Canonical and non-canonical conversion in Baltic

Jurgis Pakerys (Vilnius University)

ABSTRACT

Canonical and non-canonical conversion in Latvian and Lithuanian (Baltic, Indo-European) is discussed by applying the following criteria: (A) identity of form, (B) word-class change, and (C) the absence of dedicated derivational affixes. The absolute identity of form and the realization of (B) and (C) are found in the conversion of non-inflecting word classes, and deviations from that canon are seen in the word-class changing and word-class retaining conversion of inflecting words. They obligatorily change their inflection patterns and their base stems are optionally affected by vowel, consonant, and tone alternations as well as by truncation. The inflection patterns are altered in two ways: paradigm assignment (mostly replacement of the paradigm of the input with that of the output) and paradigm adjustment (mostly restriction of the paradigm when the output has fewer paradigm cells than the input). It is agreed with Štekauer, Valera and Körtvélyessy (2012) that due to criterion (C), conversion can be classified alongside other non-concatenative word-formation processes.

1 INTRODUCTION

During conversion, as a word-formation process, an input word is transferred to the word class of the output without alternation of the base form (Bauer, 1983, p. 32; Bauer & Valera, 2005, p. 8; Valera, 2014, p. 154; Valera, 2015, p. 322). For example, in (1), the form of the input and output is identical (*bottle = bottle*), and the word class changes from noun to verb:

(1) bottle _N   →   bottle _V   English
    'a container typically   'to put into bottle'[1]
    made of glass or plastic
    with a narrow neck'

In this paper, I discuss the problems encountered when the notion of conversion is applied to inflectionally-rich languages like Lithuanian and Latvian, members of the Baltic genus from the Indo-European family. The point of departure for the discussion is offered by canonical typology (Corbett, 2005), and 'canonical conversion' is

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1   Definitions adapted from Merriam-Webster online dictionary available at https://www. merriam-webster.com/, accessed on January 24–25, 2025.

initially defined based on two major criteria — the identity of form and the change of word class — by a set of possible deviations from that canon (Section 2). I review relevant Baltic data beginning with cases manifesting a full identity of form of non-inflecting words (Section 3.1), and then move to examples where the input and output differ in their inflection (Section 3.2) and additional alternations of the base stem occur (Section 3.3). In Section 4, I address the question of whether the word-formation pairs that formally resemble conversion (lacking dedicated derivational affixes but belonging to the same word class) can be considered as a kind of conversion. In Section 5, the main points of the discussion are summarized.

2 DEFINING CANONICAL CONVERSION

As a starting point for the analysis, the approach of canonical typology will be used where "[…] we take definitions to their logical end point and build theoretical spaces of possibilities. Only then do we ask how this space is populated" (Corbett, 2005). According to a widely-held view, conversion is a word-formation process characterized by two major features illustrated in (1) above:

(A) Identity of form
(B) Word-class change

After defining canonical conversion according to (A) and (B), one may start exploring the theoretical space of possibilities summarized in Table 1, where canonical conversion is marked as (a) and other combinations of the features are treated as non-canonical due to deviations from (a). First, one expects examples where certain aspects of identity of form are not maintained (b). Then, there may be cases where both formal identity and word class are not changed (c). Finally, the set of combinations ends with the negative realization of both features (d).

	Canonical conversion	Non-canonical conversion		
	a	b	c	d
Identity of form	+	–	+	–
Word-class change	+	+	–	–

TABLE 1. Canonical and non-canonical conversion defined by two features

The term 'canonical' has already been applied to conversion by Štekauer, Valera and Körtvélyessy (2012, p. 218) and Valera (2014; 2015, p. 326, 334), among others. The distinctions of degrees of canonicity of conversion in Table 1 are very close to the following ones formulated by Valera (2015): "conversion as word-class change plus formal identity", "conversion as word-class change without formal identity", "conversion without word-class change, but with formal identity". The variability of

conversion can also be addressed in terms of degrees of conversion (Valera 2014) and prototypicality (Manova & Dressler, 2005).

Now it is time to examine the relevant Baltic data beginning with examples of canonical conversion and then moving to non-canonical ones. First, the issue of identity of form will be discussed and then attention will be turned to word-class change.

3 IDENTITY OF FORM

In this section, the analysis begins with instances of conversion in which full identity of form is maintained (Section 3.1), followed by cases involving differences in inflectional material (Section 3.2), and then cases resulting from morphophonological alternations and truncation of the base stem (Section 3.3).

