ON THE VALENCY OF VARIOUS TYPES OF ADVERBS AND ITS LEXICOGRAPHIC DESCRIPTION

JAKUB SLÁMA – BARBORA ŠTĚPÁNKOVÁ

Czech Language Institute of the Czech Academy of Sciences, Prague, Czech Republic
Charles University, Prague, Czech Republic

SLÁMA, Jakub – ŠTĚPÁNKOVÁ, Barbora: On the valency of various types of adverbs and its lexicographic description. *Journal of Linguistics*, 2019, Vol. 70, No 2, pp. 158 – 169.

Abstract: This paper deals with the neglected issue of the valency of adverbs. After providing a brief theoretical background, a procedure is presented of extracting the list of potentially valent adverbs from two syntactically parsed corpora of Czech, SYN2015 and PDT. Taking note of the methodological and theoretical problems surrounding this task, especially those relating to the fuzzy boundaries of word classes, we outline the types of adverbs identified as having valency properties. Where appropriate, we comment on – and occasionally suggest improvements in – the lexicographic treatment of valent adverbs.

Keywords: adverbs, valency, dictionary, syntactically parsed corpora, Czech

1 INTRODUCTION

Valency is undoubtedly a central topic in syntax and “a primary concern of all approaches to the grammar of human languages” [1, p. 39]. As Spevak [2, p. ix] puts it, however, the valency of nouns has remained “in the shadow of the valency of verbs,” and the same arguably applies to the valency of adjectives, and to an even more serious extent to the valency of adverbs, which is only occasionally paid lip service to but remains conspicuously underresearched. We therefore provide an overview of how the notion of valency has broadened to cover not only verbs, and of what has been written about the valency of adverbs in Czech. Then we propose a way of extracting a list of potentially valent adverbs from syntactically parsed corpora of Czech, and we outline the types of adverbs which appear to have valency properties, touching upon some problematic points concerning the fuzzy boundaries of linguistic categories (cf. for instance [3, pp. 568–570]), and, where appropriate, commenting on the lexicographic description of the adverbs under discussion.

2 THEORETICAL BACKGROUND

2.1 The scope of the notion of valency¹

Valency can be delineated as “the capacity a verb (or noun, etc.) has for combining with particular patterns of other sentence constituents” [5, p. 301]. Tesnière [6, p. 670] famously defined valency as “nombre d’actants qu’un verbe est susceptible de régir”, i.e. as a property of verbs. The very next year saw the publication of an early transformational generativist account of nominalizations, which includes some interesting observations on the valency of nominals [7, pp. 66–73]. However, it was only later that it began to be widely recognized that valency is not restricted to verbs; for instance, Matthews [8, p. 115] – still somewhat cautiously – states that adjectives can also have “semantic properties akin to valency.” Over a decade later, Matthews [9, p. 394] defines valency as a property of “a verb or other lexical unit.” This is in accord with a more general trend towards admitting lexical units other than verbs into the description of valency, which resulted in valency being redefined generally as “the number and type of bonds which syntactic elements may form with each other” [10], which, according to Matthews [11, p. 4], suggests that valency should not be the foundation “just of the syntax of verbs, or of verbs and other lexical units, but of syntax generally”. Nevertheless, the valency of adverbs is still a rather neglected area: for instance, couched within the Pattern Grammar, there is a two-volume grammar of the patterns for verbs [12] and nouns and adjectives [13], with adverbs not attended to. On the other hand, the database FrameNet does include some adverbs, whereby, however, these are only said to evoke frames (e.g. the adverb in *Bill wisely sold the piano* is said to evoke the Mental property frame), which hardly amounts to postulating a valency frame for such adverbs.

2.2 The valency of adverbs in Czech linguistics

Adverbs in Czech have been noted to have valency properties; Karlík & Biskup [14] give the example of *nezávisle* (*Jednal nezávisle na rodičích*. ‘He acted independently of his parents’), while noting that the Czech grammatical description has largely neglected the valency of adverbs. Panevová [15, p. 7] briefly mentions the valency of adverbs when noting that we have to acknowledge not only that deadjectival adverbs might have valency properties, but also that primary, non-derived adverbs might require obligatory complements, giving the example of *daleko* ‘far’, to which she applies the question test: *Je to daleko. Odkud (od čeho)? *Nevím*. lit. ‘It is far. From where? *I don’t know.’

