

Obligatory features of Lithuanian verbal inflection classes

Jurgis Pakerys

Vilnius University, Vilnius, Lithuania

Abstract. Lithuanian verbal inflection classes are defined by tense suffixes, stem-forming affixes, vowel and consonant alternations, and accentuation patterns. I make a distinction between obligatory features that are relevant for every verb and non-obligatory features that characterize only part of the verbs. I argue that the obligatory features are the present and the past tense suffixes combined with mobile and immobile accentuation patterns, while the rest of the features are optional. When only the obligatory features are taken into account, three types of the present tense (-*a-*, -*i-*, -*o-*) and two types of the past tense (-*ė-*, -*o-*) suffixes are found in five combinations (-*a-/ė-*, -*a-/o-*, -*i-/o-*, -*o-/ė-*, -*o-/o-*) with further variants defined by two types of mobile and one type of immobile accentuation, resulting in eighteen suffixal-accentual combinations in standard Lithuanian. The combinations of features characterizing the present and the past stems support the view of inflection classes as classes of stems rather than of lexemes (Stump 2016).

Keywords: Lithuanian verb, inflection class, tense suffix, accentuation pattern

1 Introduction

Lithuanian verbs express values of morphosemantic and morphosyntactic features¹ by a range of prosodic, morphophonological, morphological, and syntactic devices. The expression of some of the features varies from lexeme to lexeme, providing a basis for distinguishing verbal inflection classes (ICs),

1 As defined in Kibort & Corbett (2008), Kibort (2010, 80–81), Corbett (2012, 49–50).

traditionally also termed conjugations². As will be shown below, Lithuanian verbal ICs are defined by tense suffixes, stem-forming affixes, vowel and consonant alternations, and accentuation patterns. These markings will be referred to as IC features (Corbett & Baerman 2006, 235–239, Corbett 2012, 52–57).

I propose that obligatory and non-obligatory features of ICs can be distinguished, and discuss them in the following order. Section 2 provides a general overview of IC features and briefly presents the traditional classification of Lithuanian verbal ICs. Section 3 focuses on present and past tense suffixes as obligatory features and treats their combinations as the obligatory suffixal basis of ICs. Section 4 discusses mobile and immobile accentuation patterns as another obligatory feature, and describes combinations of present and past tense suffixes with accentuation patterns resulting in suffixal-accentual ICs. Section 5 provides a brief recapitulation of the main proposals.

I would like to note that the present article would have been impossible had I not met Axel Holvoet many years ago. I have always been fascinated by his own ability and continuous encouragement to colleagues to take a fresh look at the Baltic data and to search for novel solutions. I would like to offer this text as a thank-you note to Axel for his inspiration.

2 Features of verbal inflection classes

As previously mentioned, Lithuanian verbal ICs are defined by tense suffixes, stem-forming affixes, vowel and consonant alternations, and accentuation patterns. I will focus on tense suffixes and accentuation patterns because these will be argued to be obligatory features of ICs, while other phenomena will be discussed briefly due to their non-obligatory character. With respect to the formal nature of the features, we will be dealing with the following three types: affixal (tense suffixes and stem-forming affixes), morphophonological (vowel and consonant alternations), and prosodic (accentuation patterns).

2 I understand inflection class as “a set of lexemes whose members each select the same set of inflectional realizations” (Aronoff 1994, 64), cf. Stump (2015, 114–115). They are purely morphological, or morphomic, phenomena (Aronoff 1994, Stump 2015, 113); see also on ICs as morphological features, a type of grammatical features distinguished alongside morphosemantic and morphosyntactic features (Corbett 2006, 122–123, Corbett & Baerman 2006, Kibort & Corbett 2008, Kibort 2010, 82, Corbett 2012, 49–65). I will also employ the idea later in the paper that ICs can be seen as classes of stems rather than of lexemes (Stump 2016, 92–95).

2.1 Tense suffixes

Lithuanian has synthetic present, past, past habitual, and future tense forms. Suffixes of past habitual and future are uniform for all verbs, *-dav-o*-³ and *-s(i)-/-sia*-⁴ respectively. The suffixes of present and past, however, vary across verbs. Present tense suffixes are *-a-*, *-i-*, *-o-* and past tense suffixes are *-ė-*, *-o-*, exemplified in Table 1 below⁵.

	PRS <i>a</i> -type	PRS <i>i</i> -type	PRS <i>o</i> -type	PST <i>ė</i> -type	PST <i>o</i> -type
1SG	<i>dirb-u</i>	<i>tiki-u</i> ⁶	<i>sak-au</i>	<i>verki-au</i> ⁷	<i>dirb-au</i>
2SG	<i>dirb-i</i>	<i>tik-i</i>	<i>sak-ai</i>	<i>verk-ei</i>	<i>dirb-ai</i>
3SG/PL ⁸	<i>dirb-a</i>	<i>tik-i</i>	<i>sak-o</i>	<i>verk-ė</i>	<i>dirb-o</i>
1PL	<i>dirb-a-me</i>	<i>tik-i-me</i>	<i>sak-o-me</i>	<i>verk-ė-me</i>	<i>dirb-o-me</i>
2PL	<i>dirb-a-te</i>	<i>tik-i-te</i>	<i>sak-o-te</i>	<i>verk-ė-te</i>	<i>dirb-o-te</i>
Gloss	‘work’	‘believe’	‘say’	‘cry’	‘work’

TABLE 1. Present and past tense inflection types of modern Lithuanian (accentuation patterns not marked, see Section 2.3 and 4)

I will refer further to these paradigms as inflection types of the present tense (PRS) and the past tense (PST), for example, “PRS *a*-type”, “PST *o*-type” or simply “*a*-type”, “*o*-type”, etc. I treat PRS and PST types as obligatory affixal IC features since there are no verbs for which the choice of these types would be irrelevant: each and every non-defective Lithuanian verb needs to be inflected according to one of the three PRS types and according to one of the two PST

- 3 Past habitual is an aspectual variant of the past. Here, suffix *-dav-* marks habituality while *-o-* marks past tense (= PST *o*-type below).
- 4 Suffix *-sia-* is employed in future active participles (both inflecting and non-inflecting) while *-s(i)-* is found in the remaining forms.
- 5 I omit discussion of occasional PRS.3SG/PL *-ti*, a relic of the historical athematic conjugation, see Ambrazas (1997, 297).
- 6 The letter <i> before <u> in PRS.1SG of the *i*-type marks palatalization of the preceding consonant.
- 7 The letter <i> before <au> in PST.1SG of the *ė*-type marks palatalization of the preceding consonant.
- 8 These forms are syncretic (3SG=3PL) in all paradigms and are glossed as “3SG/PL” or just “3” for the sake of brevity. This is a case of syncretic index feature, a subtype of morphological features, as distinguished in Corbett & Baerman (2006, 240–241), Corbett (2012, 57–58).

types. I limit myself to finite forms in this paper, but I should mention that the formation of PRS active (inflecting and non-inflecting) and passive participles also employs these suffixes; PST active participles, however, do not reflect the suffixal difference between *ė-* and *o-*types, while PST passive participles are interpreted as based on the infinitive stem or their own stem is distinguished. The fact that PRS and PST paradigms may be expressed by the same markings (PRS *o-*type and PST *o-*type) will be addressed in Section 3.

