

Action meanings in noun/verb conversion: Native and foreign word-formation in Czech



Magda Ševčíková (Charles University, Prague)

ABSTRACT

The study deals with Czech conversion pairs of a noun and a verb, both of which denote actions (*test* ‘test.n’ — *testovat* ‘to test’). Elaborating on previous research on prototypical verb-to-noun and noun-to-verb conversion in Czech, the direction in these pairs is determined based on whether the verb forms its aspectual counterpart by changing the theme (which is characteristic of the deverbal direction), or whether the suffixed counterpart is not available (typical of denominal verbs). The analysis, carried out on a corpus sample of 1,300 action nouns and directly related verbs, demonstrates that pairs with native roots mostly conform to the deverbal pattern, whereas the denominal direction applies to a smaller subset of the native sample but clearly prevails in the data with foreign roots. The denominal direction ascribed to foreign pairs is consistent with the typological hypothesis that verbs are borrowed rather as nouns and subsequently turned into verbs in the target language.

KEYWORDS

action nouns, conversion, denominal verbs, grammatical aspect, word formation

DOI

<https://doi.org/10.14712/18059635.2022.2.1>

1 INTRODUCTION

Formation of nouns from verbs and the reverse process of denominal formation of verbs are attested across languages. The decision about the direction can be based on overt affixes in derivation (Körtvélyessy et al. 2020), but it is a long-debated issue in word-formation without overt derivational material (*conversion*). Different criteria for determining the direction, of which semantic dependency is a prominent one, have been proposed and discussed cross-linguistically; cf. Marchand’s seminal papers (1963; 1964) or, among others, Bergenholtz and Mugdan (1979), Sanders (1988), Don (1993), Cetnarowska (1993), Štekauer (1996), Bram (2011), and Manova (2011), and references therein. In some noun/verb pairs, it is rather uncontroversial which of the items is semantically primary and is needed to explain the meaning of the other (converted) word, whereas the opposite procedure would be counterintuitive; cf. the nouns denoting objects and the corresponding verbs referring to actions in which the objects are used in the English conversion pair in (1) and in the Czech pair (2).¹ The

1 In the examples, the direction of formation is indicated by >. This symbol is preceded by the item that is assumed to motivate the item that appears after this symbol.

The following abbreviations are used in the glosses (in alphabetical order): BIASP biaspectual, FEM feminine, INF infinitive, IPFV imperfective, NOM nominative, PFV perfective, PREF prefix, SG singular.



present study focuses on pairs where the direction is much less obvious, namely on pairs where both the noun and the verb denote an event or an action.²

- | | | | |
|-----|-----------------|---|--------------------|
| (1) | <i>hammer.n</i> | > | <i>to hammer</i> |
| (2) | <i>zvon</i> | > | <i>zvon-i-t</i> |
| | bell | | bell-IPFV-INF |
| | 'bell' | | 'to ring the bell' |

Even if actions are prototypical verbal concepts, nouns with action meanings are described either as being motivated by verbs, or motivating the verbs in noun/verb conversion; cf. the direction in (3) vs. in (4) based on meaning definitions provided by the *Oxford English Dictionary* (2021). The denominal direction between action nouns and verbs may be based on etymological information, but it is found also in strictly synchronic research into conversion; cf. Plag (1999: 219f.), Bauer et al. (2013: 285f.) and others listing these cases as a *performative category* among meanings expressed through denominal conversion of verbs in English. Gottfurcht (2008: 165–173) reports that this category has been expressed by converted denominal verbs since the earliest period documented by the *Oxford English Dictionary* and, remarkably, has become prevalent among verbs converted from nouns in English in the course of the 20th century.

- | | | | |
|-----|----------------|---|----------------|
| (3) | <i>to jump</i> | > | <i>jump.n</i> |
| (4) | <i>test.n</i> | > | <i>to test</i> |

The present study deals with conversion pairs of action nouns and related verbs in Czech; cf. the pairs in (5) and (6) interpreted as deverbal vs. denominal, respectively, according to dictionary records (Filipec et al. 1998). The study elaborates on recent research in Czech word-formation without overt derivational affixes that pointed out a morphological difference between verbs that are the source for nouns and verbs converted from nouns. While deverbal nouns are based on verbs that change the grammatical aspect by substituting the thematic suffix (cf. *říz-nou-t* 'to cut', which is the perfective counterpart to the verb *řez-a-t* 'to cut' in (5)), denominal verbs lack a counterpart with a different theme but can attach a prefix to make the aspect change (cf. *po-trest-a-t* 'to punish' as the perfective counterpart of *trest-a-t* 'to punish' in (6)).

- | | | | |
|-----|----------------|---|---------------------|
| (5) | <i>řez-a-t</i> | > | <i>řez</i> |
| | cut-IPFV-INF | | cut |
| | 'to cut' | | 'cut.n' |
| (6) | <i>trest</i> | > | <i>trest-a-t</i> |
| | punishment | | punishment-IPFV-INF |
| | 'punishment' | | 'to punish' |

2 In this study, semantics of verbs is — for simplicity reasons — referred to as *actions*. The same term is used for the meaning of the nouns under analysis. The term *action nouns* refers here to nouns with action semantics without respect to whether they are assumed to be converted from verbs or to be the source for the verbs.



The study is structured as follows. After clarifying the specificity of noun/verb conversion in Czech, where the input and the output are not formally identical due to obligatory inflectional markers in the verb, the differences in the expression of the aspect category are exemplified by undisputed cases of deverbal and denominal conversion in Section 2. The distinction is then applied to a corpus-based collection of Czech action nouns and corresponding verbs, the extraction of which is described in Section 3. In Section 4, the analysis proceeds from conversion pairs with native roots to pairs containing foreign roots. In the native sample, the deverbal direction clearly predominates (Section 4.1). Still, it provides enough data to scrutinize the question of where the action meaning comes from in pairs with the presumably denominal direction (Section 4.2). The pairs in the foreign sample mostly resemble the native denominal pairs (Section 4.3). This correlates strongly with the typological assumption that, in lexical borrowing, verbs are usually not accepted as verbs by the target language but rather as nouns, and turned into verbs only subsequently. Discussion and concluding remarks follow in Section 5.

2 DIRECTIONS IN CZECH NOUN/VERB CONVERSION

2.1 CZECH SUFFIXLESS NOUNS AND RELATED VERBS AS CONVERSION

The present study deals with verbs that are turned directly into action nouns and with nouns with action meaning that are turned directly into verbs, but always without an addition of overt derivational affixes. The focus is even more specific in that only those pairs are considered that contain nouns without any suffix, i.e. nouns consisting solely of a root (as in (5) and (6)), or of a root in combination with a prefix (cf. (7) below).³ The pairs of suffixless nouns and corresponding verbs are referred to as conversion,⁴ even if they do not fully meet the profile of this process as established in the description of English. Prototypical English cases of conversion are characterized, in addition to the missing derivational material, by a lack of overt inflectional markers in the citation forms of the source and the converted word, which makes the citation forms of both words formally identical (*word-based conversion, central conversion*).

In contrast, the noun and the verb in Czech pairs share a common root and possibly a prefix, but differ in that the verb is obligatorily marked by inflectional markers (by a theme expressing grammatical aspect and by verbal endings) which do not occur in the noun. The Czech pairs under analysis thus fall within the scope of a non-

3 Although suffixed nouns and corresponding verbs (e.g. *ředitel* 'director' — *ředitelovat* 'to act as a director') also match the concept of conversion as delimited here, they are not involved in the study because the (denominal) direction is marked here by the nominal agent suffix *-tel*, which is a component part of the verb.

4 The lack of an overt derivational suffix can also be interpreted as the zero suffix, depending on the theoretical framework applied. Cf. Marchand (1969, p. 359) or Kastovsky (1989) and others speaking in favour of the zero approach, but there are extensive arguments against derivational zeros by Aronoff (1976) or Štekauer (1996).



canonical type of conversion defined by word-class change accompanied by formal variation between the input and output (*root-based conversion*); for conversion specifically in Slavic languages cf. Cetnarowska (1996), Manova and Dressler (2005), and Manova (2011), for broader cross-linguistic surveys see Valera (2014; 2015).

The account of Czech suffixless nouns and corresponding verbs as *conversion*, which is presented here, corresponds to how these pairs are classified by Bednaříková (2009) or Bozděchová (2016). However, in mainstream descriptions of Czech, the term is used differently in that conversion is considered as a specific subtype of derivation where inflectional markers operate instead of derivational affixes (Dokulil et al. 1986, Grepl et al. 2000, Štícha et al. 2013, and others). Dokulil (1982b) introduced the term *transflexion* to refer to word-formation without derivational affixes but with changes in inflectional markers, so that conversion was narrowed to pairs with formally identical citation forms (such as nominalization of adjectives in Czech: *cestující.adj* ‘travelling’ — *cestující.n* ‘passenger’; also Furdík 2004, or Ivanová and Ološtiak 2016 on Slovak).

2.2 EXPRESSION OF ASPECT AS A DIRECTION INDICATOR

Approaches to conversion differ in whether the direction is specified and on what grounds (synchronic and/or diachronic criteria), or whether it is left unresolved; for an apt summary see Bauer and Valera (2005: 11ff.). The question can be asked even more generally, namely, whether conversion is a directed process at all, whether the search for directions is not only a desideratum. Kastovsky (1994: 110) pointed out that words that seem to be derivationally related in the synchrony might have been created from a common root without mutual relationships. The hypothesis that roots are underspecified for word class and occur as nouns or verbs only in the particular syntactic context they enter has been discussed across approaches with different theoretical backgrounds, cf. Farrell (2001), Alexiadou (2001), Kastovsky (2005: 37f.), and others.