In older Czech dictionaries, derived adverbs are not provided with entries of their own; they are nested with their adjectival bases. For instance, in *Slovník spisovného jazyka českého*, *nezávisle* is nested in the entry for *nezávislý* ‘independent’, whose

¹ Parts of this section are loosely based on [4, esp. 2.2.1].

colligation (*na kom, čem* ‘of sb, sth’) is nevertheless listed in the entry. It is assumed that the adverb can take complements with the preposition *na* followed by a locative form as well, as shown by the example given (*vznikat nezávisle na něčem* ‘arise independently of’). In *Akademický slovník současné češtiny* (hereafter ASSČ)² deadjectival adverbs have their own entries [16, p. 123], and so they might have – as the only type of adverbs [16, p. 68] – their own valency specification (nevertheless, the dictionary does not list only obligatory complements but also typical modifiers, without the two being explicitly distinguished). Thus, for instance, the adjective *bezohledný* ‘reckless’ and the adverb *bezohledně* ‘recklessly’ have (*ke komu, k čemu; vůči komu, vůči čemu* ‘with sb, sth; to sb, sth’) listed as their complements.

3 DATA & METHODOLOGY

In an attempt to arrive at as complete a list of valent adverbs in Czech as possible in a way as objective as possible, we decided to rely on the two syntactically annotated corpora of Czech available, i.e. the automatically parsed SYN2015 of the Czech National Corpus project and the manually annotated Prague Dependency Treebank (PDT). In order to find valent adverbs we searched for nodes whose parent nodes are occupied by adverbs.

3.1 SYN2015

In the corpus SYN2015, we used the following query:

1:[tag="D.*"] [] {0,5} 2:[p_tag="D.*"] & 1.lemma=2.p_lemma within <s />

The results were then checked manually. Tagging and parsing errors were excluded, including, for instance, the following:

- (1) *Efekt chyb DNA na případný vývoj nemocí v mozku je také jednou z oblastí, která bude v hledáčku.*³ [*jednou* mistagged as an adverb]
‘The effect of DNA errors on the possible development of diseases in the brain is also **one of** the areas which are going to be monitored.’
- (2) *Učenci jsou vlnití a přívětiví, hledají, jak být užiteční bližním i jak přispět k obecnému blahu.* [*jak* parsed as the parent node of *i*]
‘Scholars are kind and friendly; they are looking for ways **how to be helpful to their fellows and** how to contribute to the public good.’

Similarly, we excluded concordances in which there is a terminal punctuation mark between the node and its alleged daughter. Next, we excluded concordances in which the adverb seems to have a complement, but this dependent is part of a larger syntactic construction, most notably the comparative construction:

² See <<http://www.slovníkcestiny.cz>>.

³ Unless explicitly stated otherwise, the examples come from SYN2015.

- (3) *nikdo neumí tabuli umýt tak dokonale jako já*
'no one can clean the blackboard as **perfectly** as me'

Similarly, we excluded other comparative constructions and similes, as in (4). Furthermore, we excluded expressions that can be classified as secondary prepositions, e.g. *včetně* (5), linking adverbials, e.g. *jmenovitě* (6) and *resp.* (7), quantity expressions, e.g. *hodně* (8) and *drahně* (9), and particles, e.g. *samozřejmě* (10) and *už* (11):

- (4) *Plížíš se po domě **tíše** jako kočka a já si toho hned všimnu.*
'You are creeping about the house as **soundlessly** as a cat and I immediately notice that.'
- (5) *Z celého Izraele bylo přijato pouze dvacet čtyři lidí **včetně** Suzany.*
'Of the whole of Israel only 24 people were accepted **including** Suzane.'
- (6) *Velké šelmy, **jmenovitě** tygři, na ostrovy nepronikly.*
'Big cats, **namely** tigers, did not reach the islands.'
- (7) *je nežádoucí, **resp.** nepotřebný*
'he is undesirable, **or rather** useless'
- (8) *Jezte **hodně** vlákniny.*
'Eat **a lot of** fibre.'
- (9) *Tři dny mě vídal, je to **drahně** let.*
'He was seeing me for three days, it's been **many** years.'
- (10) ***Samozřejmě** peněz by mohlo a mělo být více.*
'**Naturally** there could, and should, be more **money**.'
- (11) ***Už** měsíce ji uháněl, aby s ním šla na skleničku...*
'He's been trying to get her to go out for a drink with him **for** months.'