3.1 FULL IDENTITY OF FORM

Full identity of the form of the input and output is possible only when both of the words involved in conversion have no inflectional categories realized by bound morphology,[2] as bound morphology in Baltic creates inevitable formal differences (cf. Section 3.2). When a non-inflecting word is converted to another member of a non-inflecting class, the form may remain exactly the same, as it is free from the inflectional requirements;[3] consider (2) and (3), where adverbs are transferred to the class of adpositions (prepositions):

(2) šalià $_{Adv}$ →   šalià $_{Prep}$ Lithuanian
    'close by, in proximity'   'next to'

(3) blakus $_{Adv}$ →   blakus $_{Prep}$ Latvian
    'close by, in proximity'   'next to'

This type of conversion is not very common in Baltic and is typically omitted in word-formation literature, but one finds frequent notes elsewhere stating that, e.g., some Baltic adpositions are adverbial in their origin, or that adverbs may take on adpositional functions (see Ulvydas, 1971, p. 580; Ambrazas, 1994, p. 438; Ambrazas, 1997, p. 405; Ambrazas, 2006, p. 284, 288–290, 293–294 on Lithuanian, and Ahero et al., 1959, p. 701, 722–723; Nītiņa & Grigorjevs, 2015, p. 627; Kalnača & Lokmane, 2021, p. 354 on Latvian).

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2   Admittedly, morphological boundedness has certain degrees. One may begin with complete isolation of grammatical markers that function as free phonological words and then move through degrees of concatenation manifested in cliticization and affixation of the markers to their hosts, see, e.g., Bickel and Nichols (2007, p. 180) on the degree of fusion of inflectional exponents.

3   I do not imply that in the case of the conversion of non-inflecting word classes the form should always remain the same, which leaves room for possible differences due to truncation and morphophonological alternation of the base.

A further limited group of Baltic examples includes cases of the transfer of adverbs or particles[4] and prepositions into the class of conjunctions, e.g., Lithuanian *kaĩp* $_{Adv}$ 'how' → *kaĩp* $_{Conj}$ 'how', *tìk* $_{Ptcl}$ 'only, just' → *tìk* $_{Conj}$ 'but, however', *ikì* $_{Prep}$ 'until, up to' → *ikì* $_{Conj}$ 'until'; Latvian *kâ* $_{Adv}$ 'how' → *kâ* $_{Adv}$ 'how', *tik* $_{Ptcl}$ 'only, just' → *tik* $_{Conj}$ 'but, however', *lĩdz* $_{Prep}$ 'until, up to' → *lĩdz* $_{Conj}$ 'until' (Ulvydas, 1971, p. 550, 655; Ambrazas, 1994, p. 455; Ambrazas, 1997, p. 425; Ahero et al., 1959, p. 777–778; Nītiņa & Grigorjevs, 2015, p. 645–650; Kalnača & Lokmane, 2021, p. 376).

Both groups discussed above are non-productive and result from the diachronic development of certain word classes to adpositions (prepositions) and conjunctions through syntactic reanalysis. For correspondences of the above-mentioned Baltic examples in English, consider, e.g., *only* $_{Adv}$ → *only* $_{Conj}$, *until* $_{Prep}$ → *until* $_{Conj}$, *behind* $_{Adv}$ → *behind* $_{Prep}$,[5] etc. Such cases, one should note, can be interpreted as "conversion lookalikes" (see Martsa 2020). They never played a central role in the standard understanding of conversion in English, and most attention was paid to the word classes with bound inflections: nouns, verbs, and adjectives, which will be discussed below.

3.2 ALTERNATION OF THE INFLECTION

In the above, it has been mentioned that absolute identity of the form is possible only in the case of non-inflecting inputs and outputs. If at least one of the words involved in conversion carries bound inflectional morphology, the full identity of the form across inflectional paradigms will not be maintained. This is seen in (4), where the initial English example (1) is presented not as mere dictionary headwords, but as sets of inflectional forms. The majority of these forms are characterized by bound morphology, and only the first line contains bare stems.[6] A comparison between (1) and (4) demonstrates that the focus should not be only on the citation forms because citation forms are based on extralinguistic conventions that vary from one linguistic tradition to another. In the case of English, citing dictionary headwords may give the wrong impression that conversion does not affect inflection because the citation forms happen to be accidentally bare stems.

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4   The interpretation of some words as adverbs and particles varies, and I will not address this issue here for the sake of brevity. In the examples that follow, I reflect the interpretations available in the literature. One should also note that further study of the full identity of input and output may also include cases of conversion of adverbs into particles, see, e.g., Ulvydas (1971, p. 571) on Lithuanian.

5   A class of intransitive prepositions that bear no NP complement may be distinguished instead, i.e., in *look behind*, the word *behind* would be seen as an intransitive preposition distinct from the transitive one in *look behind you*. In this case, one is dealing with a transition from one type of preposition to another without the word-class change, see Bauer (1983, p. 227) for a discussion of conversion within the same word class. Remarkably, these cases have also been described as prepositional adverbs (cf. Quirk et al., 1985, p. 713–714).

