

Concepts of Space, Time and Motion in Contemporary Czech¹



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ABSTRACT:

Space, time and motion are crucial concepts in human thinking. They tend to be expressed differently in different languages and this can present difficulties for language learners. This paper summarises the basic linguistic means of expressing time, space and motion in contemporary Czech and attempts to systematise the existing linguistic research related to these topics. The analysis focuses on deictic, lexical (e.g. verbs of motion) and phrasal units and on selected grammatical categories (especially time, aspect and case) and points out specific features of a “Czech” understanding of the concepts as revealed by the given linguistic expressions. In Czech utterances, the concepts are usually interconnected, with several means connected with the concepts often appearing simultaneously. The “Czech” conceptualisation of space, time and motion is complex, but it is nevertheless organised in various ways (for example, along selected oppositions, metaphors or image schemas, using a specific categorisation of motion in verbs of motion). Furthermore, space and motion often function as a source domain for metaphors of more abstract concepts. It is suggested that this overview could provide some background for research into the use of Czech as a non-native language.

KEY WORDS:

Czech language, linguistic worldview, motion, space, time

1. INTRODUCTION

Space, time and motion are crucial concepts in human thinking; they are also complex and mutually interwoven. Talmy (2017, p. 60) states that time and space are both “conceptual constructs understood as matrices that are ‘straight’, evenly distributed, continuous, indefinitely extensive, and stationary.” In both cases, certain parts can be seen as “bounded off” and both time and space “can be conceptualised either as smooth or comprised of adjacent points” (*ibid.*). Unlike space, time contains a specific and, according to Talmy, unique and probably axiomatic feature of progression (with the moment “now” having a prominent status) and exhibits “lateness” bias (*ibid.*, p. 61). Motion is a property of both space and time (“spacetime”; *ibid.*, p. 62) and the opposition of stationary versus moving also seems to be important (*ibid.*). Some authors (e.g. Sheets-Johnston, 1999) believe that motion may be the primary category and that other conceptualisations (such as that of time) may be derived from it.

In research, space is often seen from the point of view of geometry, but some authors (e.g. Feist, 2010) point out that the linguistic conceptualisation of space should

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be described using not only geometrical but also “functional” attributes (the typical uses and functions of objects) and “qualitative physics” (information about spatial configuration such as the existence of support). Languages typically use spatial vocabulary as the source for temporal vocabulary (Sweetser & Gaby, 2017a, p. 626), and time is often conceptualised using metaphors based on space or motion (e.g. MOVING TIME and MOVING EGO metaphors, FUTURE IS RIGHT or FUTURE IS BELOW metaphors; e.g. *ibid.*), but it would be an oversimplification to see the conceptualisation of time as simply parallel to that of space or motion as it has its own specific features. Motion has been described as “a complex domain with dynamic and variable schematic components” (Pourcel, 2010, p. 417), and which covers not only figures moving along a path but also other components that are “situated within ideational contexts, comprising cultural cognitive models, ideologies, emotions, symbolisms, as well as expectations concerning motion properties and contextual embedding” (*ibid.*, p. 419). All the engaged components are typically complex and can be used as criteria for various typologies of motion.

Although the human understanding of time, space and motion is based on human experience and is to some extent embodied, languages differ in the way they express that understanding.

In this paper, I discuss the basic linguistic means of denoting space, time and motion in contemporary Czech. I focus on two goals: (a) to analyse what Czech (mainly) linguistic expressions reveal about the “Czech” understanding and conceptualisation² of these concepts; and (b) to summarise existing research on the Czech language within this field. In both cases, I will be discussing Czech as a first language, but I believe that the paper could provide some background for analysis of Czech as a second or foreign language or for a comparative analysis of Czech and other languages. I am aware that my analysis describes certain features of Czech without explicitly stating what is unique in this language or how Czech language differs from other languages (e.g. other Slavic languages). Such a comparison would definitely be interesting but it would demand a much larger space, because each language may have its own specific features and it would be necessary to look at the data from many different perspectives. It is apparent that there is yet to be a comprehensive summary of the topic in Czech and a more complex comparative analysis of Czech and other languages.

In pursuing the first goal, I mostly use the cognitive approach to language, including the theory of the linguistic worldview or linguistic picture of the world (e.g. Vaňková, Nebeská, Saicová Římalová & Šlédrová, 2005; Bartmiński, 2009). In accordance with this approach, I see meaning as holistic, without strict boundaries between linguistic and encyclopaedic meanings, nor between various types of meanings such as lexical, grammatical or pragmatic. I pay special attention to salient oppositions and metaphors that seem to point towards some important principles that organise our understanding of the concepts under analysis. The cognitive approach has already

2 Conceptualisation is a “conventionalised part of conceptual content ... [which] ... reflects the ways experiencers construe the scene in language, gestures and behaviour” (Lewandowska-Tomasczyk, 2016, p. 9).



proven its usefulness in second or foreign language teaching or learning. For example, it can make explanations of abstract categories of case or aspect easier to understand (cf. explanation of case in Czech in Janda & Clancy, 2006, or explanation of aspect and other verbal categories in Slavic languages in Janda 2006, 2015).