Finally, we naturally excluded words that can be considered adverbs, but that cannot be deemed to have valency (such as *francouzsky*, *krátce*, and *maloplošně* in (12)–(14)):

- (12) *musíme udělat nádivku (**francouzsky** farce)*
'prepare the stuffing (**farce in French**)'
- (13) *Za svou snahu však byl odměněn **krátce** před pauzou.*
'was however rewarded for his efforts **shortly before** the break.'
- (14) *Celek je chráněn **maloplošně** jako PR Křížová cesta a je součástí CHKO Broumovsko.*
'The whole is protected **on a small-scale as** the Nature Reserve Křížová cesta and is part of the Broumovsko Protected Landscape Area.'

Overall, we discarded hundreds of adverb candidates: the initial list of parent adverbs in SYN2015 included 1 810 words tagged simultaneously as adverbs and parent nodes at least in three instances.

3.2 PDT

In the PDT, we used the following query:

```
a-node $adv := [  
  m/tag ~ '^D',  
  echild a-node $sch := [  
    ! afun in { 'AuxZ', 'ExD', 'AuxG', 'Adv', 'AuxX', 'AuxY', 'AuxK' }  
  ]  
]  
>> $adv.m/form  
>> $1, count(1 over $1)  
>> distinct $1, $24
```

The results include adverbs that function as parent nodes for auxiliary nodes, e.g. *apod*, which is always the parent of a node corresponding to a full stop. Moreover, the query results included adverbs in coordination with another adverb yet without any complement; these results were naturally excluded as well (including e.g. *citlivěji* 'sensitively' in *obezřetněji a citlivěji* 'more carefully and sensitively'). Another group of cases that were discarded includes foreign language expressions, such as *memoriam* in *in memoriam* (with *in* parsed as a dependent of *memoriam*), and words mistagged as adverbs, such as *ostrožně* in *Jeruzalém byl postaven na ostrožně Chrámové hory* 'Jerusalem was built on the promontory of the Temple Mount'. We also excluded instances in which there is a dependent of the adverb under scrutiny, but this dependent functions as a modifier rather than a complement (e.g. *zcela běžně* 'quite routinely' with *běžně* as the parent node). Finally, we also excluded cases such as the following, in which it is clear that the word in bold cannot be deemed a valent adverb:

- (15) *A právě ono **kdy** vám dokážeme říci.*
'And we are able to tell you just this **when**.'
- (16) ***Jinak** – a řekněme hned, že mnohem hůře – je na tom čtenář denního tisku.*
'The reader of the daily press is doing **differently** – and let us say straight away that much worse.'
- (17) *Piloty jsou zabírané shora **dolů** do bažiny...*
'Stilts are stuck from above **down** to the swamp.'

This produced a list of only nine potentially relevant adverbs, all of which were also arrived at when working with SYN2015, viz. the predicative adverbs *líto* 'sorry' and *oblačno* 'cloudy', and the adverbs *přiměřeně* 'adequately', *nezávisle* 'independently', *stejně* 'just (as)', *západně* 'west', *úměrně* 'proportionately', *blízko* 'near', and *daleko* 'far'.

⁴ The query can be executed at <<http://lindat.mff.cuni.cz/services/pmltq/#!/treebank/pdt30/query/>>.

4 RESULTS

The results included various types of adverbs, which we discuss one by one in the following sections. In each section we give examples which should be clearly indicative of why we consider the respective adverbs to be valent. For instance, *kolmo* ‘perpendicularly’ is included in the second section with the following example:

- (18) *Holeně zůstávají kolmo k zemi, chodidla umístěte na šířku kyčelních kloubů.*
‘Keep your shins **perpendicular** to the ground, and place your feet straight below your hips.’

Since we consider (18a) and (18b) not to be simultaneously acceptable and equivalent in meaning to (18), *kolmo* is a valent adverb in our view:

- (18a) **Holeně zůstávají kolmo, chodidla umístěte na šířku kyčelních kloubů.*
‘Keep your shins perpendicular, and place your feet straight below your hips.’
(18b) **Holeně zůstávají k zemi, chodidla umístěte na šířku kyčelních kloubů.*
‘Keep your shins to the ground, and place your feet straight below your hips.’