6   In (4), the abbreviation "V" is used for both finite and non-finite verbal forms.

(4) bottle $_N$ →   bottle $_V$ English
    bottl-es $_N$ bottl-es $_V$
                            bottl-ed $_V$
                            bottl-ing $_V$

One may note at this point that the most common understanding of conversion in English, illustrated in (4), is one step away from the canon defined in Section 2: criterion (B) is fulfilled, but criterion (A) is partly violated; the converted stem remains identical, but the bound inflectional morphology changes. It is true that, in Section 3.1 above and in some other approaches to conversion, criterion (A) is taken to the extreme by requiring absolute identity of the form, see Valera (2014, p. 160) with further references. In one of the earliest definitions, Sweet (1891, p. 38) explicitly states that inflectional changes are not intended when requiring that there should be no modification of the word undergoing conversion nor any addition to it:

> But in English, as in many other languages, we can often convert a word, that is, make it into another part of speech *without any modification or addition, except, of course, the necessary change of inflection*, etc. [emphasis added]

For example, in Slavic linguistics, the change of the inflectional paradigm in examples like (4) was seen as a central feature of the word-formation process in question and gave rise to terms like 'paradigmatic derivation', 'paradigmatic word-formation', and 'transflexion'.[7] The scholars who advocate this terminology recognized derivational pairs of the same word class that differ only by their inflection and viewed them as belonging to the same word-formation process, see, e.g., Dokulil (1962, p. 63). This meant overriding the requirement of word-class change, criterion (B), and thus moving away from the original definition of conversion (cf. also Section 4.2).[8] It is important to note that some scholars view the assigned paradigms as fulfilling the function of derivational affixes, see Štekauer, Valera and Körtvélyessy (2012, p. 219–220) with relevant references. This is understandable, but one must keep in mind that these paradigms serve a dual function and are not dedicated (special) derivational markers: they both express the inflectional categories and mark the derivational con-

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7   As pointed out by one of the anonymous reviewers, one may prefer using the term 'conversion' for languages that employ little or no concatenative inflectional markers, while 'paradigmatic word-formation', 'transflexion', etc. could be reserved for languages with rich concatenative inflectional systems. My position here is to look for common ground (and a common term) for the word-formation process found in both types of languages, the essence of that process being the formation of a new lexical item without the addition of a (dedicated) derivational marker, no matter how developed concatenative inflection in a given language is, as done by, e.g., Štekauer, Valera and Körtvélyessy (2012, p. 213–224).

8   Notably, Dokulil (1962, p. 63) still speaks of conversion in this case, namely, "conversion within the [same] word-class" ("konverze uvnitř slovního druhu").

trast, cf. Dokulil (1962, p. 24, 62).[9] For further discussion of the criterion of formal identity due to a change of inflections in conversion, see Štekauer, Valera and Kört-vélyessy (2012, p. 219–222) and Valera (2014, p. 159–160; 2015, p. 330–331).

The developments in Slavic linguistics mentioned above influenced the descriptions of the corresponding phenomena in Baltic scholarship in the 1960s and 1970s, and terms like 'derivation by the means of endings', '(in)flectional derivation', 'paradigmatic derivation', 'paradigm(iz)ation', and the like sprang up where the focus is also on inflections and inflectional paradigms (see Ulvydas, 1965, p. 253–423, 550–578; Urbutis, 1978, p. 283–286; Soida, 1976; Soida, 1977; Soida, 2009,[10] etc.). Ahero et al. (1959, p. 81, 159) use a somewhat specific term, 'suffixal ending', where 'suffixal' refers to the derivational function of the inflection that is typically fulfilled by suffixes.

Now let us go back to the actual Baltic data. In the cases of conversion where bound inflectional morphology changes, the transition is mostly from verb to noun, as in (5) and (6); the conversion of adjectives to nouns is also notable, as in (7) and (8). Lithuanian, but not Latvian, also has a significant number of converted deverbal adjectives, as in (9), but denominal adjectives are exceptionally rare (not illustrated below for the sake of brevity).

(5) aûg-t $_V$ →   aûg-s $_N$ Latvian
    grow-INF   plant(M)-NOM.SG
    'to grow (itr.)'   'plant'

(6) ráug-ti $_V$ →   ráug-as $_N$ Lithuanian
    ferment-INF   leavening(M)-NOM.SG
    'to ferment (tr.)'   'leavening, (bread) leaven'

(7) lìksm-s $_A$ →   lìksm-e $_N$ Latvian
    joyful-NOM.SG.M   joy(F)-NOM.SG
    'joyful'   'joy'

(8) greĩt-as $_A$ →   greĩt-is $_N$ Lithuanian
    fast-NOM.SG.M   speed(M)-NOM.SG
    'fast'   'speed'

(9) kìb-ti $_V$ →   kib-ùs $_A$ Lithuanian
    stick-INF   sticky-NOM.SG.M
    'to stick (itr.)'   'sticky, tenacious'

9   Dokulil (1962, p. 62) defines conversion as a word-formation process where no specific derivational affixes are used ("bez použití jakýchkoli specifických slovotvorných afixů") and only the transfer of the base word to another paradigm occurs.