In the research on Czech, the word-formation relationship within the noun/verb pairs under analysis — whatever is the term used — has always been considered as a directed process. The differences pointed out between the deverbal and denominal formation were mostly phonological in nature. For instance, Millet (1958) assumed that the word class of the base affects the phonemic/graphemic stability of the root morpheme in the way that deverbal nouns (*noms postverbaux*) do not undergo root vowel changes during inflection (cf. the presumably deverbal noun *výběr* ‘choice’ in (7) and its genitive singular form *výběru*), while unmotivated nouns containing nominal roots (*noms radicaux*) are sensitive to alternations when inflected (cf. the noun *sníh* ‘snow’ and its genitive *sněhu*; this noun is supposed to motivate the verb *sněžit* ‘to snow’). Dokulil et al. (1986) demonstrated that the vowel in a prefix is lengthened when deriving a noun from a verb (cf. *výběr* ‘choice’ based on *vybírat* ‘to choose’), whereas when deriving a verb from a noun with a long prefix, the prefix remains unchanged (as in *závod* ‘race.n’ > *závodit* ‘to race’). Nevertheless, these criteria are only operative if the noun and the verb contain vowels that are subject to alternations.

A distinction applicable to all noun/verb conversion pairs in Czech has been proposed by Ševčíková (2021a). According to the study, there is a correlation between

the direction and the aspectual behaviour of the verb involved in the conversion. In noun/verb pairs where the deverbal direction was clearly indicated by lexicographic description and possibly supported by the above-mentioned phonological features, the verb mostly forms the aspectual counterpart by changing the theme (7).⁵ On the contrary, verbs that are converted from nouns are usually compatible with a single theme. Most of them are imperfective in aspect and add a prefix to change the aspect to perfective (8). It is important to mention that the existence of a suffixed counterpart does not mean that the verbs cannot combine with prefixes (cf. *dovybrat* 'to finish choosing' derived from *vybrat* 'to choose' in (7), or *vyřezat* 'to cut out' related to the verb *řezat* 'to cut', which motivates the noun *řez* 'cut.n' in (5)). What is decisive for the presented hypothesis is the mere non-existence of a suffixed counterpart. Neither is it relevant whether or not the prefixed verb (or which of the multiple prefixed verbs if available for a particular base) can be considered a pure aspectual counterpart of the imperfective or which of them conveys Aktionsart.

(7) <i>vy-bír-a-t</i> : <i>vy-br-a-t</i>	>	<i>vý-běr</i>
PREF-take-IPFV-INF : PREF-take-PFV-INF		PREF-take
'to choose' : 'to choose'		'choice'
(8) <i>láhev</i> > <i>lahv-ova-t</i> > <i>na-lahv-ova-t</i>		
bottle > bottle-IPFV-INF > PREF-bottle-IPFV-INF		
'bottle.n' > 'to bottle' > 'to bottle'		

The predictive potential of the aspectual patterns concerning the directionality of conversion in real data analysis has been confirmed in a follow-up study (Ševčíková 2021b). Based solely on the way the aspect was expressed, 200 conversion pairs were classified as deverbal or denominal in remarkable agreement with dictionary sources. More importantly, intuitively acceptable results were also obtained for another 100 pairs for which the direction was unclear or unavailable in the dictionary; cf. the denominal direction suggested for the pair in (9), which contains a verb (not listed by Filipec et al. 1998) expressing an action of adding an object or quality denoted by the noun, or the deverbal analysis in (10), where the proposed direction is supported by the typically deverbal prefix vowel alternation. For examples such as (11), though, the direction determined by the aspectual strategy (here, denominal) cannot be justified either by semantic dependency,⁶ or by phonological properties.

5 The relationship between the verbs with different themes is left underspecified in the examples (using the colon), since there is no theoretical consensus on which verb is the unmarked item in the pair and whether this can be uniformly determined across the lexicon. In contrast, prefixed counterparts are presented as derived from the unprefixed verbs. The themes are not related to deverbal or denominal conversion and cannot be used in deciding on the direction in Czech (as applied, for instance, by Manova 2011: 73 to Bulgarian examples).

6 Cf. the contradicting descriptions in the dictionaries: the pair is considered as deverbal by Filipec et al. (1998) but as denominal by Havránek et al. (1960–71).



- (9) *ros-a* > *ros-i-t*
 dew-NOM.SG.FEM dew-IPFV-INF
 ‘dew’ ‘to spray’
- (10) *vy-buch-ova-t* : *vy-buch-nou-t* > *vý-buch*
 PREF-bang-IPFV-INF : PREF-bang-PFV-INF PREF-bang
 ‘to explode’ : ‘to explode’ ‘explosion’
- (11) *lov* > *lov-i-t*
 hunt hunt-IPFV-INF
 ‘hunt.n’ ‘to hunt’

The conversion pairs made up of an action noun and a verb (as in (10) and (11), and the previous ones in (5), (6), (7)) are the focus of the present study. Our aim is to provide detailed insights into the morphological structure of the pairs, into their relationships to the words they are motivated by, and their relationships to the words they themselves motivate. As additional features, competition between the verbs and the nouns (as parts of light-verb constructions) and semantic structure of the items (semantic scope and number of meanings of the verb and the noun) will also be taken into account.

3 COMPILATION OF THE DATASET

3.1 EXTRACTION OF CONVERSION PAIRS

The compilation of the dataset of conversion pairs where both the noun and the verb denote actions started with the extraction of possibly all suffixless nouns and corresponding verbs from a 100-million-word corpus of written Czech (Křen et al. 2015). The pairs⁷ were extracted by the Morfio tool, which searches the corpus data for pairs or n-tuples of lexemes matching provided regular expressions (Cvrček and Vondříčka 2013). As the number of verbal themes is limited in Czech, a query was formulated for each of them. The tool enables to allow for vowel and/or consonant alternations within the string shared by the noun and the verb.

The automatically extracted data were checked manually to exclude pairs that matched a particular query only formally. Nouns and verbs with a common etymological origin but without a semantic relationship perceived in synchrony were deleted, too (e.g. *příběh* ‘story’ vs. *příběhnout* ‘to come running’). Pairs with individual alternation patterns were added manually based on literature and on datasets used in previous research. If a particular noun was listed with two verbs that contained different themes (conveying different aspects) but expressed the same meaning, these two entries were merged into one resulting in a triplet made up of a noun, an imper-

7 The pairs were extracted along with their absolute token frequency counts. However, because the SYN2015 corpus (like most other corpora) is not disambiguated for word senses and the token frequencies of polysemous lexemes cannot be divided by senses, token frequency data are not employed in the study, with the exception of a subset for which an additional semantic analysis is carried out (Section 3.4).

fective verb and its perfective counterpart, as in (10). Besides the suffixless nouns without an overt inflectional ending in the citation form (exemplified above), also suffixless nouns with overt endings in the citation form (cf. *-a* in *zábava* ‘entertainment’ or *hra* ‘play.n’, and *-e/-ě* in *bouře* ‘storm.n’ or *koupě* ‘purchase.n’) were included in the dataset to analyse.



3.2 IDENTIFICATION OF PAIRS WITH ACTION NOUNS

Within the resulting set of 2,336 suffixless nouns and corresponding verbs, those entries were identified where the noun denotes an action. The annotation was carried out by two annotators (native speakers of Czech, students of linguistics) in parallel relying on definitions provided by a monolingual dictionary of present-day standard Czech (Filipec et al. 1998) and by a dictionary of foreign words (Kraus 2005). Different annotations were resolved by a third annotator. Since in this study, the decision on the direction within the conversion pairs is based on the aspectual behaviour of the verbs involved, the annotation abstracted away from the direction presented in the dictionaries. It means that pairs/triplets where the noun is described as semantically dependent on the verb/verbs (cf. the noun *řez* in (5) defined by the dictionary as “cutting.n”) were not distinguished from those where the verb is defined by referring to the noun (cf. the verb *trestat* in (6) defined as “to prosecute someone with punishment”). In this way, the action meaning was assigned with a total of 1,297 nouns, 890 of which being linked to a pair of verbs with different themes and the remainder (407 nouns) to a single verb.

3.3 PAIRS WITH NATIVE VS. FOREIGN ROOTS

As the native data are going to be analysed separately from the foreign ones, nouns and verbs with foreign roots were marked by a pretrained classifier⁸ with manual post-checking carried out, again, by two annotators independently. The final native sample contains 1,104 suffixless nouns along with related verbs, while the foreign sample has 193 nouns with corresponding verbs.

3.4 DETAILED SEMANTIC ANNOTATION OF A TENTH OF THE DATASET

For a tenth of the dataset, i.e. 130 noun/verb pairs, a detailed analysis of the dictionary entries was carried out, as well as manual annotation of a sample extracted from the SYN2015 corpus. The sub-dataset was selected so that it parallels the structure of the whole data in terms of the number of pairs and triples and the ratio of native to foreign items; one tenth of each group was sampled randomly.

