexical stems separately inflected for person and aspect and expressing a separate event each, is exceptional in two ways: It is not only quite peculiar from a cross-linguistic perspective (see e.g. Panova 2018, 2020 on so-called "morphologically bound complementation" and Zúñiga 2019, 6 on "multiclausal polysynthesis"), but also transcends the limits of the regular, even if highly complex, template according to which verbs are normally formed in Abaza itself.

The mere possibility of packaging a lot of semantic information into complex polymorphemic verbs like those shown in (1)–(4), which is available not only to languages traditionally considered polysynthetic, but also to Lithuanian, is thus not particularly revealing.

One of the first criteria proposed as a means of objective evaluation of the degree of morphological complexity of languages was the Synthetic Index (Greenberg 1960), i.e. the ratio of morphemes to words in a text. According to (Greenberg 1960, 194), whose sample included Sanskrit, Old English, Persian, Modern English, Yakut, Swahili, Vietnamese and Greenlandic Eskimo, one can define "an analytic language as one with a synthetic index of 1.00–1.99, synthetic as 2.00-2.99, and polysynthetic as 3.00+". Having applied Greenberg's index to the Lithuanian translation of the 4th chapter of Gospel of Luke (Biblija 1998), I found that Lithuanian (2,24) is less complex than Greenberg's Sanskrit (2,59) and Swahili (2,55) and only slightly more complex than Old English (2,12) and Yakut (2,17). However, having measured the synthetic index for Abaza on the basis of the same text (AbLu 2013), I have found that while Abaza (2,93) is more complex than Sanskrit, Swahili and Lithuanian, it is much less complex than Greenlandic (3,72) and even falls into Greenberg's "synthetic" type. More interesting, however, is the same morphemes-to-words ratio when applied just to verbs, which are the primary locus of morphological complexity both in Lithuanian and in polysynthetic languages. While the comparison to Eskimoan languages is not possible due to the lack of a morphologically annotated version of Gospel of Luke, the comparison of just Lithuanian and Abaza reveals that the verbs in the latter are markedly more complex with the synthetic index as high as 4,95 as opposed to just 3,26 for Lithuanian. Thus, according to Greenberg's quantitative typology Lithuanian is quite remote from polysynthesis.

However, quantitative measures of syntagmatic morphological complexity (for a discussion of work following Greenberg see Kempgen & Lehfeldt

2004), simple as they are, render the linguist completely agnostic as to what it is that constitutes this complexity and what kind of semantic content is packaged in polymorphemic words, let alone whether certain types of morphological organization correlate with any other properties of language systems (cf. Zúñiga 2019, 13).

An influential approach to polysynthesis has been advanced in the generative framework by (Baker 1996), who claimed that polysynthetic languages are subject to the so-called "Morphological Visibility Condition", i.e. the requirement that all argument positions in the clause be morphologically "coindexed" on the verb by means of either agreement or incorporation. According to Baker, who mainly based his theory on the data of Mohawk (Iroquoian), from this requirement follows a whole array of other properties found in a number of polysynthetic languages, such as non-configurational syntax, lack of grammatical case marking, free omission of noun phrases, lack of reflexive pronouns and infinitives and some others. Leaving aside the criticism levelled against Baker's approach both within and outside of the generative framework, it is clear that his definition of polysynthesis excludes Lithuanian, which, like all conservative Indo-European languages, shows agreement only with subjects, does not have any traces of incorporation, and possesses grammatical case, reflexive pronouns and infinitival clauses. However, one should note that Baker's definition is clearly too restrictive even for the traditional notion of polysynthesis, since it excludes such languages as Eskimoan or Northwest Caucasian, which lack incorporation, at least in Baker's sense (see e.g. Evans & Sasse 2002, 3-4).