A few explanatory remarks with respect to segmentation of PRS and PST tense suffixes are in order. Subject person suffixes in Lithuanian are 1SG *-u*, 2SG *-i*, 1PL *-me*, 2PL *-te*, while 3SG/PL bears no dedicated marker⁹. PRS suffixes *-a-* and *-i-* cannot be segmented in PRS.1SG/2SG, and as a result, suffixes PRS.1SG *-u* and PRS.2SG *-i* in these paradigms cumulatively express person and tense. PRS and PST suffix *-o-* can be seen as represented by allomorph *-a-* in 1SG/2SG if segmentation of diphthongal *-au* and *-ai* as *-a-u* and *-a-i* is accepted; alternatively, *-au* and *-ai* can be recognized as cumulative exponents of tense and person just as in PRS *a-* and *i-*types. In a similar fashion, PST suffix *-ė-* may be seen as having allomorph *-a-* in 1SG (*-a-u*)¹⁰ and *-e-* in 2SG (*-e-i*); alternatively, *-au* and *-ei* can be interpreted as cumulatively expressing person and tense. A recurring pattern is evident: PRS and PST suffixes are easily segmented in 1PL, 2PL, and 3SG/PL, while 1SG and 2SG are problematic: there is no segmentable suffix (*a-* and *i-*type) and a potentially segmentable suffix (*ė-* and *o-*types). For the sake of simplicity, I usually refer to suffixes representing types in Table 1 as tense suffixes, but in 1/2SG forms they actually are or can be interpreted as cumulative tense-person suffixes. When 1/2SG

9 For the sake of brevity, I omit allomorphs of person suffixes found before the middle (reflexive) suffix *-s(i)*; for the same reason shorter suffixes 1PL *-m* and 2PL *-t* of spoken Lithuanian are also not mentioned, see Ambrasas (1997, 296–298).

10 In Ambrasas (1997, 311) this allomorph is presented as *-e-* (<*-ė-*>), but I attempt to treat it as *-a-* because vowel [a] explains affrication in PST.1SG (I assume that the cell of 1SG of PST *ė-*type bears a feature of palatalization(-affrication) and non-front vowel is a condition for it to be realized), e.g. PST.1SG *meči-au* ‘I threw’, *vedži-au* ‘I led’ alongside PST.2SG *met-ei* ‘you threw’, *ved-ei* ‘you led’ (roots *met-*, *ved-*). If *-e-* is assumed, stops [t] and [d] would not alternate with affricates [tʃ], [dʒ] (spelled as <či>, <dži>) before the front vowels, see also Section 2.2. So when *-e-* (<*-ė-*>) is assumed, an additional morphophonological rule is needed to convert it to *-a-* with palatalization(-affrication) of the preceding consonant (Andronov 2000, 39); in Ambrasas (1997, 311) this step is not explicitly stated and only a comment with regard to spelling of [eʊ] as <iau> after palatalized consonants is made.

are in the focus of the discussion I refer to the corresponding morphemes as tense-person suffixes.

Now let us address some properties of PRS and PST types within the framework of canonical typology (Corbett 2009). As shown below (Section 3), PRS and PST types are building blocks of verbal ICs and support the view that ICs can be seen as classes of stems rather than of lexemes (Stump 2016, 92–95). I will first discuss canonicity of PRS and PST types as separate ICs and later interpret them as sets of ICs in Section 3.

According to Principle I, “[c]anonical inflectional classes are fully comparable and are distinguished as clearly as is possible” (Corbett 2009, 3). According to Criterion 1 of this principle¹¹, “[i]n the canonical situation, forms differ as consistently as possible across inflectional classes, cell by cell” (Corbett 2009, 4). Among finite indicative forms, a non-contrasting cell is found in PRS.2SG of *a*- and *i*-type (suffix *-i* in both types). PRS.1SG of *a*- and *i*-types has the same suffix *-u*, but this cell is contrasted by non-palatalized last consonant of the stem (*a*-type) vs. palatalized(-affricated) last consonant of the stem (*i*-type); the same holds for PST.1SG of *é*- and *o*-types. However, we should bear in mind that the PRS *a*-type also has a palatalized(-affricated) variety (see Section 2.2 below) where the expression of PRS.1SG is the same as that of *i*-type, e.g. palatalized *a*-type PRS.1SG *verki-u* ‘I cry’ = *i*-type PRS.1SG *tiki-u* ‘I believe’. The fact that all cells (of finite indicative forms) of the PRS *o*-type equal the PST *o*-type will be addressed in Section 3.

According to Criterion 2, “[c]anonical inflectional classes realize the same morphosyntactic or morphosemantic distinctions (they are of the same structure)” (Corbett 2009, 4). In this respect all cells, except for 3SG/PL, will usually be lacking for impersonal verbs, but this property is not bound up with any particular IC (i.e. type of PRS/PST).

According to Criterion 3, “[w]ithin a canonical inflectional class each member behaves identically” and “this implies that there are no stem differences, alternants or other subclasses” (Corbett 2009, 4). The majority of PRS/PST types would be non-canonical in this respect: PRS *a*-type, PST *é*- and *o*-types have subtypes defined by additional affixation and alternations (see some notes in Section 2.2), rare

11 All criteria discussed here belong to Principle I. See also a discussion of Criteria 1 to 4 as simple deviations from the canonical ideal in Stump (2015, 116–119); complex deviations are discussed in Stump (2015, 119–123) and addressed in Section 3 of the present paper.

subtypes can be also found in PRS *i*-type (see footnote 13 below), so only PRS *o*-type would be strictly canonical according to Criterion 3.

According to Criterion 4, “[w]ithin a canonical inflectional class each paradigm cell is of equal status”; as a result, “[i]n the canonical situation, where all forms are distinct between classes, the form for each cell predicts all the others within a class” (Corbett 2009, 5). This criterion is tightly knit with the first one and non-contrasting cells mentioned above will be unable to predict IC membership unambiguously. Further deviations from the canonical ideal will be addressed in Section 3 where combinations of PRS and PST types are discussed.

2.2 Stem-forming affixes and alternations

Other affixal features of Lithuanian verbal ICs pertain to the formation of particular stems. These affixes are of non-obligatory nature and are relevant only for part of the verbal lexicon: Lithuanian verbal stems may, but need not contain any of these affixes.

The inflectional system of the Lithuanian verb is traditionally described as based on three stems referred to as infinitive (INF) stem, PRS stem, and PST stem¹². In addition to that, a past passive participle (PPP) stem can be distinguished due to its prosodic differences (accent realization and mobility) from the INF stem (Arkadiev 2012, 19–21); stem-forming affixes of the PPP stem are the same as the ones of the INF stem, and for the sake of simplicity I will speak only of the INF stem below.

Now let us review the optional affixes found in PRS, PST, and INF stems. The PRS stem may contain the infix *-n-* and the suffixes *-n-*, *-st-* which are found only in combination with the PRS *a*-type and constitute subtypes of it¹³,

12 Stem is understood here as “sound form to which a given affix is attached or upon which a given nonaffixal realization rule operates” (Aronoff 1994, 39). Many inflectional systems are interpretable as based on more than one stem (Stump 2016, 67) and Lithuanian is a case in point. The distribution of inflectional cells occupied by corresponding stems can be referred to as stem space (Bonami & Boyé 2002, Fabio Montermini & Olivier Bonami 2013); see Arkadiev (2012) on Lithuanian. Stems also participate in segregated inflection classes, see Stump (2015, 119–120, and 2016, 90) and notes in Section 3. Selection of the stem for a given paradigm cell is a stem indexing feature, a type of morphological features (Corbett & Baerman 2006, 239–240, Corbett 2012, 57).