Based on the dictionaries used in the first annotation task, it was recorded for each noun from the sub-dataset whether the action meaning is the single meaning the noun has, or what position this meaning has among other meanings of the noun. For the corresponding verb or verbs, the number of meanings and their relation to the action meaning of the noun was specified. As the next step, 100 sentences were randomly selected for each pair/triplet from the corpus, namely 50 for the noun and 50 in total for the verb or verbs. The annotators’ task was to specify in which semantic

8 <https://github.com/lukyjanek/foreign-words-recognition>



relation the noun and the verb stand in individual sentences by using the following semantic labels (listed along with meaning paraphrases for pairs where the noun is the output/input of conversion, and with prototypical examples):⁹

- *action* (action of V-ing / to perform N): *test* ‘test.n’ — *testovat* ‘to test’,
- *agent* (performer of V-ing / to act like N or to be N): *rebel* ‘rebel’ — *rebelovat* ‘to rebel’,
- *state* (state of being V-ed / -): *obdiv* ‘admiration’ — *obdivovat* ‘to admire’,
- *result* (result of V-ing / to make into N): *sleva* ‘discount’ — *slevit* ‘to discount’,
- *instrument* (object used for V-ing / to use N): *lyže* ‘ski’ — *lyžovat* ‘to ski’,
- *object/quality_added* (- / to provide with N): *sůl* ‘salt’ — *solit* ‘to salt’,
- *object/quality_removed* (- / to remove N): *scalp* ‘scalp’ — *skalpovat* ‘to scalp’,
- *place* (- / to put in/to N or to be in N): *láhev* ‘bottle’ — *lahvovat* ‘to bottle’,
- *time* (- / to do st in the time of N): *noc* ‘night’ — *nocovat* ‘to overnight’.

The data are used to compare the dictionary records with corpus data, but also to shed more light on whether token frequencies can be exploited in establishing the direction in overtly unmarked word-formation, which was pointed out already by Marchand (1964), but has a major obstacle in the unavailability of sense-disambiguated corpus data.

4 CONVERSION BETWEEN ACTION NOUNS AND RELATED VERBS

Out of 1,104 suffixless nouns with native roots, 884 nouns correspond to pairs of an imperfective verb and a perfective verb with different themes;¹⁰ these nouns are assumed to be motivated by the verb pair (Section 4.1). The remaining 220 nouns for which a verb with a single theme was attested in the corpus are analysed as instances of denominal conversion in Section 4.2. In the foreign sample of 193 nouns, there are only six nouns with corresponding verb pairs with different themes attested in the SYN2015 corpus (and thus ascribed the deverbal direction), whereas the remaining

⁹ The labels are based on Plag’s (1999: 220) list of categories expressed by verbs converted from nouns and, as the focus of the present study is broader, also on categories discussed by Quirk et al. (1985: 1560ff.), Cetnarowska (1993: 88–105), and others.

The labels correspond to Plag’s categories as follows (“x” if not listed by Plag): *action* = performative; *agent* = similitive and stative; *state* = x; *result* = resultative; *instrument* = instrumental; *object/quality_added* = ornative; *object/quality_removed* = privative; *place* = locative; *time* = x.

¹⁰ This group includes six nouns with corresponding pairs of imperfective verbs, one of which is a determinate and the other one an indeterminate verb (e.g., *běžet* ‘to run’ : *běhat* ‘to run’). The relation of these pairs to the particular suffixless noun is similar to the relations between the noun and the perfective and imperfective verb (cf. the account of Czech or, more generally, Slavic aspect as a category that has evolved from the category of determinacy; Němec 1958).

187 nouns are related to a verb without a counterpart with a different theme, which is interpreted as denominal behaviour in the approach applied here (Section 4.3).

4.1 NATIVE ACTION NOUNS BASED ON VERBS

4.1.1 PREFIXED NOUN/VERB PAIRS

Among the nouns motivated by a corresponding pair of verbs with different themes, prefixed formations (92 %) clearly prevail over the prefixless ones (8 %). The prefixed verbs, which are assumed to be the source for the suffixless nouns here, are motivated by simplex verbs. Prototypically, the prefixed perfective verb is derived from a simplex imperfective verb and subsequently turned into an imperfective through changing the theme (secondary imperfectivization). In some cases, a prefixless ancestor is available only for the prefixed imperfective or both the perfective and imperfective have prefixless counterparts, or a prefixless verb is synchronically attested for none of the verbs; cf. Table 1.¹¹ The prefixes that contain a vowel exhibit the above-mentioned pattern of being short in the verbs, but lengthened in the nouns.¹²

prefixless verb(s) (PFV : IPFV)	>	prefixed verbs (PFV : IPFV)	>	prefixed action noun
- : <i>zvat</i> 'to invite'	>	<i>vyzvat</i> : <i>vyzývat</i> 'to challenge' : 'to challenge'	>	<i>výzva</i> 'challenge'
<i>sáhnout</i> : - 'to touch'	>	<i>zasáhnout</i> : <i>zasahovat</i> 'to intervene' : 'to intervene'	>	<i>zásah</i> 'intervention'
<i>vrátit</i> : <i>vracet</i> 'to return' : 'to return'	>	<i>navrátit</i> : <i>navracet</i> 'to return' : 'to return'	>	<i>návrat</i> 'return.n'
- : -	>	<i>podpořit</i> : <i>podporovat</i> 'to support' : 'to support'	>	<i>podpora</i> 'support.n'

TABLE 1: Deverbal action nouns (3rd column) and their motivating verbs (2nd column) with ancestors (1st column).

4.1.2 PREFIXLESS NOUN/VERB PAIRS

In the minor group of prefixless nouns with corresponding verb pairs, most of the perfective verbs have a semelfactive meaning, denoting either an instantaneous

¹¹ In the tables, the examples (in simplified notation without internal structure) are given along with other items from the respective morphological families. The items in individual morphological families are organized from left to right according to individual word-formation steps, with the simplest item in the leftmost column to the most complex (converted/derived) item in the rightmost column. Conversion pairs/triplets that are discussed in the particular subsection are marked in bold in each morphological family.

¹² Root alternations are not considered here as they seem unrelated to the direction of conversion (cf. Ševčíková 2021a).



movement or production of a short sound (cf. *skočit* ‘to jump’, *štěknout* ‘to give a bark’, and *křiknout* ‘to shout’ in Table 2); some verbs from the latter group might be of onomatopoeic origin. The imperfective counterparts of the semelfactives express often a sequence of single events (*skákat* ‘to jump’ and *štěkat* ‘to bark’), but not necessarily so; cf. the imperfective verb *křičet* ‘to shout’ which is used to denote not a sum of individual shouts, but rather shouting lasting for some time. A different meaning is evidenced in the last example in Table 2. The verbs (in the first column of the table) are supposed to be unmotivated.¹³

prefixless verbs (PFV : IPFV)	>	prefixless action noun	
	>	prefixed verbs (PFV : IPFV)	> prefixed action noun
<i>skočit</i> : <i>skákat</i> ‘to jump’ : ‘to jump’	>	<i>skok</i> ‘jump.n’	
	>	<i>vyskočit</i> : <i>vyskakovat</i> ‘to jump up’ : ‘to jump up’	> <i>výskok</i> ‘upward jump.n’
	>	<i>přeskočit</i> : <i>přeskakovat</i> ‘to jump over’ : ‘to jump over’	> <i>přeskok</i> ‘jump.n over st’
<i>štěknout</i> : <i>štěkat</i> ‘to bark’ : ‘to bark’	>	<i>štěk</i> ‘bark.n’	
	>	<i>vyštěknout</i> : <i>vyštěkávat</i> ‘to bark out’ : ‘to bark out’	> <i>výštěk</i> ‘bark.n’
<i>křiknout</i> : <i>křičet</i> ‘to shout’ : ‘to shout’	>	<i>křik</i> ‘shouting.n’	
	>	<i>vykřiknout</i> : <i>vykřikovat</i> ‘to shout out’ : ‘to shout out’	> <i>výkřik</i> ‘shoutout’
<i>koupit</i> : <i>kupovat</i> ‘to buy’ : ‘to buy’	>	<i>koupě</i> ‘buy.n’	
	>	<i>nakoupit</i> : <i>nakupovat</i> ‘to do shopping’ : ‘to do shopping’	> <i>nákup</i> ‘shopping.n’
	>	<i>odkoupit</i> : <i>odkupovat</i> ‘to redeem’ : ‘to redeem’	> <i>odkup</i> ‘redemption’

TABLE 2: Prefixless verbs (1st column) directly motivating both prefixless action nouns and prefixed verbs (2nd column); the prefixed verbs convert into prefixed action nouns (3rd column).

¹³ As mentioned above, the question of the relationship between the perfective and imperfective verb is left open here. As regards specifically semelfactive verbs and their counterparts, contradictory opinions are found in the literature: Dokulil (1982a) considers semelfactive verbs as converting to imperfectives (*líznout* ‘to lick.PFV’ > *lízat* ‘to lick.IPFV’); cf. also Grepl et al. 2000: 188, who speak of semelfactives as “underived” perfectives), while Komárek (2006) or Nübler (2017) assume the opposite direction when seeing them as coined from imperfectives (*bodat* ‘to stab.IPFV’ > *bodnout* ‘to stab.PFV’).