10 The manuscript of this study was written in the 1970s.

It should be noted that the types illustrated in (5) to (9) are frequently characterized by various morphophonological alternations of the base stem (discussed in Section 3.3), but examples where the form remains identical were selected specifically for the purposes of this section. There is one accentual difference seen in (9) that needs to be explained: the stress is placed on the root of the infinitive, but it falls on the ending of the nom. sg. m. of the adjective. Lithuanian is a pitch-accent language with a movable stress system, and the converted items are assigned to both segmental (bound) and suprasegmental (accentual) paradigms, which together form an inflectional profile (paradigm) of the word. To recognize the actual tone alternation[11] of the base stem, the stress must be on the root syllable (cf. Section 3.3). In (9), the root is a short syllable, which already excludes the possibility of tonal alternation in Lithuanian, and this can be verified when the stress falls on the root, as in acc. sg. m. *kìb-ų*, where the stressed syllable remains exactly the same as in the inf. *kìb-ti*.

Conversion from adjectives and nouns to verbs is mentioned only rarely in the literature, and I will limit myself to the deadjectival examples in (10) and (11):[12]

(10) pig-ùs _A　　　　(pìg-ų)　　　　→　pìg-ti _V　　　　Lithuanian
　　　cheap-NOM.SG.M　cheap-ACC.SG.M　　become.cheaper-INF
　　　'cheap'　　　　　　　　　　　　　　'become cheaper'

(11) slãb-s _A　　　　　　　　　　　　→　slãb-t _V　　　　Latvian
　　　weak-NOM.SG.M　　　　　　　　　　turn.weak-INF
　　　'tired, weak'　　　　　　　　　　　'become weaker'

The type of conversion just discussed and illustrated in (5) to (9) and in (10) and (11) may be referred to as 'paradigm-replacing conversion', and a selection of relevant references for further study will be provided in Section 3.3 after discussing the base stem alternations.

A different type of inflection change occurs when conversion induces the restriction of the input's inflectional paradigm, as in (12) and (13): the input adjectives (or participles) lose one of their gender paradigms and are no longer available for gradation once they are turned into nouns, which inherit masculine and feminine gender, respectively, from the input forms. The outputs may undergo specific lexicalization: in (12) and (13), the respective meanings 'parents' and 'bride' are achieved through the intermediate stages of 'the older ones' and 'the young one'.

(12) vec-âk-i _A　　　　→　vecâk-i _N　　　　Latvian
　　　old-COMP-NOM.PL.M　　parent(M)-NOM.PL
　　　'older'　　　　　　　　'parents' (pl. tant.)

11　I use 'tone' as a convenient yet imperfect label for accentual contrasts found in heavy syllables in Lithuanian and Latvian.

12　Acc. sg. m. *pìg-ų* is cited in (10) to demonstrate that the accentual properties of the root do not change during conversion, as explained above.

(13) jaun-óji $_A$ →   jaunój-i $_N$ Lithuanian
young-NOM.SG.F.DEF   bride(F)-NOM.SG
'(the) young'   'bride'

Compared to the paradigm-replacing conversion discussed above (examples (5) through (11)), this subtype can be interpreted as essentially syntactic, except with repercussions on morphology, which are manifested as a restriction of the paradigm.[13] It also differs from a paradigm-replacing conversion by not manifesting stem base alternations. An endpoint of paradigm restriction would be the full elimination of it, which happens in the case of a conversion to non-inflecting word classes, as in (14) and (15), where the nominal case and verbal non-finite forms are turned into non-inflecting adverbs:[14]

(14) kar̃t-ais $_N$ →   kar̃tais $_{Adv}$ Lithuanian
time(M)-INS.PL   sometimes
'at times'   'sometimes'

(15) bèidz-õt $_V$ →   bèidzõt $_{Adv}$ Latvian
finish-CVB   finally
'(while) finishing'   'finally'

These examples refer to a restriction of the paradigm based on the conversion of adjectives (or participles) to nouns, illustrated in (12) and (13), and the adverbialization of forms of inflecting word classes, as seen in (14) and (15). In the case of the conversion of participles to adjectives, one may actually observe an expansion of the original paradigm when the converted items become gradable, consider the conversion of participle to adjective in (16a) and its gradated forms in (16b):

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13 I agree with one of the anonymous reviewers who points out that even in this case, the paradigm change can be seen as a kind of paradigm replacement: the larger paradigm of the input is replaced with the smaller paradigm of the output (and one may ignore the fact that the smaller paradigm is inherited from the larger paradigm). By characterizing the process as "essentially syntactic", I wish to emphasize that the syntactic properties of the input are changed, but the inflectional morphology is inherited (copied) from the input as much as the new syntactic properties allow it, cf. Manova and Dressler (2005, p. 71–72) who interpret nominalized adjectives that keep their inflection as cases of syntactic conversion (or re-categorization). I admit that I leave aside interesting cases of conversion with defective paradigms and also cases where the output not only partially preserves the forms of the input, but also supplants them with some additional forms, see Manova and Dressler (2005, p. 76–77).