13 For the sake of brevity I omit discussion of *-j-* (also in PST) and very rare stem-forming suffixes such as *-d-* (combinable with PRS *a*-type, e.g. PRS.3 *ver-d-a* ‘boil(s)’) and *-(s)t-* found in a few PRS *i*-type stems, e.g. PRS.3 *kos-t-i* ‘cough(s)’, *gelb-st-i* ‘help(s), save(s)’, see Andronov (2000, 44), Arkadiev (2017, 11).

e.g. PRS.3 *ti-n-k-a* ‘fit(s)’ (root *tik-*), *gau-n-a* ‘get(s)’, *tirp-st-a* ‘melt(s)’. The PST stem may contain suffixes *-ė-* ([e:]) and *-o-* ([o:]) which co-occur with the PST *o*-type only, e.g. PST.3 *tek-ėj-o* ‘flowed’, *žin-oj-o* ‘knew’ alongside PRS.3 *tek-a* ‘flow(s)’, *žin-o* ‘know(s)’ (both suffixes are represented by *-ėj-*, *-oj-* in antevocalic position and no corresponding suffixes are found in the PRS stem). If stem-forming suffixes *-ė-*, *-o-* are used in the PST stem, the same suffixes will always be present also in the INF stem (represented by anteconsonantal *-ė-*, *-o-*): INF *tek-ė-ti* ‘flow’, *žin-o-ti* ‘know’. In addition to that the INF stem may contain the suffix *-y-* ([i:]) which is found only in the INF stem and absent both in the PRS and PST stems, e.g. INF *raš-y-ti* ‘write’, PRS.3 *raš-o*, PST.3 *raš-ė*.

Lithuanian verbal stems can also be optionally differentiated by morphophonological vowel and consonant alternations¹⁴. Vowel alternations have various types and for the sake of brevity I will present just some of them; see more data in Ambrazas (1997, 287–290). For example, the root vowel of INF and PST stems can be contrasted with that of PRS stem, e.g. INF *lėk-ti* ‘fly, run’, PST.3 *lėk-ė* vs. PRS.3 *leki-a* ([e:] vs. [ɛ]¹⁵), INF *rink-ti* ‘gather’, PST.3 *rink-o* vs. PRS.3 *renk-a* ([ɪ] vs. [ɛ]). Of the consonant alternations, relevant for the present study is the contrast between non-palatalized and palatalized consonants and between non-palatalized consonants and palatalized affricates (only stops [t] and [d] alternate with affricates [tʃ] and [dʒ]). Palatalization (but not affrication) before front vowels is automatic and only the position before non-front vowels is morphologically relevant. The said alternation creates two subtypes of the PRS *a*-type, e.g. PRS.1SG *verki-u* ‘I cry’ (<ki> = [kʲ]), PRS.1SG *lieči-u* ‘I touch’ (<či> = [tʃʲ]) (palatalized(-affricated) variety of PRS *a*-type) vs. PRS.1SG *suk-u* ‘I turn’, *met-u* ‘I throw’ (non-palatalized variety of PRS *a*-type). It should be noted that the 1SG cell of PRS *i*-type and PST *ė*-type is always affected by the said alternation and there are no non-palatalized variants as there are in the case of PRS *a*-type, e.g. PRS.1SG *tiki-u* ‘I believe’, *lydži-u* ‘I escort’ (PRS *i*-type), PST.1SG *verki-au* ‘I cried’, *meči-au* ‘I threw’

14 They are another feature of ICs. Corbett and Baerman (2006, 235–239) discuss affixal and prosodic features of ICs and present morphophonological alternations separately but note their relevance for ICs, see their example (17) (Corbett & Baerman 2006, 242, Corbett 2012, 65–66). How the stem alternations commonly combine with other exponents to express IC membership is noted in Stump (2015, 124–125), see also Stump (2016, 84, 95–102).

15 Short [ɛ] in unstressed position, lengthened to [æ:] under stress.

(PST *é*-type), etc. For other consonant alternations, see Ambrazas (1997, 65–66, 74–75).

2.3 Accentuation patterns

Lithuanian has a system of free stress and similarly to affixal and morphophonological features, one needs to recognize the role of stems which, as will be seen below and in Section 4, are assigned certain accentuation patterns. In this respect Lithuanian shows that prosodic features of ICs may have scope not only on whole lexemes, but also on lower-level morphological features (Corbett & Baerman 2006, 237, Corbett 2012, 53), such as stems.

There are two main accentual patterns found in inflectional paradigms of Lithuanian finite verbal forms: immobile and mobile. In the immobile pattern, the stress largely remains on the same syllable throughout the paradigm of a given stem, whereas in the mobile pattern, the stress lands on different syllables. In what follows, I limit myself to the discussion of productive finite forms for the sake of brevity¹⁶.

Finite forms based on the INF stem always assume the immobile pattern, and the stress remains on the same lexically determined syllable¹⁷, e.g. FUT.1SG *bégsiu* ‘I will run’, *kèpsiu* ‘I will bake’, FUT.2SG *bégsi* ‘you will run’, *kèpsi* ‘you will bake’, etc.

Finite forms based on PRS/PST stems may be accentuated according to the immobile paradigm, where the stress remains on the same (lexically determined) syllable, or according to the mobile paradigm, where the stress lands on the tense-person suffix of PRS/PST.1SG/2SG and remains on a lexically determined syllable in other cases, see Table 2 below.

16 The very rare (archaic) suffix *-ie* of IMP.3 may carry stress and this creates mobility in that cell for some otherwise immobile PRS stems, e.g. PRS.1SG *bég-u* ‘I run’, IMP.3 (productive variety) *te-bég-a* ‘let her/him/them run’, etc. (the stress always remains on the root, immobile pattern), but cf. IMP.3 (non-productive variety) *te-bég-iě* ‘let her/him/them run’ (the stress moves to the suffix). The IMP.3 suffix *-ie* does not receive stress if the verb belongs to the structural type of suffixal verbs (Ambrazas 1997, 316).

17 Lexically determined stress placement may be unmotivated or motivated by a derivational operation. In specific cases when stress placement varies throughout inflectional stems, I refer to that placement as also lexically determined for the sake of simplicity, but such stress placement can be explained by morphophonological rules of stress assignment, e.g. PRS.3 *tik-i* ‘believe(s)’, the default place of stress in PRS stem is on the root and the PRS.3 suffix *-i* does not attract it, but in INF *tik-é-ti* (and PST.3 *tik-éj-o*) the stress moves to the stem-forming suffix *-é-* due to the accentual properties of both the root *tik-* and the suffix *-é-*, etc.