Nearly half of the prefixless nouns with two corresponding verbs are attested in the data in combination with one, but frequently with multiple prefixes; cf. the prefixless noun *skok* 'jump.n' and its prefixed counterparts *výskok* 'upward jump.n', *doskok* 'rebound.n', *seskok* 'jump.n off', or *přeskok* 'jump.n over st', the prefixless *štěk* 'bark.n' and the prefixed *výštěk* 'bark.n', the prefixless *koupě* 'purchase.n' and the prefixed nouns *nákup* 'shopping.n', *výkup* 'repurchase.n', or *odkup* 'redemption', etc. As represented in Table 2, the prefixed nouns (only some of them are listed) are not considered as derivations from the prefixless noun, but are assumed to be converted from the pair of prefixed verbs with different themes, i.e. analogously to the prefixed nouns in Table 1 in Section 4.1.1. Table 2 starts out with the pairs of prefixless verbs in the first column (in bold) that are supposed to motivate prefixless action nouns (in bold) and, at the same time, enter prefixation to derive prefixed verbs that, in turn, can be converted to another (now prefixed) action noun.

4.1.3 COMPETITION BETWEEN THE NOUN AND THE VERBS

To underpin the analysis with another type of evidence, the potential of the suffixless action nouns to combine with light verbs is explored to see whether these constructions are used as direct competitors of the motivating verbs. In the simplified approach taken here, the corpus search is limited to light-verb constructions the syntactic valency of which directly parallels the valency of the verb, particularly in that the actor remains the same as with the full verb; differences in surface forms of the other valency slots are tolerated.¹⁴ Such a light-verb construction was found for roughly a half of the suffixless action nouns with a corresponding verb pair, which is much less than what will be stated with denominal verbs with native roots (Section 4.2) and with nouns with foreign roots (Section 4.3).

The following nouns from the deverbal sample do not typically combine with light verbs:

- nouns motivated by intransitive verbs denoting concepts of coming into existence, changing, disappearing (*skon* 'death', *přerod* 'rebirth', *výhyn* 'extinction'),
- nouns based on intransitive verbs denoting meteorological phenomena (*blesk* 'lightning', *námraza* 'rime'),
- nouns motivated by intransitive motion verbs (*chůze* 'walk.n', *běh* 'run.n', *pád* 'fall.n', *odchod* 'leaving.n', *příjezd* 'arrival', *přilet* 'arrival', *sesuv* '(land)slide', *opad* 'fade.n', *výtrysk* 'squirt.n', *průsak* 'soak.n', *průval* 'burst.n'); an exception is terminological use, for instance, in descriptions of sporting and rehabilitation activities (cf. example (12) from the Internet),
- nouns based on intransitives with other meanings (e.g. *otok* 'swelling.n').

¹⁴ Omitted are light verbs that add different Aktionsart meanings (e.g., inchoativeness) to the meaning of the action noun, or light verbs that have a different valency, etc.; cf. Radimský (2010) for a detailed account of light-verb constructions in Czech, and Kettnerová and Lopatková (2013) for a lexicographic description of these predicates.



On the contrary, light-verb constructions occur with nouns based on transitive verbs. While the direct object has to be specified with a finite form of the motivating transitive verb (13a), the action noun in the competing light-verb construction allows this syntactic slot to remain empty in the sentence (13b).

- (12) *Svědčí o tom i schopnost pacienta **provést chůzi** po špičkách a patách, což ve vstupním vyšetření nebyl schopen provést.*¹⁵ (Internet)
 ‘This is also evidenced by the patient’s ability to **perform a walk** on tiptoes and heels, which he was not able to do in the initial examination.’
- (13a) *Filmy **jsme vybírali** nahodile a vůbec se nezajímali o děj.* (SYN2015)
 ‘We **were picking** movies at random and didn’t care about the plot at all.’
- (13b) *Autoři sdělení a vydavatelé přitom **prováděli výběr**, takže se do knih a novin vše nikdy nedostalo.* (SYN2015)
 ‘The authors and publishers **made a selection** so that everything never made it into the books and newspapers.’

The limited attestation of syntactic contexts where suffixless action nouns compete with the motivating verbs is interpreted as a piece of evidence in favour of their converted (in fact, secondary) status with respect to the verbs.

More typical for these nouns are combinations with (quasi-light) verbs with causative meanings, meanings of enabling, permitting, preventing, etc. These constructions, though, do not parallel the meaning of the source verb, because the actor of the (quasi-light) verb is not identical with the actor of the action denoted by the noun. For instance, in the collocation *poskytovat přístup* ‘to provide access’, the actor of the verb (“the provider”) is different from the one who has the access, cf. also *zabránit ve vstupu* ‘to prevent somebody from entering’, *způsobit ztrátu* ‘to cause loss’.

4.1.4 SEMANTIC SCOPE OF THE NOUN AND THE VERBS

Partial observations can also be drawn from the detailed semantic annotation of a tenth of this subset (i.e. 88 triplets), with all reservations arising from the size and composition of the data, the reliance on the lexicographic data and a single corpus, etc. In the dictionary, the action meaning was listed as a single meaning with 27 nouns, while 61 of the nouns were polysemous. Similarly, 25 verbs have a single meaning but 53 verbs have more than one meaning. When we compared the meanings of the noun and verb, in about half of the triples they roughly matched, but in another 40 cases the noun was narrower than the verb (e.g. *podvod* ‘fraud’ — *podvést* : *podvádět*, both verbs ‘to deceive/to cuckold’; *náraz* ‘collision’ — *narazit* : *narážet*, both verbs ‘to collide/to happen to meet, etc.’), and in the remaining cases there were more complex disagreements with only some meanings overlapping (e.g. *příjem* ‘receipt/admission/income, etc.’ — *přijmout* : *přijímat*, both verbs: ‘to receive/to accept/to enrol, etc.’).

The corpus samples documented a single meaning for two thirds of the triplets analysed in detail. It was mostly the *action* category, but some nouns were used only

¹⁵ The examples are limited to the basic light verbs *provádět* ‘to perform’ : *provést* ‘to perform’, but more verbs were included in the study that met the required syntactic criteria.



in a non-action meaning, even though the action meaning is listed as its first meaning in the dictionary (for instance, *výzdoba* ‘decoration’ was assigned the category *object/quality_added*, while *dohoda* ‘agreement’ the *result* category). For the nouns from a third of the triplets (28 out of 88), the corpus samples documented two semantic values. For instance, the nouns *zápis* ‘recording.n/record.n’ or *výběr* ‘selection’ were used to refer to *actions* in some concordances and to *results* of the actions in others; the noun *západ* ‘sunset/west’ denoted an *action* and a *place*; the noun *podpora* ‘support.n/financial aid’ had both the *action* and *instrument* meaning; *doprovod* ‘accompaniment/accompanying person(s)’, *obsluha* ‘service.n/staff’, or *návštěva* ‘visit.n/visitor(s)’ were assigned the categories *action* and *agent*. The non-action meaning was often documented with more concordances in the individual samples than the action meaning, which is listed in the first place in the respective dictionary entries.

The polysemy of nouns and/or verbs in the analysed triples with complicated relations between nominal and verbal meanings makes it essentially impossible to use frequency data extractable from the corpus to quantify the competition between the nouns and verbs in the corresponding action meanings.

4.2 NATIVE ACTION NOUNS MOTIVATING THE CORRESPONDING VERBS

4.2.1 PREFIXED NOUN/VERB PAIRS

This subset encompasses 220 action nouns with a converted verb that differs from the noun only in verbal theme and verbal inflection. In contrast to the deverbal subset, prefixed nouns make up 30 % of the denominal sample, while the majority is prefixless. Prefixes with long vowels are not shortened in the verb (14).

(14) <i>ú-tok</i>	>	<i>ú-toč-i-t</i>
PREF-flow		PREF-FLOW-IPFV-INF
‘attack.n’		‘to attack’

The prefix in the noun, which clearly indicates that the noun is motivated, can be traced back to a prefixed verb pair or to a prepositional phrase, or it is a nominal prefix attached to a simplex noun; a minority of cases had an opaque structure. The semantic link of the action noun to the verb pair that is assumed to motivate it (cf. the 2nd and 3rd column in Table 3) is looser, or even synchronically opaque, as compared to the relationship between the prefixed suffixless noun and the denominal verb, which is synchronically available for speakers (cf. the pairs in bold in the 3rd and 4th column). One or both of the prefixed verbs are motivated by a verbal simplex (in the 1st column in the table). This simplex verb is assumed to be the source of the action meaning that is — in the noun/verb pair under analysis — conveyed by the noun and passed on to the converted verb. For instance, the noun *závod* ‘race.n’, which is analysed here as the input to the denominal conversion of the verb *závodit* ‘to race’, is assumed to be motivated by the verb pair *zavést* ‘to lead’ : *zavádět* ‘to lead’, which is based on the unmotivated verb *vést* ‘to lead’. In Table 3, the steps from the 1st to the 3rd column are analogous to those in Table 1 above.



prefixless verb (IPFV)	>	prefixed verbs (PFV : IPFV)	>	prefixed action noun	>	prefixed verb (IPFV)
<i>vést</i> 'to lead'	>	<i>zavést</i> : <i>zavádět</i> 'to lead' : 'to lead'	>	<i>závod</i> 'race.n'	>	<i>zavodit</i> 'to race'
<i>přít (se)</i> 'to argue'	>	<i>odepřít</i> : <i>odpírat</i> 'to deny' : 'to deny'	>	<i>odpor</i> 'protest.n'	>	<i>odporovat</i> 'to protest'

TABLE 3: Noun-to-verb conversion pairs (3rd and 4th column) and verbal ancestors of the nouns (1st and 2nd column).