14 And in the case of the conversion of non-inflecting word classes to inflecting ones, like in English *down* $_{Ptcl}$ → *down* $_V$ or *zap* $_{Onom}$ → *zap* $_V$, one is dealing with paradigm assignment as there is nothing to be replaced. Just like in English, this type is marginal in Baltic and can be illustrated by converting onomatopoeias to verbs, e.g., Lithuanian *pỹp* $_{Onom}$ 'beep (sound produced by a bird, an electronic device, a car, etc.)' → *pỹp-ti* $_V$ 'to beep'.

(16a) žìn-o-m-as _{Ptcp}   →   žìnom-as _A   Lithuanian
      know-PRS-PASS.PTCP-NOM.SG.M   famous-NOM.SG.M
      'known'   'well-known, famous'

(16b) žinom-èsn-is   žinomi-áusi-as   Lithuanian
      famous-COMP-NOM.SG.M   famous-SUPER-NOM.SG.M
      'more famous'   'the most famous'

The distinction between participles and adjectives is tricky, and according to the argument presented above, one needs to assume that gradation is available only for (some) adjectives and not for participles. Moreover, under this interpretation, it is the participle (rather than the verb to which it belongs) that is taken as the input. But if the verb with its finite and non-finite forms is seen as an input, this involves both paradigm restriction (the forms of the participle are cut out from the verbal paradigm) and paradigm expansion (once the gradated forms are made available to the output). So, to cover both the restriction and expansion of the paradigm, one may refer to this type of conversion as 'paradigm-adjusting'.

At this point, some terminological remarks related to the tradition of Baltic linguistics are in order. In the literature on Latvian, the term 'conversion' is most frequently used in reference to paradigm-adjusting conversion (see, e.g., Ahero et al., 1959, p. 85; Skujiņa, 2007, p. 194; Nītiņa & Grigorjevs, 2015, p. 202, 207–209; Kalnača & Lokmane, 2021, p. 73; etc.). In Lithuanian linguistics, however, the same phenomena are typically termed 'X-(ial)ization', where X stands for the word class of the output: 'substantivization', 'adjectivization', 'adverbialization', etc., see Ulvydas (1965, p. 529–533), etc. Latvian linguistics also employs these terms, but only to refer to subtypes of conversion distinguished by the word class of the output.

3.3 ALTERNATION OF THE BASE STEM

The discussion now needs to return to the paradigm-replacing conversion that moves one more step away from the canonical definition when not only the bound inflections change, but also the base stem is affected by various alternations. The most common types of alternations are root vowel and tone changes, which sometimes co-occur.

In (17) and (18), only tone alternation affects the base stem marked by gravis and circumflex in the Latvian example, and by acute and circumflex in the Lithuanian case (as explained earlier, an inflectional form where the stress falls on the root is needed to reveal its accentual properties in Lithuanian; in (18), acc. sg. was added for that purpose):

(17) tèik-t _V   →   teĩk-a _N   Latvian
     tell-INF   tale(F)-NOM.SG
     'to tell'   'tale'

(18) tráuk-ti _V   →   trauk-à _N   (traũk-ą)   Lithuanian
     pull-INF   traction(F)-NOM.SG   traction(F)-ACC.SG
     'pull, attract'   '(at)traction'

In (19), alternation between a diphthong and a vowel is illustrated, [ɐʊ] ⟨au⟩ → [uː] ⟨ū⟩, but the tone remains the same, while in (20), the root vowel alternation is the same as in (19), but the tone alternation is added on top of it (marked by acute and circumflex). Example (21) is particularly relevant in that it displays a vowel alternation (required by the output declension) that is not distinguished orthographically and is marked by ⟨e⟩: [æ] → [e]:

(19) šaũk-ti _V   →   šū̃k-is _N   Lithuanian
     shout-INF   slogan(M)-NOM.SG
     'to shout'   'slogan'

(20) šáu-ti _V   →   šū̃v-is _N   Lithuanian
     shoot-INF   shot(M)-NOM.SG
     'to shoot'   'shot'