A much more "liberal" definition of polysynthesis is given by Johanna Mattissen in the recently published "Oxford Handbook of Polysynthesis" (Fortescue et al. ed. 2017):

Languages qualify as polysynthetic if they have complex, polymorphemic verbal units which necessarily integrate productively non-root bound morphemes with 'lexical' and grammatical meanings, especially local ones, and optionally allow concatenation of lexical roots within a verbal wordform. (Mattissen 2017, 72)

The core criterion of Mattissen's definition concerns the existence<sup>1</sup> of complex verbal forms containing so-called **lexical affixes** (Mithun 1997), i.e. morphemes that, on the one hand, are unable to project a well-formed word and hence are not roots, but, on the other hand, express fairly concrete meanings significantly contributing to the lexical content of the word rather than merely profiling or modifying some aspects of the lexical semantics or linking the word to its syntactic or discourse context. (Mattissen 2017, 72) lists a number of semantic categories that she considers characteristic of lexical affixes in polysynthetic languages, such as participant classifiers or quantifiers, location and direction, body-part and instrument, degree and manner, focus (e.g. 'only'), reversative and some others (these are discussed in greater detail in Mattissen 2006). Note that in the definition given above affixes expressing spatial ("local") notions are given particular prominence.

Striking as it may seem, Mattissen's definition does not require a language to express all—in fact, any—of the clausal participants by bound pronominals in the verb, a criterion explicitly formulated by (Baker 1996) as well as by (Fortescue 2017, 122) in his own chapter of the "Handbook of Polysynthesis". According to (Mattissen 2017, 83), participant encoding is a parameter of variation with the following three values:

- (i) "polypersonalism, i.e. the encoding of at least two participants on a bivalent verb" (e.g. Abaza);
- (ii) "monopersonalism, encoding of no more than one participant on any verb" (e.g. Nivkh);
- (iii) "apersonalism with no person marking on verbs" (e.g. Klamath).

If we now look at Lithuanian from this perspective, we can easily find in it some properties fitting Mattissen's rather broad definition of polysynthesis.

First, there seem to be all reasons to identify the Lithuanian verbal prefixes as lexical affixes, especially in their spatial uses found with verbs expressing motion as well as other types of events involving displacement, consider example (5). Note that at least one prefix, namely, *su*- can be considered a "quantifier"

I understand Mattissen's "have ... verbal units which necessarily integrate" productive lexical affixes as featuring an implicit existential quantifier, and not a universal one, since it is clear that most, if not all polysynthetic languages (including Eskimoan and Northwest Caucasian) have simplex verbal forms alongside complex ones.

selecting a plural participant (cf. "collective" and "much" in the list of meanings subsumed under the heading "quantification" in Mattissen 2006, 329).

```
Lithuanian (LKŽe)<sup>2</sup>
(5) bėgti 'run'

api-bėgti 'run around'

at-bėgti 'come running'

i-bėgti 'run into'

iš-bėgti 'run out'

nu-bėgti 'run down'

pa-bėgti 'run away'

par-bėgti 'run across'

pra-bėgti 'run across'

pra-bėgti 'pass by while running'

pri-bėgti 'approach running'

su-bėgti 'come running together'

už-bėgti 'run on top of'
```

Among the Lithuanian verbal prefixes one can single out *par*- as closest to the typical lexical affix. Indeed, in contrast to all other prefixes that encode rather abstract geometric spatial notions as well as numerous non-spatial meanings, *par*- instead expresses very concrete spatial modification of the event: with verbs denoting horizontal motion such as *bėgti* 'run' or *nešti* 'carry' it means 'point of natural return (e.g. home)' (thus *par-nešti* 'bring home'), whereas with verbs denoting vertical motion such as *kristi* 'fall' or *mesti* 'throw' the prefix denotes 'earth, ground', thus *par-kristi* 'fall to the ground', *par-mesti* 'throw on the ground' (cf. the broader meaning 'drop' with the different prefix: *nu-mesti*).