Cases like these reveal that descriptions based purely on semantic categories, which classify all nouns with actional semantics as based on verbs (Daneš et al. 1967: 562), are hardly tenable because there are three verbs in these families that are directly linked to the noun (e.g. *zavést* 'to lead', *zavádět* 'to lead', *zavodit* 'to race' related to *závod* 'race.n') and could be considered as motivating it.

With some nouns, the prefix is not of verbal origin, but originates in a prepositional phrase; cf. *zápas* 'fight.n' in Table 4 motivated by the prepositional phrase *za pás* 'by the waist' (referring to a situation when someone is holding somebody else by the waist). The prefixed noun *pablesk* 'glint.n' was coined by adding a dedicated nominal prefix.

noun / phrase	>	prefixed action noun	>	prefixed verb (IPFV)
<i>za pás</i> 'by the waist'	>	<i>zápas</i> 'fight.n'	>	<i>zápasit</i> 'to fight'
<i>blesk</i> 'lightning'	>	<i>pablesk</i> 'glint.n'	>	<i>pableskovat</i> 'to glint'

TABLE 4: Noun-to-verb conversion pairs (2nd and 3rd column) and nominal ancestors of the nouns (1st column).

4.2.2 PREFIXLESS NOUN/VERB PAIRS

The question of where the action meaning of the noun in a denominal pair comes from, which in the prefixed subgroup has been connected with the search for the origin of the prefix, is central also for the more numerous group of prefixless nouns. As these nouns consist solely of a root, the attention is turned to the root morpheme, in particular to its meaning.

For many of the prefixless action nouns under consideration, the action meaning is not captured as the first meaning in Filipec et al.'s (1998) dictionary, but rather as a second or third meaning added to one or more non-action meanings (Table 5).¹⁶

¹⁶ In contrast, with most of the suffixless action nouns motivated by a verb pair (Section 4.1), the action meaning is listed by the dictionaries as the single meaning (e.g. *výslech* 'interrogation', *výcvik* 'training.n') or as the first meaning followed by the resultative meaning (cf. *výzkum* 'research.n', *výživa* 'nutrition').



This may be taken as a clue that the action meaning emerged primarily in the noun through semantic extension or shifts of the underlying, non-action meanings and, only then, the noun was converted into the verb; cf. Plank's (2010) assumption that individual senses of a polysemous lexeme enter word-formation, rather than a lexeme as a whole.

<i>cesta</i>	<i>soud</i>	<i>vláda</i>	<i>oběť</i>
1. road	1. law court	1. government	1. what is sacrificed
2. direction of motion	2. tribunal	2. governing.n	2. sacrificing.n
3. travelling.n	3. judgement	+ 3 more	+ 2 more
+ 2 more	+ 3 more		

TABLE 5: Nouns with action meanings listed in the second or third position (in bold type) according to Filipec et al. (1998).

The data document that only few prefixless nouns from this group reoccur in prefixed suffixless formations with action meanings, cf. *lov* 'hunt.n' — *výlov* 'fishing.n out', *cit* 'feeling.n' — *pocit* 'impression', or *cvik* 'exercise.n' — *nácvik* 'practice.n', *zácvik* 'training.n'. The prefixed noun is not seen as a direct derivative of the prefixless noun, but as an item converted from a prefixed verb pair with different themes; cf. the morphological families of the nouns *lov* 'hunt.n' and *cit* 'feeling.n' in Table 6. In most morphological families based on the prefixless nouns, though, no other suffixless action nouns can be coined. For instance, the denominal verbs *soudit* 'to judge' and *plakat* 'to cry' in the last two lines in Table 6 combine with prefixes and then turn into imperfective verbs by replacing the theme for another one, but even if such pairs were a precondition for suffixless action nouns coming into existence above, the noun slot is blocked here (*). The action meaning is then expressed rather by a suffixed noun (*posudek* 'assessment').

prefixless action noun	>	prefixless verb (IPFV)	>	prefixed verbs (PFV : IPFV)	>	prefixed action noun
lov 'hunt.n'	>	lovit 'to hunt'	>	<i>vylovit</i> : <i>vylovovat</i> 'to fish out' : 'to fish out'	>	<i>výlov</i> 'fishing.n out'
cit 'feeling.n'	>	cítit 'to feel'	>	<i>pocítit</i> : <i>pocítovat</i> 'to experience' : 'to experience'	>	<i>pocit</i> 'impression'
soud 'judgement'	>	soudit 'to judge'	>	<i>posoudit</i> : <i>posuzovat</i> 'to assess' : 'to assess'	>	*
pláč 'cry.n'	>	plakat 'to cry'	>	<i>oplakat</i> : <i>oplakávat</i> 'to mourn' : 'to mourn'	>	*

TABLE 6: Noun-to-verb conversion pairs (1st and 2nd column) and prefixed formations (3rd and 4th column).



4.2.3 COMPETITION BETWEEN THE NOUN AND THE VERB

Light-verb constructions have a higher incidence in the denominal sample than among deverbal nouns (in Section 4.1.3). The SYN2015 corpus documents light-verb constructions that directly compete with the verb for 90 % of the nouns in the denominal (prefixed and prefixless) pairs including those corresponding to intransitive verbs; cf. *podnikat pouť* ‘to make a pilgrimage’ (= *putovat* ‘to pilgrimage’), or *dělat povyk* ‘to make a fuss’ (= *povykovat* ‘to fuss’). Often it is these constructions that are used to explain the meaning of the denominal verbs in the dictionaries and might be seen as the model for coining the respective verbs.

A detail that may affect the preference of light-verb constructions over denominal verbs is that the denominal verbs are mostly imperfective and perfectivize by adding an appropriate prefix, whereas light verbs usually express the aspectual distinction simply by two different themes (cf. *podnikat pouť* ‘to make a pilgrimage’: *podniknout pouť* ‘to make a pilgrimage’). Due to the fact that, for the denominal verbs, speakers usually have to choose from several prefixes, which change the aspect but may also add a subtle (Aktionsart) feature to the verbal meaning, the prefixation strategy demands a deeper knowledge of the language, which may favour the light verbs. Cf. some of the prefixed perfective variants of the verb *putovat* ‘to pilgrimage’ attested in the corpus: *doputovat* ‘to stop pilgrimaging’, *proputovat* ‘to travel by pilgrimaging’, *připutovat* ‘to arrive by pilgrimage’.

Moreover, some denominal verbs, in particular biaspectuals (cf. *obětovat* ‘to sacrifice’), do not enter prefixation. The im/perfectivity may or need not be disambiguated by the syntactic context; cf. the light-verb constructions with the perfective (15a) and imperfective verb (15b) vs. (15c), where the imperfective interpretation is indicated by the analytical future form (available only for imperfectives in Czech; *budeme obětovat* ‘(we) will sacrifice’), but for (15d) both perfective and imperfective readings seem acceptable.

- (15a) *Každá generace přinese oběť té době, ve které žije.* (SYNv8; Křen et al. 2019)
 ‘Each generation **will make a sacrifice** for the time in which they live.’
- (15b) *Pod kotoučem stál král s královnou a přinášel oběť bohům.* (SYNv8)
 ‘The king and queen stood under the disc and **made a sacrifice** to the gods.’
- (15c) *Odejeme do pouště [...] a tam budeme obětovat Hospodinu, jak nám nařídil.* (SYNv8)
 ‘We will go to the desert [...] and there we **will sacrifice** to the Lord, as he has ordered us.’
- (15d) *A tak bych rád vyjádřil svůj obdiv těm mnohým statečným ženám, které beze zbytku obětují rodině to nejlepší ze sebe.* (SYN2015)
 ‘And I would like to express my admiration for the many brave women who **sacrifice / will sacrifice** the best of themselves to their families.’

4.2.4 SEMANTIC SCOPE OF THE NOUN AND THE VERB

A detailed semantic analysis of a tenth of this subset (22 noun/verb pairs) reveals differences between these pairs and the deverbal subset analysed in Section 4.1, yet with the reservations mentioned above. In the dictionary, the action meaning is



listed as the only one with nine out of the 22 nouns, while 13 of the nouns are polysemous. Similarly, verbs in ten pairs are recorded as monosemous and 12 have more than one meaning. Notably, all these verbs except one are not semantically broader than the noun. The only exception is the verb *chovat*, which is linked to the noun *chov* 'breeding.n' in the sense of 'to breed', but the second meaning of this verb 'to cradle (a baby)' is not covered by the noun.

The corpus data document a single semantic category for all 22 pairs. In seven of them, though, it is not the action meaning, on the basis of which the pair was included in our data; for instance, the noun *vláda* refers to someone performing the activity expressed by the verb in all corpus concordances analysed (for this noun the agent meaning 'government' is listed as the first one also in the dictionary, see Table 5).

The relationships between the semantic structure of the noun and the verb are still complicated, but more transparent than in the previous subgroup, because all verbal meanings are in most cases linked to the meanings of the corresponding noun. When absolute corpus frequency of the nouns is correlated to that of the verbs, the nouns in 16 out of 22 pairs (72 %) are more frequent than the verbs.