4.1 Deadjectival adverbs typically used as adverbials

This group includes several adverbs that can be grouped semantically as follows:

a) adverbs expressing spatial relations (with possible metaphorical semantic extensions): *kolmo* ‘perpendicularly’, *paralelně* ‘parallel’, *rovnoběžně* ‘parallel’, *nalevo* ‘left’, *napravo* ‘right’, *vlevo* ‘left’, *vpravo* ‘right’, *vodorovně* ‘horizontally’, *symetricky* ‘symetrically’, *příčně* ‘diagonally’

- (19) *Vleče mě to stranou, paralelně s pobřežím, přímo do cesty jachty hnané větrem.*
‘It’s dragging me aside, **parallel** to the coastline, straight in the way of a yacht driven by the wind.’

- (20) *Umístil jej v blízkosti hlavní brány, vlevo od příjezdové cesty.*
‘He placed it nearby the main gate, to the **left** of the driveway.’

- (21) *Symetricky k očekávání budoucnosti existuje podle našeho soudu rovněž “očekávání minulosti”.*
‘**Symetrically** to the future expectations there exist, in our view, “past expectations”.’

Other potentially valent adverbs (esp. *daleko* ‘far’, *blízko* ‘near’, and *nablízku* ‘close’) were discarded as prepositions, cf. [17, pp. 39–40].

b) directional adverbs requiring a complement with the preposition *od* followed by a genitive form: *jižně* ‘south’, *severně* ‘north’, *západně* ‘west’, *východně* ‘east’,

jihovýchodně ‘southeast’, *jihozápadně* ‘southwest’, *severovýchodně* ‘northeast’, *severozápadně* ‘northwest’, *jihojihovýchodně* ‘southsoutheast’, *západoseverozápadně* ‘westnorthwest’

- (22) *Západně* od věže máme kostel svatého Martina s okolními stavbami.

‘West of the tower there is the church of Saint Martin with the surrounding buildings.’

c) adverbs of comparison: *analogicky*, *odlišně*, *relativně*, *proporčně*, *protikladně*, *srovnatelně*

- (23) *pojímá diskusi radikálně odlišně* od všech předřečníků (SYN V7)

lit. ‘he conceives of the discussion radically **differently** from all the previous speakers’

- (24) ČSSD i ANO hlasovaly *protikladně* ke svým opakovaným veřejným prohlášením (SYN V7)

lit. ‘The Czech Social Democratic Party and the party ANO voted **oppositely** to their repeated public proclamations.’

- (25) *Figuríny byly použity tím nejpopsnější způsobem, vlastně protikladně* Sadeově nespoutané fantazii. (SYN V7)

lit. ‘The manikins were used in a most prosaic way, or **oppositely** to Sade’s unbridled fantasies.’

- (26) *Bulharsko je na tom srovnatelně* s námi.

‘Bulgaria is doing **comparably well** to us.’

Note that some adverbs (such as *protikladně* or *přiměřeně* below) can have complements of more than one form, as witnessed by (24) and (25) or (29) and (30) below.

There are several other adverbs that inherently express comparison and are typically followed by *jako* ‘as’ or *než* ‘than’, namely *stejně* ‘just’, *podobně* ‘similarly’, *přesně* ‘exactly’, *obdobně* ‘similarly’, *opačně* ‘oppositely’, *obráceně* ‘backwards’, *rozdílně* ‘differently’, *identicky* ‘identically’, *jinak* ‘otherwise’, *nejinak* ‘likewise’, *jinde* ‘elsewhere’, *jinam* ‘elsewhere/away’, *jindy* ‘another time’, *odjinud* ‘from elsewhere’, *jinudy* ‘another way’, *jináč* ‘otherwise’, and *od(ni)kud jinud* ‘from (no)where else’. It is somewhat questionable whether or not these adverbs should be viewed as having valency properties. There are also expressions such as *shodně* (s) ‘consistently (with)’, *souhlasně* (s) ‘in agreement (with)’, and *úměrně* s ‘proportionately’, which can be viewed as secondary prepositions [17, pp. 43–44].

d) others: *nezávisle* ‘independently’, *odděleně* ‘separately’, *přiměřeně* ‘adequately’, *loajálně* ‘loyally’