Affixes expressing such very concrete spatial notions are quite characteristic of "classic" polysynthetic languages, however, this does not mean that these do not have affixes with more abstract semantics as well. Thus, in Abaza, alongside a number of spatial prefixes denoting very particular landmarks (6a),

2 Lithuanian verbal prefixes and prefixed verbs are fairly polysemous, so I provide just the most transparent glosses. there are many prefixes whose meanings do not look so special from an Indo-European perspective (6b).

#### Abaza

```
(6) a. a-h^w \partial h^w a-k^\prime a \partial g^w j-k k a r a - p s s s a - t

DEF-pigeon DEF-yard 3sg.N.ABS-PVB.yard-fly(AOR)-DCL

'The pigeon flew into the yard.' (Klyčev 1995, 224)

b. a-hak^w d-ta-ch^w - a w - n

DEF-oven 3sg.H.ABS-PVB.inside-blow-IPF-PST

'He was blowing into the oven.' (Klyčev 1995, 202)
```

Of course, "classic" polysynthetic languages often possess quite elaborate inventories of lexical affixes, for instance, Abaza boasts more than one hundred simple and complex spatial prefixes of the kind shown in (6). However, other languages possess more moderate sets of lexical affixes. Thus, West Circassian, a distant relative of Abaza, productively employs around two dozen spatial prefixes (Kumaxov 1964, 164–182), which is only twice as many as in Lithuanian.

If we consider some non-spatial meanings found with the Lithuanian verbal prefixes, we also encounter some of Mattissen's semantic categories. Thus, the prefix *ap*- can express 'partial change of state' (*mažėti* 'diminish' ~ *ap-mažėti* 'somewhat diminish') falling into the domain of "degree" (cf. Mattissen 2006, 326–327), while the prefix *at*- can express action performed in reply to an analogous action (e.g. *rašyti* 'write' ~ *at-rašyti* 'write back'), which is a kind of "reversative", and the same can be said about the use of the prefix *per*- illustrated by such verbs as *statyti* 'build' ~ *per-statyti* 'rebuild'.

Of course, most of what has just been said about the Lithuanian verbal prefixes can be *mutatis mutandis* extrapolated to their cognates and counterparts in Slavic languages such as Russian.<sup>3</sup> Even if in Slavic we do not find verbal prefixes with very concrete meanings like the Lithuanian *par*-, the

3 It is worth noting that in her discussion of the delimitation of polysynthesis (Mattissen 2017, 93–94) mentions Slavic, Germanic and Kartvelian verbal prefixes as candidates for the status of lexical affixes, but excludes them for the reason that they are "lexicalized on their roots". This is certainly not a valid argument, because, first, the sets of verbal prefixes in Slavic, Germanic and Kartvelian include very productive items, and, second, lexical affixes in "true" polysynthetic languages vary in their productivity and degree of lexicalisation to largely the same extent.

Slavic inventories are richer than that of Lithuanian (Russian has almost 20 prefixes). Moreover, Slavic languages boast another feature that Lithuanian conspicuously lacks and which is also often associated with polysynthesis, i.e. the ability of prefixes to productively and sometimes even recursively attach to verbs already furnished with one or even more prefix (on this property of Slavic there is considerable literature, see e.g. Tatevosov 2008, 2013 and references therein). Thus, Russian allows for derivational chains like the one shown in (7), yielding verbs with at least three prefixes. The prefixes closest to the root, which change the lexical semantics of the verb in often unpredictable way, are usually called "lexical", while the outer prefixes, which always yield compositional interpretation, are called "superlexical" (see e.g. Romanova 2004).

Russian (Tatevosov 2013, 45)

(7) pisat' 'write'

za-pisat' 'record'

pere-za-pisat' 'record again'

do-pere-za-pisat' 'finish recording again'

The behaviour of verbal prefixes in Russian (and Slavic in general) is clearly reminiscent of the kind of morphology Willem de Reuse (de Reuse 2009) called "productive noninflectional concatenation" (PNC) and considers "a prototypical property of polysynthesis" (de Reuse 2009, 21). According to de Reuse, PNC differs from both typical inflection and typical derivation and constitutes a kind of morphology on its own, sharing important properties with syntax, see Table 1.