(21) meln̂-s [mælːns] _A → meln̂-is [melːnĭs] _N   Latvian
     black-NOM.SG.M   black(M)-NOM.SG
     'black'   'blackie (about horse)'

Other modifications of the base include alternations of final consonants required by specific output inflectional classes and stem truncations, where final suffixes are deleted. In (22), there is the alternation ⟨d⟩ [d] → ⟨dži⟩ [dʒʲ],[15] while in (23), the final suffix -ā- (-â-) of the verb is not transferred during conversion into a noun. Another interesting aspect of these examples is that the Lithuanian verb in (22) has an inflectional class suffix -y- (-ý-), which is not interpreted here to be truncated because it is part of the system of affixal marks that characterize the inflectional paradigm of the verb *vald-ý-ti* (the suffix -y- is found only in the infinitive stem: prs. 3 *val̃d-o*, pst. 3 *val̃d-ė* vs. inf. *vald-ý-ti*) (Pakerys 2011). In contrast, the suffix -ā- (-â- or -ã-) in (23) is not an inflectional class mark and is found in all stems (prs. 1sg. = pst. 1sg. *apgãd-ã-j-u*, inf. *apgãd-â-t*), so it can be interpreted as truncated.

(22) vald-ý-ti _V   →   valdži-à _N [16]   Lithuanian
     govern-IC-INF   government(F)-NOM.SG
     'to govern'   'government'

(23) apgãd-â-t _V   →   apgãd-e _N   Latvian
     provide-SUFF-INF   provision(F)-NOM.SG
     'to provide'   'provision'

15 The same alternation found in the past active participle and the past converb of *valdýti* is interpreted here as independent. Consider the participial forms: nom. sg. m. *val̃d-ęs*, gen. sg. m. *val̃dži-usi-o*, etc., and the converb *val̃dži-us*. For another noun derived from *valdýti* without the said alternation, consider Lithuanian *vald-à* 'possession, i.e., what is governed'.

16 When the stress falls on the first syllable, one sees that there is no accentological difference, cf. prs. 3 *val̃d-o* and acc. sg. *val̃dži-ą*.

For more data on the paradigm-replacing conversion with and without base stem alterations (and also including word-class retaining conversion discussed later in Section 4.2), see Ulvydas, 1965, p. 251–423, 550–586; Ambrazas, 1994, p. 191–223; Stundžia, 2016, p. 3102–3104 on Lithuanian, and Ahero et al., 1959, p. 159–170; Nītiņa & Grigorjevs, 2015, p. 245; Navickaitė-Klišauskienė, 2016, p. 3120–3121; Kalnača & Lokmane, 2021, p. 137–140 on Latvian.

Finally, one should note that morphophonological alternations are notably not entirely alien to conversion in English, consider a stress shift that sometimes also causes vowel alternations, e.g., *recórd* $_V$ → *récord* $_N$, or alternations of final unvoiced/voiced consonants of the stem seen in some noun-verb pairs, e.g., *house* $_N$ → *house* $_V$ ([s] → [z]), *shelf* → *shelve* ([f] → [v]). Such cases, however, are marginal, see, e.g., Bauer (1983, p. 228–229). To use the typology presented in Table 1, these Baltic and English examples are two steps away from the canon, or, alternatively, just one step away, if one does not require the identity of inflection. For further discussion of alternations mentioned in this subsection, see Štekauer, Valera and Körtvélyessy (2012, p. 222, 225–229), Valera (2015, p. 328–329) with references.[17]

4 WORD-CLASS CHANGE

In this section, non-problematic cases with the word-class changes are only briefly mentioned (Section 4.1), and then attention is turned to the processes where word class is retained (Section 4.2), posing the question of whether such word-formation can be analyzed under the umbrella of conversion.

4.1 THE OCCURRENCE OF WORD-CLASS CHANGE

The term 'conversion' itself implies that a word is converted into another word class, and the cases of Baltic paradigm-replacing and paradigm-restricting conversion were discussed in Section 3. These are largely non-problematic examples of conversion that deviate from canonical conversion by violating criterion (A) through the modification of the inflection and optional alternations of the base.

4.2. THE ABSENCE OF WORD-CLASS CHANGE

Once requirement (B), word-class change, is abandoned, the term 'conversion' becomes somewhat vague. Only requirement (A), the identity of form, remains, but as demonstrated in Section 3, it may be violated when bound inflections change and the base stem is affected by alternations. It now appears that the only stable feature that unifies all the cases discussed thus far is:

   (C)   The absence of a dedicated derivational affix[18]

17   The Lithuanian example (7) found in Valera (2015, p. 328) needs to be corrected: it illustrates suffixal derivation of the denominal verb (suffix *-uo-*) and not conversion.
18   Or: the absence of a dedicated derivational exponent (thus avoiding focus on affixation and allowing for other non-dedicated formal changes of the base), cf. Martsa (2020).