4.3 NOUN/VERB PAIRS WITH FOREIGN ROOTS

4.3.1 PROJECTING NATIVE DISTINCTIONS ONTO FOREIGN WORD-FORMATION

The aim of the previous sections was to show that in the seemingly compact group of suffixless nouns with action meanings it is justified to distinguish two groups. The deverbal group, defined by the capacity of the verb to combine with two themes to express the aspectual contrast, prevails in the native data. The denominal pairs are characterized by the limitation of the verb to a single theme. Apart from the different aspect-changing strategies, more or less subtle differences between the two groups have been pointed out, particularly with regard to the morphological structure, alternation patterns, items motivating the particular nouns and verbs and items motivated by them (esp. other suffixless nouns in the families); the availability of light verb constructions and the semantic scope of the nouns and verbs were also tentatively compared.

In this section, in line with the state-of-the-art discussion on synchronic analysis of word-formation with foreign elements (*foreign word-formation*; Eins 2015, Dietz 2015), the distinctions observed in the native data are applied to the loan part of the lexicon of Czech. The question is which of the patterns established in the native conversion the foreign pairs fit into.

4.3.2 THE ASPECT-CHANGING STRATEGY

In the foreign sample compiled for the study, both action nouns with corresponding verb pairs and nouns with a single corresponding verb are documented. However, the former type is instantiated by only six nouns whereas the remaining 187 nouns are related to a verb without a counterpart with a different theme.¹⁷

¹⁷ When the size of the corpus data was increased significantly (from the 100-million SYN2015 corpus to 5 billion words in the SYNv8 corpus), an aspectual counterpart with



In all six cases of nouns with corresponding verb pairs, the same theme combination occurs, namely *-nou-* in the perfective and *-ova-* in the imperfective verb. All the perfective verbs convey semelfactive meaning, referring to short events. Only some of the imperfective counterparts express a sum of these single events (*klikat* ‘to click’ in Table 7), but some of them do not (*riskovat* ‘to risk’ in the table). Nevertheless, the semelfactivity does not seem sufficient to explain why only few verbs in the sample do change the aspect by changing the theme. There are more foreign bases that may refer to short actions in Czech, but they do not combine with the *-nou-* theme; cf. *explodovat* ‘to explode’ from the sample under analysis, but also verbs related to nouns with non-action meanings (*lajkovat* ‘to give like on Facebook’, *parafovat* ‘to initial something’).

prefixless verbs (PFV : IPFV)	>	prefixless action noun		
	>	prefixed verbs (PFV : IPFV)	>	prefixed action noun
kliknout : klikat ‘to click’ : ‘to click’	>	klik ‘click.n’		
	>	proklinout : proklikávat ‘to click through’ : ‘to click through’	>	proklik ‘click-through’
risknout : riskovat ‘to risk’ : ‘to risk’	>	risk ‘risk.n’		

TABLE 7: Verbs with foreign roots (1st column) entering conversion to form an action noun and prefixation (2nd column); another action noun can be formed from the prefixed verbs (3rd column).

As for the majority of foreign verbs that lack suffixed aspectual counterparts, they typically add a prefix to form a perfective verb. For some verbs, though, neither prefixed counterparts are documented in the corpus. The compatibility of the verb with the prefix does not seem to be related to whether the prefixless verb is limited to imperfective meanings or it is biaspectual; cf. the first two examples with imperfective verbs with and without a prefixed counterpart in Table 8, and verbs in the last two lines of the table that are considered as biaspectual by the dictionary.

Foreign roots typically occur in a single noun/verb pair (triplet), with the single exception of *klik* ‘click.n’ reoccurring in *proklik* ‘click-through’; cf. the relations in the respective morphological family in Table 7 paralleling the morphological families with native roots in Table 2 in Section 4.1.2.

a different theme was found for three more verbs (*uploadovat* ‘to upload’ : *uploadnout* ‘to upload’, *boxovat* ‘to box’ : *boxnout* ‘to box’, *resetovat* ‘to reset’ : *resetnout* ‘to reset’; all perfectives with very low frequencies and of substandard register). The un/availability of the suffixed aspectual counterparts is thus considered as a systemic feature of the Czech language, not dependent on the particular dataset.

action noun	>	prefixless verb (IPFV or BIASP)	>	prefixed verb (PFV)
<i>test</i> 'test.n'	>	<i>testovat</i> 'to test.IPFV'	>	<i>otestovat</i> 'to test'
<i>apel</i> 'appeal.n'	>	<i>apelovat</i> 'to appeal.IPFV'	>	*
<i>export</i> 'export.n'	>	<i>exportovat</i> 'to export.BIASP'	>	<i>vyexportovat</i> 'to export'
<i>exploze</i> 'explosion'	>	<i>explodovat</i> 'to explode.BIASP'	>	*

TABLE 8: Noun-to-verb conversion pairs with foreign roots (1st and 2nd column) and (un)available prefixed verbs.

4.3.3 COMPETITION BETWEEN THE NOUN AND THE VERB

A light-verb construction that directly competes with the verb was documented in the corpus with more than 90 % of the foreign nouns, including those corresponding to intransitive verbs. Table 9 provides several basic light verbs with sample lists of nouns to illustrate the wide semantic spectrum. The exceptions without an attested light-verb construction are a few intransitive verbs (*exit* 'exit.n', *aplauz* 'applause') and low-frequency items like *bluf* 'bluf.n', for which the possibility of entering such construction cannot be excluded. Similarly to the native denominal sample, the light verbs are a simpler and unambiguous means for expression of the aspectual contrast than the foreign verbs.

light verbs (PFV : IPFV)	action nouns
<i>provést</i> : <i>provádět</i> 'to perform' : 'to perform'	<i>reforma</i> , <i>anexe</i> , <i>kontrola</i> , <i>update</i> , <i>manévr</i> 'reform.n', 'annexation', 'control.n', 'update.n', ' manoeuvre.n '
<i>dát</i> : <i>dávat</i> 'to give' : 'to give'	<i>test</i> , <i>avizo</i> , <i>smeč</i> 'test.n', 'notice.n', ' smash.n '
<i>dělat</i> : <i>udělat</i> 'to make/do' : 'to make/do'	<i>interview</i> , <i>rešerše</i> , <i>faul</i> , <i>póza</i> , <i>piknik</i> , <i>revolta</i> 'interview.n', 'research.n', 'foul.n', ' pose.n ', ' picnic.n ', ' revolt.n '

TABLE 9: Light verbs and compatible action nouns with foreign roots (nouns corresponding to intransitive verbs in bold).

4.3.4 SEMANTIC STRUCTURE OF THE NOUN AND THE VERB

In this subset, the lexicographic records and corpus concordances were compared for a random sample of 20 pairs. The dictionary records a single meaning for 11 nouns, while the remaining nouns have two or more meanings, which are yet closely related and fall into the category of *action* when applying our rough semantic classification. Verbs in the subsample were monosemous except for four verbs with more meanings all of which, though, relate to the action meaning of the noun; cf. the noun *preméra* 'première.n' and the verb *premiérovat* with the meanings 'to



present something for the first time' (transitive) and 'to make a first appearance' (intransitive).

In the corpus samples analysed, all pairs were assigned a single label. With 18 of them it was the *action* category; two of them were classified as *state* by the annotators (*respekt* 'respect.n' — *respektovat* 'to respect', *absence* 'absence' — *absentovat* 'to be absent').

A comparison of the token frequency of the noun and verb in each pair, which seems acceptable in this subset with respect to the described meaning relationships, shows that the noun was more frequent than the corresponding verb/verb in all but one item analysed (95%). This can be considered as a piece of evidence supporting the preference of nouns over verbs discussed in the following section.

5 DISCUSSION AND CONCLUSIONS

The study dealt with a specific semantic type of root-based conversion in Czech, namely with noun/verb pairs where the noun has an action meaning. The starting point was the observation introduced in previous research that, in prototypical cases of deverbal conversion, the input verb substitutes the theme for a different one in order to change the grammatical aspect, while a verbal output of denominal conversion is not able to change the theme but can exploit prefixation instead. When this distinction has been applied to verbs that are related to action nouns by conversion, most pairs with native roots were classified as deverbal, and a smaller group was assessed as denominal. In the foreign sample, on the contrary, the denominal direction was ascribed to the vast majority of the pairs, with a few deverbal cases being the exception.

In the native sample, the deverbal nouns were mostly motivated by a pair of a prefixed perfective verb and its imperfective counterpart (coined by secondary imperfectivization; Section 4.1.1). Prefixless nouns were less frequent in the deverbal group, but formed a semantically coherent group referring to movements and production of sounds (Section 4.1.2). The deverbal nouns exhibited vowel lengthening in prefixes (if present) and had a limited capacity to enter light-verb constructions, which would allow the noun to compete directly with the verb in typically verbal syntactic positions. Several suffixless action nouns were often attested within individual morphological families.

The denominal group with native roots encompasses prefixed nouns as well as unmotivated simple nouns. Although this group does not conform to the default interpretation of action nouns starting out as verbs, it differs from the deverbal group in the lack of alternations in prefixes or in the availability of light-verb constructions, which can be considered a justification for its delimitation. The action meaning came to these nouns from their verbal ancestors (documented with the prefixed nouns; Section 4.2.1), or it is hypothesized to have emerged from semantic shifts in prefixless nouns (Section 4.2.2). The nouns in the pairs with foreign roots (Section 4.3) showed an even higher compatibility with light verbs. Some preliminary observations have been made that the groups studied also differ in the number of noun and/or verb meanings and that differences between the token frequency of noun and verb tokens

are to be expected; however, interpreting the corpus data to build a quantitative dimension to the research remains a challenging task for future study.