	Inflection	(Nonproductive) derivation	PNC	Syntax
(i) Productivity	yes	no	yes	yes
(ii) Recursivity	no	no	yes	yes
(iii) Necessarily concatenative	no	no	yes	yes
(iv) Variable order possible	no	no	yes	yes
(v) Interaction with syntax	yes	no	yes	yes
(vi) Category change	no	yes	yes	yes

TABLE 1. Features of productive noninflectional concatenation (de Reuse 2009, 22)

The working of PNC in a "classic" polysynthetic language can be illustrated by Central Alaskan Yupik in (8):

Central Alaskan Yupik (Eskimo-Aleut; Woodbury 2017, 542)

(8) quuyurni- 'be smiling'

quuyurni-arte-<br/>quuyurni-arte-llru-'suddenly be smiling'<br/>'suddenly smiled'

quuyurni-arte-llru-yaaqe- 'suddenly smiled, but alas'

quuyurni-arte-llru-yaaqe-llini- 'evidently suddenly smiled, but alas'

Russian superlexical verbal prefixes possess all properties of PNC but the last two (they never change the syntactic category of the verb, and do not seem to interact with syntax, e.g. do not introduce arguments or change their case marking), markedly differing in this respect from Lithuanian verbal prefixes, which, apart from a couple of exceptions, never combine in one verb and thus lack the crucial properties (ii) and (iv) from Table 1.

Nevertheless, it is still possible to find in Lithuanian morphological elements akin to PNC. As is well known, Lithuanian also has "superlexical" or "external" verbal prefixes, but these are very different from the Slavic ones (see Arkadiev 2012). The prefixes in question are the negative *ne*-, the modal / aspectual *be*- and the affirmative / permissive / restrictive *te*-. In contrast to the "lexical" or "internal" prefixes, which are allowed only once per verb, the external prefixes combine with verbs regardless of whether they contain any prefixes or not and can combine with each other. Their semantics, in contrast to that of the "internal" prefixes, is always compositional, even if non-uniform and often context-dependent (for more details, see Arkadiev 2010, 2011). In (9), I give a number of corpus examples showing combinatory possibilities of the Lithuanian external prefixes.

#### Lithuanian

(9) a. *Te-be-at-si-men-u Gruš-o pasakojim-us*.

AFF-CNT-PVB-RFL-remember-PRS.1SG PN-GEN.SG story-ACC.PL

'I still remember Grušas' stories.' (DLKT)

b. *Joki-ų atsiprašinėjim-ų ne-be-pri-ėmi-au*.

none-GEN.PL apology-GEN.PL NEG-CNT-PVB-take-PST.1sG

'I did not accept any apologies any more.' (DLKT)

- c. *Te-ne-už-gęs-ta* tavo krosn-yje ugn-is!

  PRM-NEG-PVB-go.out-PRS.3 2SG.POSS stove-Loc.SG fire-NOM.SG

  'Let fire never go out in your stove!' (DLKT)
- d. *J-ų* koj-os **te-ne-be-pa-ei-na**!

  3-GEN.PL leg-NOM.PL PRM-NEG-CNT-PVB-go-PRS.3

  'Let their legs no longer be able to walk!' (LtTenTen14)

(LtTenTen14)

e. Kol kas ... tem-os tęs-ti
for.the.time.being topic-GEN.SG continue-INF
te-be-ne-gali-u.

AFF-CNT-NEG-can-PRS.1SG
'For the time being ... I am still unable to continue the topic.'