PRS	PRS	PST	PST
Immobile	Mobile	Immobile	Mobile
<i>bég-u</i>	<i>kep-ù</i>	<i>bég-au</i>	<i>kepi-aũ</i>
<i>bég-i</i>	<i>kep-ì</i>	<i>bég-ai</i>	<i>kep-eĩ</i>
<i>bég-a</i>	<i>kěp-a</i>	<i>bég-o</i>	<i>kěp-é</i>
<i>bég-a-me</i>	<i>kěp-a-me</i>	<i>bég-o-me</i>	<i>kěp-é-me</i>
<i>bég-a-te</i>	<i>kěp-a-te</i>	<i>bég-o-te</i>	<i>kěp-é-te</i>
<i>bég-a</i>	<i>kěp-a</i>	<i>bég-o</i>	<i>kěp-é</i>

TABLE 2. Immobile and mobile accentuation patterns of PRS and PST indicative forms (*bég-ti* ‘run’, *kěp-ti* ‘bake’)

Grammatical forms containing prefixes (*be-*, *ne-*, *te-*) may also change the lexically determined stress placement, see, e.g., Andronovas (1995), Mathiasen (1996, 97, 101–103, 105–106) with further references. In these forms the stress may land on the (last) prefix if PRS/PST stem follows the mobile pattern (*kep-ù* bake-PRS.1SG ‘I bake’, *nè-kep-u* NEG-bake-PRS.1SG ‘I do not bake’, *ne-bè-kep-u* NEG-CNT-bake-PRS.1SG ‘I do not bake any more’, *kepi-aũ* bake-PST.1SG ‘I baked’, *nè-kepi-au* NEG-bake-PST.1SG ‘I did not bake’, etc.), but there is a group of verbs with mobile PRS/PST stems where the prefix does not receive stress, e.g. *raš-aũ* write-PRS.1SG ‘I write’, *raš-i-aũ* write-PST.1SG ‘I wrote’, *ne-raš-aũ* NEG-write-PRS.1SG ‘I do not write’, *ne-raši-aũ* NEG-write-PST.1SG ‘I did not write’, etc. The same pattern also applies to prefixed middle (reflexive) affix and other prefixes, cf. *iš-kep-u* PFX-bake-PRS.1SG ‘I bake (perfective)’, *iš-sì-kep-u* PFX-RFL-bake-PRS.1SG ‘I bake for myself (perfective)’, *pa-raš-aũ* PFX-write-PRS.1SG ‘I write (perfective)’, *pa-si-raš-aũ* PFX-RFL-write-PRS.1SG ‘I sign’.

This demonstrates that the mobile pattern of PRS/PST actually has two subtypes: the one where stress moves from the lexically determined syllable to the prefix or to the 1/2SG suffix (when the prefix is absent) and the one where the stress moves only to the 1/2SG suffix. The assignment of stress patterns is obligatory, and each and every verb needs to be accentuated according to a certain set of PRS/PST patterns. Each PRS/PST stem type in theory can be mobile (with two subtypes) and immobile, and all attested combinations of stem types and accentuation patterns will be discussed in Section 4.

In addition to that, verbal stems may differ in respect to which syllable (morpheme) the stress is lexically assigned to. That syllable may be the same (as in INF *bég-ti* ‘run’, PRS.3 *bég-a*, PST.3 *bég-o*, the stress is always on the root) or different (as in INF *myl-é-ti* ‘love’, PRS.3 *mýl-i*, PST.3 *myl-éj-o*; the stress is on the suffix *-é-* in INF/PST and on the root in PRS). As I focus on interaction of PRS and PST stems with mobile/immobile patterns, I do not discuss the stress placement variation seen across stems in this article.

It should be also noted that I do not make reference to tonal properties of syllables that carry lexically assigned stress (and appear directly before tense-person suffixes) as it is customary to do in the traditional approach, see Section 2.4. Due to the common neutralization of tonal oppositions in syllables with long vowels and diphthongs [iɛ] and [uɔ]¹⁸, I prefer to speak of simply mobile and immobile patterns without reference to tonal properties of the relevant syllables. I acknowledge, however, that the (im)mobility of stress can be seen as motivated in part of the stems by tonal properties of syllables that have short vowels, diphthongs other than [iɛ] and [uɔ], and tautosyllabic VR sequences, where tonal properties are mostly well distinguished.

2.4 Traditional classification

According to the traditional classification, three conjugations are distinguished on the basis of PRS suffixes *-a-*, *-i-*, and *-o-*, termed thematic vowels (Ambrasas 1997, 298). The three conjugations are further subdivided into four groups in the first conjugation and into two groups in the third conjugation, while the second conjugation has no groups, see Table 3 below. The groups are mostly distinguished on the basis of PRS and PST types and certain structural types (see below); Group 3 and 4 of the first conjugation differ from Group 1 and 2 in consonant alternations of PRS stem (palatalized(-affricated) vs. non-palatalized). Groups 1 to 4 of the first conjugation have further subgroups based on other alternations, stem-forming affixation, the use of irregular stems, and derivational features not reflected in Table 3.

The traditional classification also makes reference to the following structural types of the verbs: primary, mixed, and suffixal, see the fourth row of

18 Cf. Ambrasas 1997, 56.

Table 3. These types are defined in Ambrasas (1997, 285); in what follows, I partly reformulate the definitions. The primary verbs have no stem-forming suffixes in their INF stem, but they may contain stem-forming affixes in their PRS stem and can display root vowel alternations. The mixed verbs have stem-forming suffixes *-ė-*, *-y-*, *-o-* in their INF stem, of which the suffixes *-ė-*, *-o-* are also present in the PST stem; these suffixes are always absent in the PRS stem which structurally equals that of the primary verbs (without any additional affixes), hence the term “mixed”, i.e. the verb is structurally suffixal and primary at the same time. The suffixal verbs contain suffixes in all three stems; these suffixes synchronically are or diachronically were derivational, e.g. *-ė(j)-* in INF *ger-ė-ti*, PRS.3 *ger-ėj-a*, PST.3 *ger-ėj-o* ‘turn better’ < *ger-as* ‘good’.

Conjugations	1				2	3	
Groups	1	2	3	4		1	2
PRS/PST types	-a-/-o-	-a-/-ė-	-a-/-ė-	-a-/-o-	-i-/-o-	-o-/-ė-	-o-/-o-
Structural types	primary mixed suffixal	primary	primary	primary mixed	mixed	mixed	mixed
Further subgroups	Yes	Yes	Yes	Yes	No	No	No
Examples (INF, PRS.3, PST.3)	<i>dirb-ti</i> <i>dirb-a</i> <i>dirb-o</i> ‘work’	<i>kep-ti</i> <i>kep-a</i> <i>kep-ė</i> ‘bake’	<i>vers-ti</i> <i>verči-a</i> <i>vert-ė</i> ‘turn’	<i>leis-ti</i> <i>leidži-a</i> <i>leid-o</i> ‘allow’	<i>gul-ė-ti</i> <i>gul-i</i> <i>gul-ėj-o</i> ‘lie’	<i>sak-y-ti</i> <i>sak-o</i> <i>sak-ė</i> ‘say’	<i>žin-o-ti</i> <i>žin-o</i> <i>žin-oj-o</i> ‘know’

TABLE 3. Traditional classification of Lithuanian verbal conjugations (Ambrasas 1997, 298–307)

In addition to Ambrasas (1997), I would like to mention a few other approaches to Lithuanian verbal ICs. The classification of Mathiassen (1996, 95–96) is based on the PRS stem (*-a-*, *-i-*, *-o-*). It is noted that *a*-type has palatalized and non-palatalized varieties and predictability of the IC on the basis of INF is discussed. Further subtypes of PRS stem are found in the section on PRS forms and the relation between conjugations (i.e. PRS types) and PST types are discussed in the section on PST forms (Mathiassen 1996, 97–100, 103–105). In the classification of Andronov (2000, 43) structural types are taken as a prima-

ry classificatory criterion and the mixed type has two varieties where INF stem differs from PRS/PST by having a suffix *-ɣ-* or INF/PST stem differs from PRS by having a suffix *-é-* or *-o-*. Further varieties are defined by combination of PRS types (*-a-*, *-i-*, *-o-*) with the PST types (*-é-*, *-o-*) yielding 7 classes in total (combination PRS/PST *-a-/o-* appears three times) with further potential distinctions defined by alternations and additional affixes (“submorphs”) of PRS stem. The idea to take obligatory features as a point of departure (Andronov 2000, 42–43) and the combination of PRS/PST types coincides with the approach advocated in the present paper. I would like to note, however, that I consider only obligatory features properties of specific stems (PRS/PST types and accentuation patterns) and see the structural types as being of different nature and characterizing not the specific stems (INF, PRS, PST), but their relations¹⁹. In this respect my approach is closer to that of Arkadiev (2017, 9) where first level parameters of classification are PRS types (*-i-*, *-o-*, *-a-* with certain subtypes) and PST types (the latter ones, however, are defined differently²⁰).