It should be recalled that, when bound inflections and inflectional classes are involved, they may be interpreted as serving a dual purpose and cannot be regarded as special (dedicated) derivational marks. Feature (C) allowed Štekauer, Valera and Körtvélyessy (2012, p. 213) to list conversion among other word-formation processes that function "without addition of derivational material". They could be also labeled as one of the 'non-additive' or 'non-concatenative' processes. For example, in the volume edited by Lieber and Štekauer (2014), there are two chapters on non-concatenative processes of word-formation (Inkelas, 2014; Davis & Tsujimura, 2014), but conversion is listed separately; the major reason for that is, most likely, that *conversion allows identity of form* at least in some cases, whereas other non-concatenative processes discussed by Inkelas (2014) and Davis and Tsujimura (2014) always affect the form of the derived units. It should also be noted that, by allowing the identity of form and by lacking dedicated derivational markers, conversion functions as a non-canonical derivational process according to the criteria specifying the derivational form in Corbett (2010).[19]

Now let us add criterion (C) to the theoretical space of the combinations of features and reflect this update in Table 2 below. One may note that (C) actually derives from (A): (A) now refers to the identity of form only with regard to bound inflections and base stem alternations, while (C) ensures identity of form with regard to the absence of a dedicated derivational affixation.

	Canonical conversion	Non-canonical conversion		
	a	b	c	d
Identity of form	+	–	+	–
Word-class change	+	+	–	–
The absence of a dedicated derivational affix	+	+	+	+

TABLE 2. Canonical and non-canonical conversion defined by three criteria

The discussion of the Baltic data can continue by first presenting examples of conversion within the same word class that have no alternations of the base stems. Here and below, only the cases with a clear formal difference between the words involved in the relation of conversion are included, namely, when the inflectional classes change. The semantic and syntactic changes that have no bound inflectional expression and are interpretable as merely syntactic conversion (case (c) in Tables 1 and 2) are left aside, see, e.g., Bauer (1983, p. 227–228). For example, in (24) and (25), I illustrate personal nouns where the gender differences are expressed by the corresponding inflectional classes:

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19 The semantic aspects of conversion are left aside here. Corbett (2010) briefly mentions conversion as allowing derivation without the change in form: "There can be an additional semantic predicate without a change in form (as in some instances of conversion)".

(24) generõl-as _N   →   generõl-ė _N   Lithuanian
general(M)-NOM.SG   general(F)-NOM.SG
'general (male officer)'   'general (female officer)'

(25) kañdidãt-s _N   →   kañdidãt-e _N   Latvian
candidate(M)-NOM.SG   candidate(F)-NOM.SG
'candidate (male)'   'candidate (female)'

Example (26) presents a verbal pair in which different inflectional classes are used
for actions and resultative states. It should be noted that this interpretation is uncom-
mon in Baltic linguistics because the verb on the right in (26) is typically regarded
as a suffixal derivative. Its suffix *-ė-* (*-ė́-*), however, is an inflectional class suffix that
is notably found only in the infinitive and the past stems and absent in the present
stem (Pakerys 2011).

(26) gul̃-ti _V   →   gul-ė́-ti[20] _V   Lithuanian
lie.down-INF   lie-IC-INF
'lie down'   'lie'

The deviation from the canon becomes more pronounced with regard to criterion
(A), identity of form, once morphophonological alternations of the base stem are
observed, just as in the case of paradigm-replacing conversion involving word-class
change discussed in Section 3.3. In (27), the derived collective noun shows alterna-
tion of the final consonant (⟨k⟩ [k] → ⟨c⟩ [t͡s]) and of the second vowel ([æ:] ⟨e⟩ → [e:]
⟨e⟩, not marked orthographically), both required by the output inflectional class. The
output agent noun in (28) is affected by tone alternation and palatalization of the last
consonant marked by ⟨pi⟩.

(27) cìlvẽk-s _N   →   cìlvẽc-e _N   Latvian
human(M)-NOM.SG   humanity(F)-NOM.SG
'human'   'humanity'

(28) kùrp-ė _N   →   kur̃pi-us _N   Lithuanian
shoe(F)-NOM.SG   shoemaker(M)-NOM.SG
'a kind of archaic shoe'   'shoemaker (archaic)'

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20 As explained earlier, tonal identity of the base in Lithuanian can be seen in the forms
    where the stress falls on the same syllable, cf. prs. 3 *gùl-a* (of the verb *gul̃-ti* 'lie down') and
    prs. 3 *gùl-i* (of the verb *gul-ė́-ti* 'lie'), where the difference in inflectional classes is also seen
    (*-a* vs. *-i*). The Latvian cognate pair *gul̃-t* 'fall; lie down' → *gul-ê-t* 'lie; sleep' is omitted here
    because it shows tonal alternation in part of the paradigm, compare, e.g., prs. 3 *gul̃-st* of
    the base and prs. 3 *gùļ* of the derivative (⟨ļ⟩ [ʎ] in *gùļ* also reflects the change to a palatal
    consonant required by the inflectional class).