Although examples with three external prefixes like (9d) and (9e) are extremely rare, they are occasionally produced by native speakers and make their way to websites and published texts, which suggests that the mechanism is productive. These examples also indicate that different ordering of prefixes with different semantic scopes (permissive > negation > continuative in (9d) vs. affirmative > continuative > negation in (9e)) is also possible. However, the combinatorics of external prefixes is not fully compositional, in particular, *te-+ be-* yields the positive continuative marker *tebe-* whose first part can only be singled out in opposition to the discontinuative *ne-be-*, since *te-* is never used as an affirmative marker elsewhere.

Of course, the number of PNC-like elements in Lithuanian is very restricted even in comparison with Russian, let alone with true polysynthetic languages. Moreover, the meanings of the Lithuanian external prefixes belong to the domains of aspect, modality and polarity, which are clearly highly grammatical and often context-dependent, thus quite remote from the semantics usually associated with lexical affixes in polysynthetic languages. However, one of the Lithuanian external prefixes deserves attention in this connection. This is the restrictive *te*- described in Arkadiev (2010) and peculiar in its ability to take scope outside of the verb, cf. (10), where the scope of restriction if the direct object "such a gift".

# Lithuanian (DLKT)

```
(10) Jei toki-ą dovan-ą te-at-neš-ė-te,
if such-ACC.SG.F gift-ACC.SG RSTR-PVB-carry-PST-2PL
tai ne-reikėj-o nė koki-os!
then NEG-need-PST.3 none-GEN.SG.F
'If you only brought such a (negligible) gift, then there was no need to bring anything at all!'
```

This prefix clearly belongs to the domain of "focus" singled out by Mattissen (2006, 328), moreover, direct parallels to it are so far only attested in unequivocally polysynthetic languages, e.g. in Abaza, see example (11):

```
Abaza (AbLu 2013, Luke 7:7)

(11) awasa j-h<sup>w</sup>a-Γ<sup>w</sup>aca aźa-zaźak,
but 3sg.N.Abs-say-RSTR(IMP) word-one
sə-č'k<sup>w</sup>ən-g'əj d-bzəj-χ-əw-š-ṭ.
1sg.PR-boy-ADD 3sg.H.Abs-good-RE-IPF-FUT-DCL
'But say just one word, and my servant will recover.'
```

Turning away from verbal prefixes, let us consider productive word-class changing morphology, i.e. verbalisation and nominalisation. Recall that ability to change the lexical category of the base is one of the properties of PNC, and indeed words in some polysynthetic languages can remarkably switch categories back and forth as successive affixes are added to them, see example (12).

```
Central Alaskan Yupik (Woodbury 2017, 542)

(12) ivruci-
ivruci-li-
ivruci-li-ste-
ivruci-li-ste-ngerr-
ivruci-li-ste-ngerr-
waterboots (for)' (verb)

'one who makes waterboots (for)' (noun)

ivruci-li-ste-ngerr-
waterboots' (verb)
```

Word-class changing morphology of similar kind is found in Lithuanian, and successive application of verbalisation and nominalisation is also possible, see examples in (13).

#### Lithuanian

```
(13) a. garb-ė
                                  'honour' (noun)
        garb-in-ti
                                  'respect' (verb)
        garb-in-toj-as
                                  'admirer' (noun)
     b. moky-ti
                                  'teach' (verb)
        moky-toj-as
                                  'teacher' (noun)
        moky-toj-au-ti
                                  'work as a teacher' (verb)
                                  '(musical) organ' (noun)
     c. vargon-ai
                                  'organ player' (noun)
         vargon-inink-as
                                  'be employed as an organ player' (verb)
         vargon-inink-au-ti
         vargon-inink-av-im-as
                                  'employment as an organ player' (noun)
```

The major difference between Lithuanian and the Eskimoan languages in this respect lies in the fact that the latter possess a large set of verbalising suffixes with fairly specific semantics (e.g. 'hunt N', 'eat N', 'smell strongly of N', Fortescue 2017, 544), whereas Lithuanian only has a small number of verbalising suffixes with very general meanings. Besides that, Lithuanian is much more restrictive in allowing just one round of verbalisation per word and banning recursive application of the same suffix. However, there is no reason to assume that the majority of the "classic" polysynthetic languages always pattern in this respect with Eskimoan languages, either (thus, Abaza has even fewer word-class changing affixes than Lithuanian).