The accentuation patterns of PRS and PST tense finite paradigms are discussed in, e.g., Ambrazas (1997, 309, 311). The traditional description makes reference to prosodic features of the syllable to which the stress is lexically assigned and the relation of these features to stress mobility. Possible combinations of accentuation patterns and conjugations are not reviewed. The description of Ambrazas (1997) lacks the discussion of accentuation of prefixal forms in contrast to Mathiassen (1996, 97, 101–103, 105–106) where accentuation of forms with and without prefixes is well integrated into the description of formation of PRS/PST. Andronov (2000) and Arkadiev (2017) focus on segmental features and morphophonological alternations and do not discuss accentuation patterns.

19 That is: all stems lack certain suffixes (primary), some stems have certain suffixes (mixed), all stems have certain suffixes (suffixal); the specific suffixes of the mixed type would be taken into account as non-obligatory features at a later step of the classification which is outside the scope of the present paper.

20 PST stems are first classified into the ones having a thematic vocalic suffix (i.e. *-é-*, *-o-* seen in the traditional mixed type) or lacking it. Then, further types are characterized by having or lacking *-j-* in underlying representation and only one PST type (*-o-*) is postulated; when PST stem lacks *-j-*, its suffix surfaces as *-o-*, and when *-j-* is present, a morphophonological rule converts the sequence *-j-o-* to *-é-* (Arkadiev 2017, 8, 10, 12).

3 Combinations of present and past tense suffixes

As mentioned earlier, I propose that tense suffixes are obligatory features and constitute the basis of the IC system together with accentuation patterns. The traditional approach favors the PRS suffixes, but there is no reason why these suffixes should be given priority. I suggest that the obligatory affixal basis of ICs of Lithuanian verbs can be seen as combinations of PRS *and* PST types, cf. implementation of this idea in earlier treatments in Section 2.4.

There are three types of PRS (-a-, -i-, -o-) and two types of PST (-ė-, -o-), which yield six theoretical combinations. Out of them, five combinations are attested in standard Lithuanian, as illustrated in Table 4²¹.

PRS/PST type	-a-/-ė-	-a-/-o-	-i-/-o-	-o-/-ė-	-o-/-o-
PRS.3	<i>kep-a</i>	<i>bėg-a</i>	<i>myl-i</i>	<i>sak-o</i>	<i>saug-o</i>
PST.3	<i>kep-ė</i>	<i>bėg-o</i>	<i>mylėj-o</i>	<i>sak-ė</i>	<i>saugoj-o</i>
Gloss (INF)	<i>kepti</i> ‘bake’	<i>bėgti</i> ‘run’	<i>mylėti</i> ‘love’	<i>sakyti</i> ‘say’	<i>saugoti</i> ‘protect’

TABLE 4. Combinations of PRS and PST types in standard Lithuanian

According to this interpretation, instead of three conjugations that (on the first level of classification) are distinguished on the basis of PRS types (-a-, -i-, -o-), one could recognize five combinations of PRS and PST types (-a-/-ė-, -a-/-o-, -i-/-o-, -o-/-ė-, -o-/-o-). It is evident that Lithuanian verbal ICs support the idea that ICs can be interpreted as classes of stems and not of lexemes (Stump 2016, 92–95); in this case an inflectional profile of a given lexeme is seen as a combination of ICs of its stems.

We should bear in mind that the combinations mentioned in Table 4 include only the obligatory suffixal bases of ICs and are not yet fully specified ICs without the values of another obligatory feature—the accentuation pattern, see Section 4. I should also mention that further subtypes of ICs would be distinguished according to non-obligatory alternations and stem-forming affixes, as is done in, e.g., Ambrazas (1997, 298–307), Arkadiev (2017), and would be

21 Combination -i-/-ė- seems to be found dialectally, but a separate study is needed to address this issue; for example, consider INF *krapštel-ti*, PRS.3 -i (-ia), PST.3 -ė ‘give a scratch’, INF *peštel-ti*, PRS.3 -i (-ia), PST.3 -ė ‘give a pluck’, etc. (LKŽe).

mostly pertinent to the combinations *-a/-ė* and *-a/-o-*, because taking into account additional features—the stem-forming suffixes—would not yield additional subtypes of the *-i/-ė-*, *-o/-ė-*, *-o/-o-* combinations²².

In Section 2.1 we began discussing Lithuanian verbal ICs within the framework of canonical typology and reviewed simple deviations from the canonical ideal. One of the complex deviations²³ seen in Lithuanian is that its verb exhibits modularity comparable to that of Classical Sanskrit and similar systems. The present system of forms in Classical Sanskrit follows one of the ten conjugations, while the aorist system can be formed according to one of the seven conjugations²⁴, and such organization is referred to as segregated inflection classes while their sets (combinations) are termed segregated sets (Stump 2015, 119–120), see also Finkel & Stump (2007), Stump (2016, 90, 202–203). The segregated sets presented in Table 4 above in many cases show deviations from the canonical ideal according to Criterion 1 (see Section 2.1 and Stump (2015, 120)); for example, a lexeme having PRS/PST set *-a/-ė* will differ from another lexeme characterized by set *-a/-o-* only in the cells of PST. Here I consider only the case when there are no further differences found due to additional (non-obligatory) stem-forming affixes and alternations²⁵, for example, cf. *kepti* and *bėgti* in Table 4. In contrast, the inflection according to set *-i/-o-* in theory could fully coincide with that of *-o/-o-* set in PST, but this is not what we find: the lexemes with PRS *i*-type always have stem-forming affix *-ėj-* in PST while the lexemes with PRS *o*-type (and PST *o*-type) always feature stem-forming affix *-oj-* in PST, cf. PST.3 *myl-ėj-o* ‘loved’ vs. *saug-oj-o* ‘protected’ in Table 4. The cells of PRS of the sets *-o/-ė-* and *-o/-o-*, however, will always have exactly the same exponence. Criterion 4 (see Section 2.1 and Stump (2015, 120)) is also violated in a majority of cases: only PRS *i*-type cells (except for 1/2SG mentioned in Section 2.1) predict PST *o*-type (combined with stem-forming affix *-ėj-*).

22 With minor variation in *-i/-o-* set due to rare PRS stem-forming suffix *-(s)t-* as mentioned earlier in footnote 13.

23 I remind the reader that simple and complex deviations from the canonical ideal are distinguished in Stump (2015, 116–123).

24 The numbers of choices found in Lithuanian (three in PRS and two in PST as presented in Table 4) and in Classical Sanskrit cannot be compared directly because I do not take subtypes of PRS and PST defined by additional (non-obligatory) affixation and vowel/consonant alternation into account.