- (27) *Šlechta a města **nezávisle** na státu vydávala správní předpisy.*
 ‘The nobility and the town issued administrative legislation **independently** of the state.’
- (28) *mundumugu vždycky bydlí a jí sám, **odděleně** od svého lidu*
 ‘the mundumugu always lives and dines alone, **separately** from his people’
- (29) *Totéž platí pro koťata, která mají být čilá **přiměřeně** věku.*
 ‘The same holds for kittens, which are supposed to be alert **adequately** to their age.’
- (30) *Určíme, co by měl žák v TV **přiměřeně** k jeho věku a výstupům dle RVP ZV znát.*
 ‘We determine what the pupil should know in PE **adequately** to his age and the curriculum framework.’
- (31) *Když už státní zaměstnanci přece protestovali, tak **loajálně** ke státu v neděli odpoledne, jak tomu bylo 6. listopadu 1910 v Brně.*
 ‘When civil servants finally protested, they did so **loyally** to the state on a Sunday afternoon, which happened on November 6, 1910, in Brno.’

4.2 Non-derived adverbs

The adverbs *pozdě* ‘late’ and *brzy* (*brzo*) ‘early’ belong to this group, cf. the following examples:

- (32) *je příliš **pozdě** na jezevčíky s jejich důchodci, příliš **brzy** na milence*
 ‘it’s too **late** for dachshunds with their pensioners, and too **early** for lovers’
- (33) *zemřela příliš **brzy** na to, aby stihla na toto téma s dcerou promluvit*
 ‘she died too **early** to talk to her daughter about that’
- (34) *Včas na to, aby pochopili, oč jde, **pozdě** na to, aby se jich to týkalo.*
 ‘**Just in time** to understand what was happening, too **late** for it to concern them.’

Ex. (34) suggests that *včas* should also be included as a valent adverb, albeit not non-derived.

4.3 Predicative adverbs

The SYN2015 data included the following predicative adverbs: *potřeba* ‘necessary’; *líto* ‘sorry’; *zapotřebí* ‘needed/necessary’; *zataženo* ‘cloudy’; *zima* ‘cold’; *horko* ‘hot’; *netřeba* ‘needless’; *rušno* ‘busy’; *zle* ‘sick’; *mokro* ‘wet’; *vlhko* ‘damp’; *živo* ‘lively’; *oblačno* ‘cloudy’; *polojasno* ‘somewhat cloudy’; *potřebí* ‘need’ (e.g. *nebylo potřeby fantazie* ‘there was no need of imagination’); *smutno* ‘sad’; *sucho* ‘drought’; *veselo* ‘merry’; *parno* ‘hot’; *pusto* ‘desert’; *temno* ‘dark’; *větrno* ‘windy’; *teple* ‘hot’; *ticho* ‘silent’; *(být) libo* ‘wish’. Considering examples such as (35), in which *s* is misparsed as a daughter node of *zataženo* ‘cloudy’, it seems clear that these adverbs do not take complements.

- (35) *Oba dva dny by mělo být **zataženo** s občasnými dešťovými přeháňkami.*
 ‘On both of the days it should be **cloudy** with occasional showers of rain.’

Nevertheless, it is somewhat conspicuous that predicative adverbs referring to weather and the like quite systematically co-occur with locative (or, possibly, temporal) adjuncts, which was in fact noted as early as by Komárek [18, p. 23]. Similarly, predicative adverbs expressing physical sensations and internal states systematically co-occur with a dative form referring to the experiencer, as in (36), and modal predicative adverbs systematically co-occur with infinitives (and, in some cases, with nouns), as in (37):

- (36) *Občas se při tom přiotrávím acetonem a je mi potom zas nějakou dobu **zle**.*
 ‘Sometimes when doing it, I get poisoned with acetone and I feel **sick** for some time.’
- (37) *Je jenom **zapotřebí** promluvit lidem do srdce.*
 ‘It is **necessary** to touch people’s hearts with your words.’

Based on that, the question of whether these adverbs really lack valency might arise. We believe that the predicative adverbs do not have valency properties; their systematic co-occurrence with a copula and a certain type of adjunct is, in our view, the result of the existence of independent constructions in the sense of Construction Grammar [19]. That is, we believe that there is for instance a construction (i.e. a Saussurean sign) with the form [[copula] [locative adjunct] [predicative adverb]], which systematically expresses the meaning of ‘there is the specified kind of weather or external state in the specified area’ and which licenses constructs such as (38). Postulating such a construction is in accord with the fact that the construction can be used somewhat productively, as witnessed by examples such as the following:

- (38) *když kvetly, bylo tam **bílorůžovo** (SYN V7)*
 ‘when they were blooming, it was all **white-pinkish** there’
- (39) *v metropoli se začínají rozkládat mrtvá těla a je tam **neobyvatelno** (SYN V7)*
 lit. ‘in the capital dead bodies are starting to decompose and it is **inhabitable** there’

In ASSČ, predicative adverbs are marked by the word-class specification “přísl. v přísudku,” and their valency specification states the type of adjunct that typically co-occurs with the adverb; e.g., *bílo* ‘(all) white’ has the valency specification (kde).