When the differences observed in the data are interpreted in terms of speaker preferences, the deverbal group is consistent with the general approach that actions are typically conveyed by verbs and only secondarily encoded by nominalizations. In the denominal group, the opposite preference is seen: actions are preferably expressed through nouns while the verbs are secondary means.

The tendency towards nominal expression of verbal concepts, observed to be particularly strong in the foreign sample, can be provided additional support by insights into other parts of the borrowed vocabulary that were outside the scope of the data sample analysed here. A contrastive study of Czech noun/verb conversion pairs that have direct counterparts in English conversion documented that an action noun is part of most respective morphological families in Czech (Ševčíková and Hledíková 2022). Among 119 morphological families the conversion pairs (with nouns expressing other meanings than actions) belong to, there were only three in the Czech part of the data that did not contain either a derivational nominalization (in *-ace*, *-áž*, *-át*, etc.) and/or an inflectional nominalization (in *-ní*). Moreover, according to the corpus data, at least one of the nominalizations was used more often than the verb in 53 of these families; cf. the nouns *filtrace* ‘filtration’ and *extrakce* ‘extraction’ in Table 10, the token frequency of which may suggest that speakers use the nominalization in *-ace* rather than the verb itself to denote the activity using a filter or the activity of preparing an extract, respectively.

noun	token freq.	verb	token freq.	nominalization	token freq.
<i>filtr</i> ‘filter.n’	2,300	<i>filtrovat</i> ‘to filter’	295	<i>filtrace</i> ‘filtration’	434
<i>extract</i> ‘extract.n’	406	<i>extrahovat</i> ‘to extract’	107	<i>extrakce</i> ‘extraction’	190
<i>archive</i> ‘archive.n’	4,235	<i>archivovat</i> ‘to archive’	208	<i>archivace</i> ‘archiving.n’	247
<i>parfém</i> ‘perfume.n’	1,188	<i>parfémovat</i> ‘to perfume’	5	<i>parfemace</i> ‘perfuming.n’	22
<i>scalp</i> ‘scalp.n’	203	<i>skalpovat</i> ‘to scalp’	45	<i>skalpace</i> ‘scalping.n’	1

TABLE 10: Noun/verb conversion pairs and related derivational nominals (absolute token frequency from the SYN2015 corpus).

Remarkably, nominalizations in *-ace* could be found that do not even have a direct model in English or in other languages which might be the source for the verb in Czech (particularly, German and French). Examples are provided in Table 10 in the morphological families of the nouns *archiv* ‘archive.n’, which is of Latin origin both in English and Czech, *parfém* ‘perfume.n’, which was borrowed from French to both English and Czech, and *scalp* ‘scalp.n’, which came to Czech from English. Last but not least, in some families, the verb is missing completely in Czech and the noun is



the only means to directly denote the action; cf. the nouns *kremace* ‘cremation’, *demise* ‘demission’, *infuze* ‘infusion’, or *incidence* ‘incidence’ with no verbal counterparts that would correspond to the English verbs *cremate*, *demit*, *infuse*, and *incide*, respectively.

The observations presented in the study correlate with a long-debated hypothesis on restrictions in lexical borrowing of verbs. A hundred years ago, Meillet (1921: 84) pointed out that verbs are hard to borrow into French because of the complex verbal morphology of the target language.¹⁸ Moravcsik’s (1978: 111) typological statement that “[a] lexical item whose meaning is verbal can never be included in the set of borrowed properties” seemed untenable if understood as claiming that verbs cannot be borrowed at all (see Campbell 1993: 102f.); however, it was rather meant that verbs cannot be borrowed directly as verbs between languages, but are accepted rather as nouns and, only subsequently, turned into verbs in the recipient language (Moravcsik 2003). Elaborating on this topic, Wichmann and Wohlgemuth (2008) confirmed this tendency by an analysis of verbal borrowings in more than 70 language pairs. Of the four patterns of loan verb integration they distinguished, Czech is assumed to match the indirect insertion strategy when an affix is required to accommodate foreign verbs in the borrowing language.¹⁹ An explanation for the “difficulty of borrowing verbs as verbs” (as Haspelmath 2008 puts it) can be found within the broader discussion about the borrowability in general. According to van Hout and Muysken (1994: 42), nouns are the word class that is borrowed “most easily” because they satisfy well the need to “extend the referential potential of a language”, which is considered a prominent motivation for borrowing.

The conclusion we have outlined in this study that foreign nouns are preferred over verbs in Czech even when referring to actions, which are primarily verbal concepts, is consistent with these debates. Moreover, we have tried to demonstrate that the denominal pattern exploited particularly in foreign word-formation finds justification also in describing conversion between native action nouns and related verbs in Czech.

ACKNOWLEDGEMENTS

This paper has been supported by the Czech Science Foundation (grant GA19-14534S), by the Ministry of Education, Youth and Sports of the Czech Republic, Project No. LM2018101 LINDAT/CLARIAH-CZ (<https://lindat.cz>), and by the Spanish State Research Agency (SRA, Ministry of Economy and Enterprise) and European Regional Development Fund (ERDF) (Ref. PID2020-119851GB-I00-AEI-10.13039-501100011033). The work described herein has been using data and tools provided by the LINDAT/CLARIAH-CZ Research Infrastructure.

18 “La grammaire rend parfois les emprunts malaisés: une langue qui, comme le français, a des substantifs sans flexion, mais une conjugaison compliquée, emprunte volontiers des substantifs, mais relativement peu de verbes.”

19 The other three patterns are: *light verb strategy* (the borrowed verb is used as the nominal part of a light-verb construction in the target language; e.g. verbs borrowed to Hungarian from English), *direct insertion strategy* (foreign verbs are put directly into the grammar of the borrowing language; e.g. French borrowings in English), and *paradigm transfer* (the verb is adopted along with the source language morphology; exemplified by Turkish borrowings in Romani spoken in Agia Varvara); cf. also Wohlgemuth (2009).

I would like to thank the two anonymous reviewers for their helpful and insightful suggestions. I am indebted to Jarmila Panevová, Eva Hajičová, and Salvador Valera for their comments on the draft of the paper. Special thanks go to Lukáš Kyjánek, Hana Hledíková, and Anna Staňková for their help with the hand-annotated data. All remaining errors are, of course, mine.



REFERENCES

- Alexiadou, A. (2001) *Functional Structure in Nominals: Nominalization and Ergativity*. Amsterdam: John Benjamins.
- Aronoff, M. (1976) *Word Formation in Generative Grammar*. Cambridge: The MIT Press.
- Bauer, L., R. Lieber and I. Plag (2013) *The Oxford reference guide to English morphology*. Oxford: Oxford University Press.
- Bauer, L. and S. Valera (eds; 2005) *Approaches to Conversion / Zero-Derivation*. Münster: Waxmann.
- Bednaříková, B. (2009) *Slovo a jeho konverze*. Olomouc: Univerzita Palackého.
- Bergenholtz, H. and J. Mugdan (1979) Ist Liebe primär? Über Ableitung und Wortarten. In: Braun, P. (ed) *Deutsche Gegenwartssprache. Entwicklungen, Entwürfe, Diskussionen*, 339–354. München: Fink.
- Bozděchová, I. (2016) Czech. In: Müller, P. O., I. Ohnheiser, S. Olsen and F. Rainer (eds) *Word-Formation. An International Handbook of the Languages of Europe*, Vol. 4, 2872–2891. Berlin: Mouton de Gruyter.
- Bram, B. (2011) *Major total conversion in English: The question of directionality*. PhD Thesis. Wellington: Victoria University of Wellington.
- Campbell, L. (1993) On proposed universals of grammatical borrowing. In: Aertsen, H. and R. Jeffers (eds) *Historical Linguistics 1989. Papers from the 9th International Conference on Historical Linguistics*, 91–109. Amsterdam — Philadelphia: John Benjamins.
- Cetnarowska, B. (1993) *The Syntax, Semantics and Derivation of Bare Nominalisations in English*. Katowice: Uniwersytet Śląski.
- Cetnarowska, B. (1996) Constraints on suffixless derivation in Polish and English: The case of action nouns. In: Kardela, H. and B. Szymanek (eds) *A Festschrift for Edmund Gussmann from his friends and colleagues*, 15–28. Lublin: The University Press of the Catholic University of Lublin.
- Cvrček, V. and P. Vondříčka (2013) Nástroj pro slovtvornou analýzu jazykového korpusu. In: *Grammar and corpora / Gramatika a korpus 2012*, 1–10. Gaudeamus, Hradec Králové.
- Daneš, F., M. Dokulil and J. Kuchař (1967) *Tvoření slov v češtině 2: Odvozování podstatných jmen*. Praha: Nakladatelství ČSAV.
- Dietz, K. (2015) Foreign word-formation in English. In: Müller, P. O., I. Ohnheiser, S. Olsen and F. Rainer (eds) *Word-Formation. An International Handbook of the Languages of Europe*, Vol. 3, 1637–1660. Berlin: Mouton de Gruyter.
- Dokulil, M. (1982a) Dva příspěvky k odvozování sloves. *Naše řeč* 65, 1–11.
- Dokulil, M. (1982b) K otázce slovnědruhových převodů a přechodů. *Slovo a slovesnost* 43, 257–271.
- Dokulil, M., K. Horálek, J. Hůrková, M. Knappová and J. Petr (1986) *Mluvnice češtiny 1. Fonetika, fonologie, morfonologie a morfeematika, tvoření slov*. Praha: Academia.
- Don, J. (1993) *Morphological Conversion*. LED, Utrecht.
- Eins, W. (2015) Types of foreign word-formation. In: Müller, P. O., I. Ohnheiser, S. Olsen and F. Rainer (eds) *Word-Formation. An International Handbook of the Languages of Europe*, Vol. 3, 1531–1579. Berlin: Mouton de Gruyter.
- Farrell, P. (2001) Functional shift as category underspecification. *English Language and Linguistics* 5, 109–130.
- Filipec, J., F. Daneš, J. Machač and V. Mejstřík (1998) *Slovník spisovné češtiny pro školu a veřejnost*, 2nd edition. Praha: Academia.
- Furdík, J. (2004) *Slovenská slovtvorba*. Prešov: Náuka.