25 Accentuation patterns are also put aside as further combinatory features, see Section 4.

Another deviation from the canonical ideal is when the same exponence is found in distinct sectors, such as overlapping morphology of Sanskrit imperfect forms in present-system sixth conjugation and aorist forms in thematic aorist conjugation; this case is termed metaconjugation (Stump 2015, 120–121, Stump 2016, 205–217). In Table 4 metaconjugation is exemplified by Lithuanian *o*-type tense suffixes found both in PRS and PST stems²⁶. Metaconjugation violates not only Criterion 1 and Criterion 4 (as a case of segregated sets discussed above), but also Criterion 3 as observed by Stump (2015, 120–121): *o*-type membership defines PRS exponence for some lexemes and PST exponence for others, i.e. the members of this class do not behave the same way.

4 Combinations of tense suffixes and accentuation patterns

Each set of PRS and PST types discussed in Section 3 theoretically may appear in four combinations with accentual patterns, for example, PRS may be mobile, but PST may be immobile, both PRS and PST may be mobile, etc. In Section 2.3 we saw that there are two varieties of mobility, prefixal-suffixal mobility (the stress moves to the suffix of 1/2SG, but if a prefix is present, the stress moves to the prefix) and suffixal mobility (the stress moves only to the suffix of 1/2SG). For the sake of simplicity, let us first take a look at possible combinations of just mobile (mob) and immobile (immob) patterns in (1). The two varieties of mobility will be taken into account a bit later.

- | | | | | |
|-----|---------|-----------|-----------|-----------|
| (1) | PRS mob | PRS immob | PRS mob | PRS immob |
| | PST mob | PST immob | PST immob | PST mob |

The four combinations presented in (1) theoretically may co-occur with five PRS/PST sets discussed in Section 3, yielding 20 sets in total. Out of them, 14 are attested in standard Lithuanian and will be discussed below.

Both *-a/-ê-* and *-a/-o-* tense suffix sets are found in all four combinations with accentuation patterns, see examples in Table 5 and 6 (note that some examples here and below contain additional features of stems, such as stem-form-

26 Non-finite forms, however, differ. The PRS stem system also has a cell of IMP.3 absent in the PST system.

ing affixes and vowel alternations; these features enable mixed models, i.e. immob combined with mob or vice versa, see notes below Table 9).

PRS.1SG	a-mob: <i>kep-ù</i>	a-immob: <i>éd-u</i>	a-mob: <i>keli-ù</i>	a-immob: <i>gimst-u</i>
PST.1SG	è-mob: <i>kepi-aũ</i>	è-immob: <i>édži-au</i>	è-immob: <i>kéli-au</i>	è-mob: <i>gimi-aũ</i>
INF	<i>kèpti</i> ‘bake’	<i>ésti</i> ‘eat, devour’	<i>kélti</i> ‘raise’	<i>gimti</i> ‘be born’

TABLE 5. Combinations of PRS/PST set *-a/-è-* with accentuation patterns

PRS.1SG	a-mob: <i>suk-ù</i>	a-immob: <i>šók-u</i>	a-mob: <i>dreb-ù</i>	a-immob: <i>sénst-u</i>
PST.1SG	o-mob: <i>suk-aũ</i>	o-immob: <i>šók-au</i>	o-immob: <i>dreběj-au</i>	o-mob: <i>sen-aũ</i>
INF	<i>sùkti</i> ‘turn (tr.)’	<i>šókti</i> ‘jump’	<i>drebéti</i> ‘tremble’	<i>sénti</i> ‘grow old’

TABLE 6. Combinations of PRS/PST set *-a/-o-* with accentuation patterns

The sets of tense suffixes *-i/-o-*, *-o/-è-*, and *-o/-o-* are attested only in two combinations with accentuation patterns. First, let us take a look at *-i/-o-* and *-o/-o-*, because they lack the same combinations, consider Table 7 and 8.

PRS.1SG	i-mob: n/a	i-immob: <i>nóri-u</i>	i-mob: <i>tiki-ù</i>	i-immob: n/a
PST.1SG	o-mob: n/a	o-immob: <i>norěj-au</i>	o-immob: <i>tikėj-au</i>	o-mob: n/a
INF		<i>noréti</i> ‘want’	<i>tikéti</i> ‘believe’	

TABLE 7. Combinations of PRS/PST set *-i/-o-* with accentuation patterns

PRS.1SG	o-mob: n/a	o-immob: <i>sáug-au</i>	o-mob: <i>bij-aũ</i>	o-immob: n/a
PST.1SG	o-mob: n/a	o-immob: <i>sáugoj-au</i>	o-immob: <i>bijój-au</i>	o-mob: n/a
INF		<i>sáugoti</i> ‘protect’	<i>bijóti</i> ‘be afraid’	

TABLE 8. Combinations of PRS/PST set *-o/-o-* with accentuation patterns

Non-attested patterns in Table 7 and 8 can be explained as follows. Mobile pattern of PST *o*-type is not found due to the stem-forming suffix *-ěj-* which is

always present when PRS *i*-type is paired with PST *o*-type. The same is true of the stem-forming suffix *-oj-* which is always found when PRS *o*-type is paired with PST *o*-type (PRS *o*-type can be also paired with PST *é*-type, see below). The PST stems with stem-forming suffixes *-éj-* and *-oj-* are always immobile²⁷, e.g. PST.1SG *nor-éj-au* ‘I wanted’, *tik-éj-au* ‘I believed’, *bij-ój-au* ‘I was afraid’, cf. also *sáug-ój-au* ‘I protected’ (PRS.1SG *sáug-au*) with the stress on the root, etc.

The set of tense suffixes *-o/-é-* is found in two combinations with accentuation patterns, see Table 9 below.

PRS.1SG	o-mob: <i>raš-aũ</i>	o-immob: <i>mók-au</i>	o-mob: n/a	o-immob: n/a
PST.1SG	é-mob: <i>raš-i-aũ</i>	é-immob: <i>móki-au</i>	é-immob: n/a	é-mob: n/a
INF	<i>rašýti</i> ‘write’	<i>mókyti</i> ‘teach’		

TABLE 9. Combinations of PRS/PST set *-o/-é-* with accentuation patterns

Compared to combinations discussed above, the accentuation of the set *-o/-é-* is always uniform: either it is mobile, or immobile; mixed patterns are not attested. This can be explained by taking a look at the types which have mixed patterns enabled by certain differences between PRS and PST stems: such differences are never found in the *-o/-é-* set. For example (see Table 5 and 6 above), PRS.1SG *gim-st-u* ‘I am being born’, *sén-st-u* ‘I grow old’ (immobile) contain the stem-forming suffix *-st-* which is absent in the PST stem: PST.1SG *gimi-aũ* ‘I was born’, *sen-aũ* ‘I was growing old’ (mobile); another possibility is root vowel apophony, as in PRS.1SG *keli-ù* ‘I raise’ (mobile) vs. PST.1SG *kéli-au* ‘I raised’ (immobile). In both cases short vowel of the first syllable (PST.1SG *gi.miaũ* ‘I was born’, PRS.1SG *ke.liù* ‘I raise’) precludes the possibility of the immobile paradigm (long vowel or syllabic VR sequence is required). Mixed accentual patterns are also possible if stem-forming suffixes *-éj-* or *-oj-* are found in PST (immobile pattern) alongside PRS which lacks these suffixes and may have mobile pattern, see notes on sets *-i/-o-* and *-o/-o-* above; consider also some verbs of the *-a/-o-* set: PRS.1SG *dreb-ù* ‘I tremble’

27 If tonal properties of the syllable are taken into account, the immobility can be explained by the acute of *-éj-* and *-ój-*.