While we said that we do not consider predicative adverbs to have valency properties in the usual sense, there is one exception, found in SYN2015: *libo*, cf. the following example:

- (40) *Je libo porci za deset krejcarů?*
'Would you like a portion for ten pennies?'

Arguably, while *libo* is used in the same syntactic configuration as other predicative adverbs, it actually differs in that it takes a complement (*porci* in (40)).

5 CONCLUSION AND DISCUSSION

In this paper, we used two syntactically annotated corpora of Czech to extract a list of potentially valent adverbs in Czech. We manually discarded hundreds of candidates and arrived at several formal and semantic groups of valent adverbs, as presented above. There are some notoriously problematic issues, most notably concerning the fuzzy border between adverbs and prepositions. Words like *navzdory* 'notwithstanding' and *kolem* 'around', which are usually treated in terms of adverb-preposition homonymy, were not discussed here either even though they would certainly benefit from further investigation.

Finally, we would like to make three remarks. First, while we see *nezávisle* and other words discussed above as adverbs with valency, some linguistics treat e.g. *nezávisle na* 'independently of/from' as a secondary preposition (cf. [20, p. 511] or [21, p. 47]). To give two further examples, while we included *paralelně* (cf. example 19), Kroupová [17, p. 42] includes *paralelně s* 'parallel to' as a secondary preposition with the lowest degree of conventionalization, and, for instance, Blatná [21, p. 47] includes *úměrně s* 'proportionately to' as a secondary preposition.⁵ We still included these as adverbs with valency based on our intuitions that the adverbs involved were still notably "adverbly" (esp. when functioning as clause elements and not being delexicalized) and based on examples such as (41), in which *úměrně s* can hardly be viewed as a secondary preposition:

- (41) *Neschopnost uvěřit ve smrt roste přímo úměrně s tím, jak se blíží.*
'One's disbelief in death grows in **proportion to** its approach.'

Note, however, that this does not in fact exclude the possibility of viewing *úměrně s* as a secondary preposition in other contexts.

Second, it is typically assumed that derived words "inherit" the valency specification from their respective bases, an assumption especially common in noun valency studies; on argument inheritance see e.g. [22, p. 215]. This assumption is,

⁵ Blatná [2, p. 47] lists all the following expressions as secondary prepositions: *nalevo od* 'left of', *napravo od* 'right of', *nezávisle na* 'independently of', *paralelně s* 'parallel to', *shodně s* 'consistently with', *souběžně s* 'parallel to', *současně s* 'simultaneously to', *souhlasně s* 'in agreement with', *společně s* 'together with', *spolu s* 'together with', *úměrně s* 'proportionately to', *úměrně k* 'proportionately to', *zároveň s* 'along with'.

however, in fact problematic, and it is questionable whether we should specify the valency of derived words with or without recourse to derivation, as suggested by remarks made, among others, by Herbst [23, p. 267], Williams [24, p. 584], Allerton [5, p. 311], and Goldberg [25, p. 24], as summarized in Sláma [4, pp. 27–28]. While this issue is definitely beyond the scope of the present paper, it is still worth pointing out that the directional adverbs mentioned above suggest that the issue of inheritance is not as straightforward as it is usually assumed to be. While e.g. *severně* (*od*) ‘north (of)’ is usually described as a derivative of *severní*, the adverb does not seem to inherit the valency frame of the adjective but perhaps of the corresponding noun (*na sever od* ‘north of’).

Third, related to the previous point is the question of the lexicographic treatment of adverbial valency: while the current practice in the ASSČ allows only deadjectival adverbs to have their valency specification [16, p. 68] but also deals with predicative adverbs as if they had valency, it seems reasonable to conclude that some adverbs whose corresponding adjectives presumably lack valency properties (e.g. *severně*) should be described as valent as well.