To conclude this discussion, I think it is clear that in the domain of lexical affixes and productive noninflectional concatenation the difference between Lithuanian (and Russian), on the one hand, and prototypical polysynthetic languages like Abaza or Central Alaskan Yupik, on the other, is more quantitative than qualitative—unless, of course, one makes recourse to Hegel's principle of transition from quantity to quality. The notion of polysynthesis, even if capturing important intuitions of linguists, strikes one as attempting to simultaneously achieve two very different goals, i.e. defining a coherent class of languages characterised by a common set of structural properties and accounting for huge variation among those languages. To the extent that these two goals are at all mutually reconcilable, the very notion becomes necessarily vague. This is not in itself a shortcoming, since typology, *pace* Haspelmath

(2011, 2017), admits and in fact needs notions defined around a "prototype" (see e.g. van der Auwera & Gast 2011, Lander & Tyshkevich 2015). However, if the prototype of polysynthesis is defined by a whole cluster of properties (e.g. holophrasis, polypersonalism, numerous lexical affixes and PNC, productive incorporation), not only each individual polysynthetic language will likely manifest just a subset of these properties to a high degree, but, as I hope to have shown in this article, ramifications of many of the features associated with polysynthesis can well be found even in such clearly non-polysynthetic languages as Lithuanian.

# **Acknowledgments**

I thank José Andrés Alonso de la Fuente, Willem de Reuse, Manuel Fernández, Martin Haspelmath, Sergey Malyshev, Yoram Meroz, Alessio Muro, Alexander Rostovtsev-Popiel, Adam Tallman, Dmitry Zelensky and Fernando Zúñiga for their useful feedback on the draft version of this paper, and Jurgis Pakerys for his editorial comments and suggestions for improvement. All faults and shortcomings remain mine

#### **Abbreviations**

1—1<sup>st</sup> person; 2—2<sup>nd</sup> person; 3—3<sup>rd</sup> person; ABS—absolutive; ACC—accusative; ADD—additive; AFF—affirmative; AOR—aorist; CAUS—causative; CNT—continuative; DCL—declarative; DEF—definite; F—feminine; FUT— future; GEN—genitive; H—human; HAB—habitual; IMP—imperative; INTF—intensifier; IO—indirect object; IPF—imperfective; LOC—locative; N—non-human; NEG—negation; NOM—nominative; OBJ—object; PART—partial action; PL—plural; PN—proper name; POSS—possessive; POT—potential; PR—possessor; PRIOR—prioritive; PRM—permissive; PRS—present; PST—past; PVB—preverb; RE—refactive; RFL—reflexive; REC—reciprocal; RSTR—restrictive; SBJ—subject; SG—singular.

## **Data sources**

AbLu 2013: АжвабыжьбзихІвагІв ЛукІа йшгІайхІвауа. [The Gospel of Luke in Abaza]. Cherkessk, 2013

Biblija 1998: Šventasis Raštas: Senasis ir Naujasis Testamentas. [The Holy Scripture: Old and New Testament], vertė / translated by Antanas Rubšys, Česlovas Kavaliauskas. Vilnius: Katalikų pasaulis, 1998. Available at: http://biblija.lt/index.aspx?cmp=reading&doc=BiblijaRKK1998\_Lk\_4 (accessed November 6 2020)

DLKT: Dabartinės lietuvių kalbos tekstynas. [Corpus of Contemporary Lithuanian]. Available at http://tekstynas.vdu.lt/tekstynas

LKŽe: Gertrūda Naktinienė (vyr. redaktorė / ed. in chief), Jonas Paulauskas, Ritutė Petrokienė, Vytautas Vitkauskas, Jolanta Zabarskaitė. Lietuvių kalbos žodynas. [The Dictionary of Lithuanian Language]. Vilnius: Lietuvių kalbos institutas, 2017. Available at: http://lkz.lt/