For verbal conversion, consider (29) and (30) (containing etymologically the same inherited root) with vowel alternations (⟨e⟩ [ɛ] → ⟨i⟩ [ɪ], ⟨ie⟩ [i̯e] → ⟨i⟩ [iː]) and different inflectional classes, which are seen when comparing Lithuanian prs. 3 *leñki-a*, pst. 3 *leñk-ė* of *leñk-ti* 'to bend (tr.)' to prs. 3 *liñk-st-a*, pst. 3 *liñk-o* of *liñk-ti* 'to lean, bend (itr.)' and Latvian prs. 3 *lìec* (endingless form), pst. 3 *lìec-a* of *lìek-t* 'to bend (tr.)' to prs. 3 *lìk-st* (endingless form), pst. 3 *lìk-a* of *lìk-t* 'to lean, bend (itr.)'. I assume the direction of derivation is from the transitive verb to the intransitive one based on Haspelmath's (2016, p. 48) observation that "costly noncausal" verbs are likely to be derived from causative counterparts (and here I interpret 'bend (itr.)' as a member of the group of costly noncausal predicates).

(29) leñk-ti $_V$ →   liñk-ti $_V$ Lithuanian
     bend-INF   bend-INF
     'bend (tr.)'   'bend (itr.)'

(30) lìek-t $_V$ →   lìk-t $_V$ Latvian
     bend-INF   bend-INF
     'bend (tr.)'   'bend (itr.)'

5 CONCLUSION

This paper highlights two widely recognized criteria, (A) identity of form and (B) word-class change, and discusses their role in the identification of canonical and non-canonical conversion in the Baltic languages Latvian and Lithuanian. To include cases without the word-class change, a third criterion — (C) the lack of dedicated derivational affixes — is added.

With respect to the realization of the above-mentioned criteria, it is concluded that conversion in Baltic is a word-formation process defined by the absence of dedicated derivational affixes and where inflectional paradigms, base stems, and word classes may change. Absolute identity of form is found only in the conversion of non-inflecting word classes, and the conversion of inflecting word classes affects their inflection in two ways: (a) paradigm assignment and (b) paradigm adjustment. Under (a), the paradigms are mostly replaced and rarely assigned *de novo* (when the input is non-inflecting). Under (b), the paradigms are mostly restricted (when the output has fewer paradigm cells than the input) or eliminated altogether, if the output is non-inflecting.

During (a), the base stems may show vowel, consonant, and tone alternations and the final suffixes can be truncated. The inflection and base stem changes violate criterion (A) and the cases displaying them belong to non-canonical conversion. When conversion without word-class change is allowed, criterion (B) is violated, and thus such cases also represent non-canonical conversion (in addition to word-class retention, this type of conversion may also have base stem alterations mentioned above). The observed phenomena and violations of criteria (A) and (B) form a continuum in Baltic with respect to canonical conversion defined by the positive realization of (A), (B), and (C).

The diagnostic value of criterion (C) in the Baltic languages shows that conversion can be truly classified together with other non-concatenative word-formation processes employed in the world's languages, as shown by Štekauer, Valera and Körtvélyessy (2012). It is important to note, however, that conversion differs from other non-concatenative word-formation processes by allowing the identity of form (i.e., the change of the form is optional), whereas the rest of the non-concatenative word-formation processes obligatorily affect the form of the base.

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Jurgis Pakerys
Department of Baltic Studies, Institute for the Languages and Cultures of the Baltic, Vilnius University
Universiteto 5, LT-01513 Vilnius (Lithuania)
ORCID: 0000-0002-9944-8598
jurgis.pakerys@flf.vu.lt

ABBREVIATIONS

1	–	first person
3	–	third person
A	–	adjective
ACC	–	accusative
ADV	–	adverb
COMP	–	comparative
CONJ	–	conjunction
CVB	–	converb
DEF	–	definite
F	–	feminine
GEN	–	genitive
IC	–	inflectional class mark (suffix)
INF	–	infinitive
INS	–	instrumental
ITR	–	intransitive
M	–	masculine
N	–	noun
NOM	–	nominative
ONOM	–	onomatopoeia
PASS	–	passive
PL	–	plural
PREP	–	preposition
PRS	–	present
PST	–	past
PTCL	–	particle
PTCP	–	participle
SG	–	singular
SUFF	–	suffix
SUPER	–	superlative
TANT	–	tantum
TR	–	transitive
V	–	verb, verbal form