(mobile) vs. *dreb-ěj-au* ‘I trembled’ (immobile, contains stem-forming suffix *-ěj-*), PRS.1SG *mieg-ù* ‘I sleep’ (mobile) vs. *mieg-ój-au* ‘I slept’ (immobile, contains stem-forming suffix *-oj-*), etc. It should be noted that in order to explain unattested (or some attested) combinations here and earlier I had to venture into the zone of non-obligatory features such as root vowel alternations and stem-forming suffixes.

Let us sum-up the results of attested PRS/PST sets with mobile and immobile accentuation patterns in Table 10:

PRS/PST set	Attested combinations
-a/-è-	4 (mob-mob, immob-immob, mob-immob, immob-mob)
-a/-o-	4 (mob-mob, immob-immob, mob-immob, immob-mob)
-i/-o-	2 (immob-immob, mob-immob)
-o/-è-	2 (mob-mob, immob-immob)
-o/-o-	2 (immob-immob, mob-immob)
Total	14

TABLE 10. Summary of combinations of PRS/PST sets and mobile and immobile accentuation patterns

Now it is time to review additional variation when two subtypes of mobility are taken into account: prefixal-suffixal ($\text{mob}_{\text{prf-suff}}$) and suffixal (mob_{suff}), see their discussion in Section 2.3. With two varieties of mobility (and one pattern of immobility) we get nine theoretical combinations, listed in (2). When combined with five PRS/PST sets they could yield 45 possible variations, but we will soon see that only 18 are attested.

- (2)
- | | | |
|------------------------------------|------------------------------------|------------------------------------|
| PRS $\text{mob}_{\text{prf-suff}}$ | PRS $\text{mob}_{\text{prf-suff}}$ | PRS $\text{mob}_{\text{prf-suff}}$ |
| PST $\text{mob}_{\text{prf-suff}}$ | PST mob_{suff} | PST immob |
| PRS mob_{suff} | PRS mob_{suff} | PRS mob_{suff} |
| PST mob_{suff} | PST $\text{mob}_{\text{prf-suff}}$ | PST immob |
| PRS immob | PRS immob | PRS immob |
| PST immob | PST $\text{mob}_{\text{prf-suff}}$ | PST mob_{suff} |

We only need to review the cells where the mobile pattern is found, and to save space abbreviated versions of the tables used above can be reproduced. Now the classification will be more detailed, because instead of simply noting that the accentuation pattern is mobile we have information on the particular version of mobility in each combination: prefixal-suffixal or just suffixal. For example, in Table 5 the forms PRS.1SG *kep-ù* ‘I bake’, PST.1SG *kepi-aũ* ‘I baked’ illustrated combinations *a*-mob and *è*-mob correspondingly; these combinations in Table 11 are now specified as *a*-mob_{prf-suff} (*kep-ù* ‘I bake’, *nè-kepu* ‘I do not bake’) and *è*-mob_{prf-suff} (*kepi-aũ* ‘I baked’, *nè-kepi-au* ‘I did not bake’). In addition to that, a new combination was discovered due to distinction of two types of mobility: *a*-mob_{suff} (PRS.1SG *šauki-ù* ‘I cry’, *ne-šauki-ù* ‘I do not cry’²⁸) bound up with *è*-mob_{prf-suff} (PRS.1SG *šauki-aũ* ‘I cried’, *nè-šauki-au* ‘I did not cry’) alongside *a*-mob_{prf-suff} with *è*-mob_{prf-suff} (previous example).

PRS.1SG	a-mob _{prf-suff} <i>kep-ù</i> <i>nè-kep-u</i>	(a-immob)	a-mob _{prf-suff} <i>keli-ù</i> <i>nè-keli-u</i>
	a-mob _{suff} <i>šauki-ù</i> <i>ne-šauki-ù</i>		a-mob _{suff} n/a
PST.1SG	è-mob _{prf-suff} <i>kepi-aũ</i> <i>nè-kepi-au</i> <i>šauki-aũ</i> <i>nè-šauki-au</i>	è-mob _{prf-suff} <i>gimi-aũ</i> <i>nè-gimi-au</i>	(è-immob)
	è-mob _{suff} n/a	è-mob _{suff} n/a	
INF	<i>kèpti</i> ‘bake’ <i>šaukti</i> ‘call’	<i>gìmti</i> ‘be born’	<i>kélti</i> ‘raise’

TABLE 11. Combinations of PRS/PST set *-a/-è-* with accentual patterns of prefixal-suffixal and suffixal mobility

Variability of mobile pattern (i.e. when both versions are available) is attested only in PRS stems, mostly in PRS *a*-type (three combinations) and one time with PRS *i*-type. These combinations are: (1) PRS *a*-type combined with mob_{prf-suff} PST *è*-type (upper left cell in Table 11), (2) PRS *a*-type combined

28 Here and below I omit the discussion of certain fluctuations between mob_{suff} and mob_{prf-suff} (e.g. PRS.1SG *ne-šauki-ù* and *nè-šauki-u*) for the sake of brevity.

with mob_{suff} PST *o*-type (upper left cell in Table 12), (3) PRS *a*-type combined with immobile PST *o*-type (upper right cell in Table 12), (4) PRS *i*-type combined with immobile PST *o*-type (upper left cell in Table 13). Variability of mobility (i.e. both options: $\text{mob}_{\text{prf-suff}}$ and mob_{suff}) is never found in PST. PST *é*-type can be $\text{mob}_{\text{prf-suff}}$ or mob_{suff} but never in the same combination with a given PRS type: $\text{mob}_{\text{prf-suff}}$ is found with PRS *a*-type, mob_{suff} occurs with PRS *o*-type. PRS/PST *o*-type, when it is mobile, is always mob_{suff} . See further com-

PRS.1SG	a-mob_{prf-suff} <i>suk-ù</i> <i>nè-suk-u</i>	(a-immob)	a-mob_{prf-suff} <i>dreb-ù</i> <i>nè-dreb-u</i>
	a-mob_{suff} <i>vargst-ù</i> <i>ne-vargst-ù</i>		a-mob_{suff} <i>ried-ù</i> <i>ne-ried-ù</i>
PST.1SG	o-mob_{prf-suff} n/a o-mob_{suff} <i>suk-aũ</i> <i>ne-suk-aũ</i> <i>varg-aũ</i> <i>ne-varg-aũ</i>	o-mob_{prf-suff} n/a o-mob_{suff} <i>sen-aũ</i> <i>ne-sen-aũ</i>	(o-immob)
INF	<i>sùkti</i> ‘turn (tr.)’ <i>vařgti</i> ‘bother’	<i>sénti</i> ‘grow old’	<i>drebéti</i> ‘tremble’ <i>riedéti</i> ‘roll’

TABLE 12. Combinations of PRS/PST set *-a/-o-* with accentual patterns of prefixal-suffixal and suffixal mobility (combinations with both mobility patterns are marked in bold)

PRS.1SG	i-mob_{prf-suff} <i>tiki-ù</i> <i>nè-tiki-u</i>	o-mob_{prf-suff} n/a	o-mob_{prf-suff} n/a
	i-mob_{suff} <i>žiūri-ù</i> <i>ne-žiūri-ù</i>	o-mob_{suff} <i>bij-aũ</i> <i>ne-bij-aũ</i>	o-mob_{suff} <i>raš-aũ</i> <i>ne-raš-aũ</i>
PST.1SG	(o-immob)	(o-immob)	é-mob_{prf-suff} n/a é-mob_{suff} <i>raš-aũ</i> <i>ne-raši-aũ</i>
INF	<i>tikéti</i> ‘believe’ <i>žiūrėti</i> ‘look (at)’	<i>bijóti</i> ‘be afraid’	<i>rašýti</i> ‘write’

TABLE 13. Combinations of PRS/PST sets *-i/-o-*, *-o/-o-*, *-o/-é-* with accentual patterns of prefixal-suffixal and suffixal mobility (combinations with both mobility patterns are marked in bold)

ments in Andronovas (1995) on the relation of mobility to PRS/PST types and other crucial parameters such as root-syllable length.