ACKNOWLEDGEMENTS

The work has been in part supported by the LINDAT/CLARIN and LINDAT/CLARIAH-CZ projects of Ministry of Education, Youth and Sports of the Czech Republic (LM2015071 and LM2018101).

References

- [1] Thompson, S., and J. Hopper (2001). Transitivity, clause structure, and argument structure: Evidence from conversation. In J. Bybee and P. Hopper (eds.), *Frequency and the Emergence of Linguistic Structure*, pages 27–60. Amsterdam, John Benjamins.
- [2] Spevak, O. (2014). Editor’s foreword. In O. Spevak (ed.), *Noun Valency*, ix–xiii. Amsterdam & Philadelphia, John Benjamins Publishing Company.
- [3] Taylor, J. R. (2015). Prototype effects in grammar. In E. Dabrowska & D. Divjak (eds.), *Handbook of Cognitive Linguistics*, pages 562–579. Berlin; Boston, De Gruyter Mouton.
- [4] Sláma, J. (2018). The prepositional phrase with the preposition *at* as a valency complement of nouns. MA thesis. Prague, Department of English Language and ELT Methodology.
- [5] Allerton, D. J. (2006). Valency Grammar. In K. Brown (ed.), *Encyclopedia of Language & Linguistics*, pages 13, 301–314. 2nd ed. Amsterdam, Elsevier.
- [6] Tesnière, L. (1959). *Éléments de syntaxe structurale*. Paris, Klincksieck.
- [7] Lees, R. B. (1960). *The Grammar of English Nominalization*. The Hague, Mouton.
- [8] Matthews, P. H. (1981). *Syntax*. Cambridge, Cambridge University Press.
- [9] Matthews, P. H. (1997). *The Concise Oxford Dictionary of Linguistics*. Oxford, Oxford University Press.

- [10] Crystal, D. (2003). *A Dictionary of Phonetics and Linguistics*. 5th ed. Oxford, Blackwell.
- [11] Matthews, P. H. (2007). The scope of valency in grammar. In T. Herbst & K. Götz-Votteler (eds.), *Valency: Theoretical, Descriptive and Cognitive Issues*, pages 3–14. Berlin; New York, Mouton de Gruyter.
- [12] Francis, G., S. Hunston, and E. Manning (1996). *Collins Cobuild Grammar Patterns 1: Verbs*. London, HarperCollins.
- [13] Francis, G., S. Hunston, and E. Manning (1998). *Collins Cobuild Grammar Patterns 2: Nouns and Adjectives*. London, HarperCollins.
- [14] Karlík, P., and P. Biskup (2017). Adverbium. In P. Karlík, M. Nekula, and J. Pleskalová (eds.), *CzechEncy – Nový encyklopedický slovník češtiny*. Brno, Masarykova univerzita. Accessible at: <<https://www.czechency.org/slovník/ADVERBIUM>>.
- [15] Panevová, J. (1998). Ještě k teorii valence. *Slovo a slovesnost* 59(1), pages 1–14.
- [16] Kochová, P., and Z. Opavská (eds.) (2016). *Kapitoly z koncepce Akademického slovníku současné češtiny*. Praha, Ústav pro jazyk český AV ČR.
- [17] Kroupová, L. (1985). *Sekundární předložky v současné spisovné češtině*. Praha, ÚJČ ČSAV.
- [18] Komárek, M. (1954). K otázce predikativa (kategorie stavu) v češtině. In *Sborník VŠ pedagogické v Olomouci (Jazyk a literatura)*, pages 7–25. Praha, Státní pedagogické nakladatelství.
- [19] Hoffmann, T., and G. Trousdale (2013). *The Oxford Handbook of Construction Grammar*. New York, Oxford University Press.
- [20] Štícha, F. (ed.). *Akademická gramatika spisovné češtiny*. Praha, Academia.
- [21] Blatná, R. (2006). *Víceslovné předložky v současné češtině*. Praha, Nakladatelství Lidové noviny.
- [22] Booij, G. (2007). *The Grammar of Words*. Oxford, Oxford University Press.
- [23] Herbst, T. (1988). A valency model for nouns in English. *Journal of Linguistics*, 24(2), pages 265–301.
- [24] Williams, E. (1991). Meaning Categories of NPs and Ss. *Linguistic Inquiry* 22(3), pages 584–587.
- [25] Goldberg, A. E. (2006). *Constructions at Work*. Oxford, Oxford University Press.