## References

- Applegate, Richard B. 2017. *Topics in Shmuwich Grammar. An Interim Grammar of Barbareño Chumash.* Ms. Available at https://cla.berkeley.edu/languages/barbareno.php
- Arkadiev, Peter. 2010. Notes on the Lithuanian restrictive. *Baltic Linguistics* 1, 9–49.
- Arkadiev, Peter. 2011. On the aspectual uses of the prefix *be* in Lithuanian. *Baltic Linguistics* 2, 37–78.
- Arkadiev, Peter. 2012. "External" verbal prefixes in Lithuanian. Guest talk at the linguistics seminar of Scuola Normale Superiore, Pisa, 14 December 2012. Available at: https://inslav.ru/images/stories/people/arkadiev/Arkadiev\_2012\_h\_lithextpref\_pisa.pdf
- Baker, Mark C. 1996. *The Polysynthesis Parameter*. Oxford, New York: Oxford University Press.
- de Reuse, Willem. 2009. Polysynthesis as a typological feature. An attempt at a characterization from Eskimo and Athabaskan perspectives. *Variations on Polysynthesis: The Eskaleut languages*. Marc-Antoine Mahieu & Nicole Tersis, eds. Amsterdam, Philadelphia: John Benjamins. 19–34.
- Evans, Nicholas & Hans-Jürgen Sasse. 2002. Introduction: problems of polysynthesis. *Problems of Polysynthesis*. Nicholas Evans & Hans-Jürgen Sasse, eds. Berlin: Akademie Verlag. 1–13.
- Fortescue, Michael, Marianne Mithun & Nicholas Evans. 2017. Introduction. *Oxford Handbook of Polysynthesis*. Michael Fortescue, Marianne Mithun & Nicholas Evans, eds. Oxford: Oxford University Press. 1–16.
- Fortescue, Michael. 2017. What are the limits of polysynthesis? *Oxford Handbook of Polysynthesis*. Michael Fortescue, Marianne Mithun & Nicholas Evans, eds. Oxford: Oxford University Press. 115–134.
- Fortescue, Michael, Marianne Mithun & Nicholas Evans, eds. 2017. Oxford Handbook of Polysynthesis. Oxford: Oxford University Press.
- Greenberg, Joseph H. 1960. A quantitative approach to the morphological typology of language. *International Journal of American Linguistics* 26 (3), 178–194.
- Haspelmath, Martin. 2011. The indeterminacy of word segmentation and the nature of morphology and syntax. *Folia Linguistica* 45 (1), 31–80.
- Haspelmath, Martin. 2018. The last word on polysynthesis: A review article. *Linguistic Typology* 22 (2), 307–326.
- Kempgen, Sebastian & Werner Lehfeldt. 2004. Quantitative Typologie. *Morphologie. Ein Internationales Handbuch zur Flexion und Wortbildung*, 2. Halbband.