- Gottfurcht, C. A. (2008) *Denominal Verb Formation in English*. PhD Thesis. Evanston, Illinois: Northwestern University.
- Grepl, M., Z. Hladká, M. Jelínek, P. Karlík, M. Krčmová, M. Nekula, Z. Rusínová and D. Šlosar (eds; 2000) *Příruční mluvnice češtiny*. Praha: NLN.
- Haspelmath, M. (2008) Loanword typology: Steps toward a systematic cross-linguistic study of lexical borrowability. In: Stolz, T., D. Bakker and R. Salas Palomo (eds) *Aspects of Language Contact. New Theoretical, Methodological and Empirical Findings with Special Focus on Romancisation Processes*, 43–62. Berlin: Mouton de Gruyter.
- Havránek, B., J. Bělič, M. Helcl and A. Jedlička (1960–71) *Slovník spisovného jazyka českého*. Praha: Academia.
- Van Hout, R. and P. Muysken (1994) Modeling lexical borrowability. *Language Variation and Change* 6, 39–62.
- Ivanová, M. and M. Ološtiak (2016) Slovak. In: Müller, P. O., I. Ohnheiser, S. Olsen and F. Rainer (eds) *Word-Formation. An International Handbook of the Languages of Europe*, Vol. 4, 2892–2912. Berlin: Mouton de Gruyter.
- Kastovsky, D. (1989) Typological changes in the history of English word-formation. In: Müllénbrock, H.-J. and R. Noll-Wiemann (eds) *Anglistentag 1988, Göttingen: Vorträge*, 281–293. Tübingen: Max Niemeyer.
- Kastovsky, D. (1994) Verbal derivation in English: A historical survey or Much Ado about Nothing. In: Britton, D. (ed) *English Historical Linguistics 1994. Papers from the 8th International Conference on English Historical Linguistics*, 93–117. Amsterdam: John Benjamins.
- Kastovsky, D. (2005) Conversion and/or zero. In: Bauer, L. and S. Valera (eds) *Approaches to Conversion / Zero-Derivation*, 31–47. Münster: Waxmann.
- Kettnerová, V. and Lopatková, M. (2013) The Representation of Czech Light Verb Constructions in a Valency Lexicon. In: Hajičová, E. and K. Gerdes (eds) *Proceedings of the Second International Conference on Dependency Linguistics (DepLing 2013)*, 147–156. Prague: Charles University.
- Komárek, M. (2006) *Příspěvky k české morfologii*. Olomouc: Periplum.
- Körtvélyessy, L., A. Bagasheva and P. Štekauer (eds; 2020) *Derivational Networks across Languages*. Berlin: Mouton de Gruyter.
- Kraus, J. (2005) *Akademický slovník cizích slov*. Praha: Academia.
- Křen, M., V. Cvrček, T. Čapka, A. Čermáková, M. Hnátková, L. Chlumská, T. Jelínek, D. Kovářiková, V. Petkevič, P. Procházka, H. Skoumalová, M. Škrabal, P. Truneček, P. Vondříčka and A. J. Zasina (2015) *SYN2015: A Representative Corpus of Written Czech*. Prague: Institute of the Czech National Corpus, Faculty of Arts, Charles University; <http://www.korpus.cz>.
- Křen, M., V. Cvrček, T. Čapka, A. Čermáková, M. Hnátková, L. Chlumská, T. Jelínek, D. Kovářiková, V. Petkevič, P. Procházka, H. Skoumalová, M. Škrabal, P. Truneček, P. Vondříčka and A. J. Zasina (2019) *SYNv8 corpus (from 12. 12. 2019)*. Prague: Institute of the Czech National Corpus, Faculty of Arts, Charles University; <http://www.korpus.cz>.
- Manova, S. (2011) *Understanding Morphological Rules. With Special Emphasis on Conversion and Subtraction in Bulgarian, Russian and Serbo-Croatian*. Dordrecht and New York: Springer.
- Manova, S. and Dressler, W. U. (2005) The morphological technique of conversion in the inflecting-fusional type. In: Bauer, L. and S. Valera (eds) *Approaches to Conversion / Zero-Derivation*, 67–101. Münster: Waxmann.
- Marchand, H. (1963) On a question of contrary analysis with derivationally connected but morphologically uncharacterized words. *English Studies* 44, 176–187.
- Marchand, H. (1964) A set of criteria for the establishing of derivational relationship between words unmarked by derivational morphemes. *Indogermanische Forschungen* 69, 10–19.
- Marchand, H. (1969) *The categories and types of present-day English word-formation: A synchronic-diachronic approach*, 2nd edition. München: C. H. Beck.

- Meillet, A. (1921) Le problème de la parenté des langues. In: Meillet, A. (ed) *Linguistique historique et linguistique générale*, 76–101. Paris: Champion.
- Millet, Y. (1958) *Les postverbaux en tchèque*. Paris: Institut d'études slaves.
- Moravcsik, E. (1978) Universals of language contact. In: Greenberg, J. H., C. A. Ferguson and E. A. Moravcsik (eds) *Universals of human language. Vol. 1, Method and theory*, 93–122. Stanford, CA: Stanford University Press.
- Moravcsik, E. (2003) *Borrowed Verbs*. Unpublished manuscript.
- Němec, I. (1958) *Genese slovanského systému vidového*. Praha: Nakladatelství ČSAV.
- Nübler, N. (2017) Způsob slovesného děje. In: Karlík, P., M. Nekula and J. Pleskalová (eds) *Nový encyklopedický slovník češtiny*. Praha: NLN.
- Oxford English Dictionary* (2021) Oxford: Oxford University Press, <https://oed.com/>.
- Plag, I. (1999) *Morphological productivity: Structural constraints in English derivation*. Berlin: Mouton de Gruyter.
- Plank, F. (2010) Variable direction in zero-derivation and the unity of polysemous lexical items. *Word Structure* 3, 82–97.
- Quirk, R., S. Greenbaum, G. Leech and J. Svartvik (1985) *A Comprehensive Grammar of the English Language*. London: Longman.
- Radimský, J. (2010) *Verbo-nominální predikát s kategoriálním slovesem*. České Budějovice: Jihočeská univerzita.
- Sanders, G. (1988) Zero derivation and the overt analogue criterion. In: Hammond, M. and M. Noonan (eds) *Theoretical Morphology. Approaches in Modern Linguistics*, 155–175. San Diego, CA: Academic Press.
- Ševčíková, M. (2021a) Action nouns vs. nouns as bases for denominal verbs in Czech: A case study on directionality in derivation. *Word Structure* 14, 97–128.
- Ševčíková, M. (2021b) Bezpříponová substantiva a vyjadřování vidového protikladu u příbuzných sloves. *Slovo a slovesnost* 82, 263–288.
- Ševčíková, M. and H. Hledíková (2022) Paradigms in English and Czech noun/verb conversion: A contrastive study of corresponding lexemes. In: Ruz, A. E., C. Fernández-Alcaina and C. Lara-Clares (eds) *Paradigms in Word Formation: Theory and Applications*, 181–214. Amsterdam: John Benjamins.
- Štekauer, P. (1996) *A theory of conversion in English*. Frankfurt am Main: Peter Lang.
- Štícha, F., M. Vondráček, I. Kolářová, J. Bílková and I. Svobodová (2013) *Akademická gramatika spisovné češtiny*. Praha: Academia.
- Valera, S. (2014) Conversion. In: Lieber, R. and P. Štekauer (eds) *The Oxford Handbook of Derivational Morphology*, 154–168. Cambridge: Cambridge University Press.
- Valera, S. (2015) Conversion. In: Müller, P. O., I. Ohnheiser, S. Olsen and F. Rainer (eds) *Word-Formation. An International Handbook of the Languages of Europe*, Vol. 1, 322–339. Berlin: Mouton de Gruyter.
- Wichmann, S. and J. Wohlgemuth (2008) Loan verbs in a typological perspective. In: Stolz, T., D. Bakker and R. Salas Palomo (eds) *Aspects of Language Contact. New Theoretical, Methodological and Empirical Findings with Special Focus on Romancisation Processes*, 89–121. Berlin: Mouton de Gruyter.
- Wohlgemuth, J. (2009) *A Typology of Verbal Borrowings*. Berlin: Mouton de Gruyter.



Magda Ševčíková

Institute of Formal and Applied Linguistics
 Faculty of Mathematics and Physics, Charles University
 Malostranské nám. 25, 118 00 Praha
 ORCID ID: 0000-0003-4780-7912
 sevcikova@ufal.mff.cuni.cz