I would like to remind readers at this point that the present study aims at a classification based only on the obligatory features. As mentioned earlier, for a full classification, all non-obligatory features (stem-forming affixes and alternations) need to be taken into account, cf. Ambrasas (1997), Arkadiev (2017). The combinability with accentuation patterns, in turn, would have to be listed and discussed partially anew, because the current approach is blind to additional properties of the stems. As an exception, only some remarks on combinations with accentuation patterns were made when non-obligatory features such as root-vowel alternation and some stem-forming suffixes were involved.

5 Conclusions

Lithuanian verbal inflection classes are defined by tense suffixes, stem-forming affixes, vowel and consonant alternations, and accentuation patterns. Only tense suffixes and accentuation patterns are obligatory features relevant for each and every verb; the rest are of non-obligatory nature and pertinent only to part of the verbal lexicon.

There are three types of the present tense (*-a-*, *-i-*, *-o-*) and two types of the past tense (*-ė-*, *-o-*) suffixes. These types are attested in five combinations in standard Lithuanian (*-a-/-ė-*, *-a-/-o-*, *-i-/-o-*, *-o-/-ė-*, *-o-/-o-*) and further variation is defined by one immobile pattern and two mobile patterns of accentuation, resulting in eighteen suffixal-accentual combinations. A full picture of all possible combinations of IC features would be arrived at by taking into account non-obligatory features as well.

The combinations of features characterizing present and past stems in Lithuanian support the view that inflection classes can be understood as classes of stems rather than of lexemes (Stump 2016). The inflectional profile of a given lexeme is, as a result, a combination of inflectional classes of its stems.

Acknowledgments

I would like to sincerely thank the audience of Academia Grammaticorum Salensis Septima Decima (2020) for their feedback on my presentation leading to this paper and to Peter Arkadiev for his valuable comments on the first draft. All possible shortcomings and misinterpretations are mine.

Abbreviations

1—first person; 2—second person; 3—third person; CNT—continuative; FUT—future; IC—inflection class; immob—immobile; IMP—imperative; INF—infinitive; mob—mobile; mob_{prf-suff}—prefixally and suffixally mobile; mob_{suff}—suffixally mobile; NEG—negation; PFX—prefix; PL—plural; PPP—past passive participle; PRS—present; PST—past; RFL—reflexive; SG—singular; tr—transitive

References

- Ambrazas, Vytautas, ed. 1997. *Lithuanian Grammar*. Vilnius: Baltos lankos.
- Andronov, Aleksey. 2000. Some remarks on the system of Lithuanian and Latvian conjugation. *Linguistica Baltica* 8, 35–47.
- Andronovas, Aleksejus. 1995. Priešdėlinių veiksmažodžių kirčiavimas morfologinės akcentologijos požiūriu. [Accentuation of prefixed verbs from the point of view of morphological accentology]. *Baltistica* 30(1), 93–100.
- Arkadiev, Peter M. 2012. Stems in Lithuanian verbal inflection (with remarks on derivation). *Word Structure* 5(1), 7–27.
- Arkadiev, Peter. 2017. Фрагмент модели литовского спряжения (материалы к возможному грамматическому словарю литовского языка). [Fragment of a model of Lithuanian conjugation (materials for a potential grammatical dictionary of Lithuanian)]. Available at: https://www.academia.edu/29720423/ФРАГМЕНТ_МОДЕЛИ_ЛИТОВСКОГО_СПРЯЖЕНИЯ_МАТЕРИАЛЫ_К_ВОЗМОЖНОМУ_ГРАММАТИЧЕСКОМУ_СЛОВАРЮ_ЛИТОВСКОГО_ЯЗЫКА_ (accessed April 14, 2021).
- Aronoff, Mark. 1994. *Morphology by Itself: Stems and Inflectional Classes*. Cambridge: MIT Press.
- Bonami, Olivier & Gilles Boyé. 2002. Suppletion and stem dependency in inflectional morphology. In *Proceedings of the 8th International HPSG Conference*. Frank van Eynde, Lars Hellan & Dorothee Beermann, eds. Stanford: CSLI Publications. 51–70.
- Corbett, Greville G. 2006. *Agreement*. Cambridge: Cambridge University Press.
- Corbett, Greville G. 2009. Canonical inflectional classes. In *Selected Proceedings of the 6th Décembrettes: Morphology in Bordeaux*. Fabio Montermini, Gilles Boyé & Jesse Tseng, eds. Somerville, MA: Cascadilla Proceedings Project. 1–11.
- Corbett, Greville G. 2012. *Features*. Cambridge: Cambridge University Press.
- Corbett, Greville G. & Matthew Baerman. 2006. Prolegomena to a typology of morphological features. *Morphology* 16(2), 231–246.
- Fabio Montermini & Olivier Bonami. 2013. Stem spaces and predictability in verbal inflection. *Lingue e linguaggio* 2 (2013), 171–190.
- Finkel, Raphael & Gregory Stump. 2007. Principal parts and morphological typology. *Morphology* 17(1), 39–75.

- Kibort, Anna. 2010. Towards a typology of grammatical features. In *Features: Perspectives on a Key Notion in Linguistics*. Greville G. Corbett & Anna Kibort, eds. Oxford: Oxford University Press. 64–106.
- Kibort, Anna & Greville G. Corbett. 2008. *Grammatical Features Inventory: Typology of grammatical features*. University of Surrey. Available at: <http://dx.doi.org/10.15126/SMG.18/1> (accessed April 14, 2021).
- LKŽe = Gertrūda Naktinienė, Jonas Paulauskas, Ritutė Petrokienė, Vytautas Vitkauskas & Jolanta Zabarskaitė, red. 2017. *Lietuvių kalbos žodynas 1–20*, elektroninis leidimas. [*Dictionary of Lithuanian. An electronic edition*]. Vilnius: Lietuvių kalbos institutas. Available at: <http://www.lkz.lt> (accessed April 14, 2021).
- Mathiassen, Terje. 1996. *A Short Grammar of Lithuanian*. Columbus: Slavica Publishers.
- Stump, Gregory. 2015. Inflection classes. In *The Oxford Handbook of Inflection*. Matthew Baerman, ed. Oxford: Oxford University Press. 112–140.
- Stump, Gregory. 2016. *Inflectional Paradigms: Content and Form at the Syntax-Morphology Interface*. Cambridge: Cambridge University Press.

Submitted: 8 February 2021