- Geert Booij, Christian Lehmann, Joachim Mugdan & Stavros Skopeteas, Hrsg. Berlin: Walter de Gruyter. 1235–1246.
- Klyčev, Rauf N. 1995. *Slovar' sočetaemosti lokal'nyx preverbov s suffiksoidami i glagol'nymi kornjami v abazinskom jazyke* [The collocational dictionary of locative preverbs with suffixoids and verbal roots in Abaza]. Cherkessk: Karačaevo-čerkesskoe knižnoe izdatel'stvo.
- Kumaxov, Muxadin A. 1964. *Morfologija adygskix jazykov. Sinxronno-diaxronnaja xarakteristika. I. Vvedenie, struktura slova, slovoobrazovanie častej reči* [Morphology of Circassian languages. A synchronic and diachronic characteristic. I. Introduction, word structure, derivation of parts of speech.]. Nal'čik: Kabardino-balkarskoe knižnoe izdatel'stvo.
- Lander, Yury A. 2011. Podxody k polisintetizmu [Approaches to polysynthesis]. *Moskovskij lingvističeskij žurnal* 13, 102–126. Available at: http://mjl.rsuh.ru/issues/issue13.html
- Lander, Yury & Natalia Tyshkevich. 2015. True, liminal and fake prototypes in syntactic typology. *Typology of Morphosyntactic Parameters. Proceedings of the 2015 international conference*. Ekaterina Lyutikova, Anton Zimmerling & Maria Konoshenko, eds. Moscow: Moscow State University of Education. 185–199. Available at: http://mpgu.su/isli/publikatsii/tipologiya-morfosintaksi-cheskih-parametrov-2015/
- Mattissen, Johanna. 2004. A structural typology of polysynthesis. *Word* 55 (2), 189–216.
- Mattissen, Johanna. 2006. The ontology and diachrony of polysynthesis. *Advances in the Theory of the Lexicon*. Dieter Wunderlich, ed. Berlin, New York: Mouton de Gruyter. 287–353.
- Mattissen, Johanna. 2017. Sub-types of polysynthesis. *Oxford Handbook of Polysynthesis*. Michael Fortescue, Marianne Mithun & Nicholas Evans, eds. Oxford: Oxford University Press. 70–98.
- Mithun, Marianne. 1997. Lexical affixes and morphological typology. *Essays on Language Function and Language Type*. John Haiman, Joan Bybee & Sandra Thompson, eds. Amsterdam: John Benjamins. 357–372.
- Osborne, C. R. 1974. The Tiwi Language. Grammar, Myths and Dictionary of the Tiwi Language spoken on Melville and Bathurst Islands, Northern Australia. Canberra: Australian Institute for Aboriginal Studies.
- Panova, Anastasia. 2018. Dve klauzy v odnom slove: predvaritel'naja tipologija morfologičeski svjazannoj komplementacii [Two clauses in a single word: Preliminary typology of morphologically bound complementation]. *Tipologija morfosintaksičeskix parametrov* 1 (2), 84–99. Available at: http://tmp.sc/application/files/3015/5768/7904/Panova-2018-1-2.pdf
- Panova, Anastasia. 2020. Morfologičeski svjazannaja komplementacija v abazinskom jazyke [Morphologically bound complementation in Abaza]. *Voprosy jazykoznanija* 4, 87–114.

- Romanova, Eugenia E. 2004. Superlexical vs. lexical prefixes. *Nordlyd Special Issue on Slavic Prefixes* 32 (2), 255–278. Available at: https://septentrio.uit.no/index.php/nordlyd/article/view/69
- Tatevosov, Sergei G. 2008. Intermediate prefixes in Russian. *Formal approaches to Slavic linguistics. The Stony Brook Meeting*. Andrej Antonenko, Christina Y. Bethin & John F. Baylin, eds. New York, Ann Arbor, MI: University of Michigan Press. 423–442.
- Tatevosov, Sergei G. 2013. Množestvennaja prefiksacija i eë sledstvija (zametki o fiziologii russkogo glagola) [Multiple prefixation and its consequences (notes on the physiology of the Russian verb)]. *Voprosy jazykoznanija* 3, 42–89.
- van der Auwera, Johan & Volker Gast. 2012. Categories and prototypes. *The Oxford Handbook of Linguistic Typology*. Jae Jung Song, ed. Oxford: Oxford University Press. 166–189.
- Woodbury, Anthony C. 2017. Central Alaskan Yupik (Eskimo-Aleut). A sketch of morphologically orthodox polysynthesis. Oxford Handbook of Polysynthesis. Michael Fortescue, Marianne Mithun & Nicholas Evans, eds. Oxford: Oxford University Press. 536–559.
- Zúñiga, Fernando. 2019. Polysynthesis: a review. *Language and Linguistics Compass*, 13:e12326.

Submitted: 3 January 2021