In summarising the Czech research to date, I intend to show that there is a long tradition of Czech functional-structural linguistic research and that this is frequently compatible with the contemporary cognitive approach (see studies by Němec, Novák, Konečná, Nebeský, Skalička, and others, listed in the bibliography at the end of this paper).

I am aware that both my overview of linguistic means connected with space, time and motion in Czech and my interpretation of the existing research are subjective and, because of the complexity of the analysed concepts and the limited length of this paper, can capture only the most important aspects of this topic.

2. SPACE, TIME AND MOTION IN CONTEMPORARY CZECH LANGUAGE

There are abundant linguistic means connected with the concepts of space, time and motion in Czech. Many are also common to other languages, but Czech exhibits some specific features. There are usually several linguistic means connected with time and space (less frequently with motion) in a single utterance.

Users of the Czech language can express these concepts using a range of means, such as lexical expressions, syntactic constructions, morphemes, grammatical categories, and nonverbal means, or combinations of these. I have structured the continuum into several (partially overlapping) subgroups: deictic (see 2.1) and lexical and other means (words, morphemes, phrases) related to the three concepts (see 2.2), and selected verbal and nominal grammatical categories (especially aspect, time, case; see 2.3).

2.1 DEIXIS

It is usual to distinguish means with a deictic function from those with a referential function, although there is no strict boundary between the two. Within deixis, *spatial deixis* and *temporal deixis* are both important in Czech. There are specialised linguistic means for the spatial and temporal deictic functions, typically pronouns (e.g. *ten* 'the', *tento*, 'this', *tamtén*, 'that') and deictic adverbials (*tady*, *zde* both meaning 'here', *tam* 'there', *nyní*, *ted'* both meaning 'now'). But there may also be spatial and temporal deictic components in the meaning of other parts of speech, such as words that imply some orientation point (the position of the speaker or the addressee or some other entity), for example, *vlevo* 'left', *vpravo* 'right' (see 2.2) or prepositions such as *před* 'in front of', *za* 'behind' (see below).³ The deictic system also overlaps with grammar, for

³ The temporal expressions *dnes* 'today', *zítra* 'tomorrow', *včera* 'yesterday' are primarily oriented towards the moment of the utterance and the speaker's position in time.



example in the verbal category of tense (see 2.3). Because of the blurred boundaries of deixis, deictic phenomena are studied from several perspectives in Czech linguistics: in pragmatics (e.g. Hirschová, 2013); in grammatical studies (the various studies of pronouns and their function); and in cognitive linguistics (the analysis of selected oppositions or spatial orientation; see below).

In an utterance, deixis (including linguistic means which have deictic components in their meaning) is typically organised from a *deictic centre*.⁴ This deictic centre is usually represented by the speaker, but other deictic centres are also possible (e.g. the perspectives of the addressee or some depicted entity, such as a character in a story or an entity about which the speaker is speaking). Different perspectives can be easily observed in the use of expressions such as *vlevo* 'left' or *vpravo* 'right' (for example, *zahnu doleva* 'I will turn left' is constructed from the perspective of the speaker; *je na snímku vlevo* '(somebody) is on the left in the photo' constructs the scene typically from the perspective of the observer; *bolí ho čtyřka vlevo dole* 'his forth tooth down left is aching' constructs the position of the tooth from the perspective of its "owner" etc.).

It is important to note that the notions of *perspective* and *perspectival centre* can also be applied to more complex phenomena: the whole utterance or text and its content (including not only the spatial and temporal perspective, but also what is or is not said, the way the content is organised, what linguistic means are used, and so on) can be seen from a certain perspective constructed from a chosen perspectival centre or even several centres. A typical perspectival centre is that of a narrator (the speaker), but other types (the addressee, a chosen character, etc.) are also possible. Perspective can appear in all genres, in any type of text, and can influence the construction of space, time and motion in the text. In the Czech context, this theory was developed by Macurová (1983) as part of the theory of text and style.

There are several *spatial deictic (sub)systems* in Czech. The basic subsystem is typically oriented towards a deictic centre represented by the speaker, the addressee, or some other entity, and is based on the opposition *proximity versus distance* (see below). This subsystem seems to lack inherent linear orientation, that is, the same expression can be used to point to an entity situated in any direction from the deictic centre (e.g. the speaker can use *tam* 'there' to point horizontally, upwards, downwards etc.). There is also a subsystem that uses a certain *inner orientation* of some entities (i.e. those that are seen as having some front-back, bottom-up, left-right orientation, e.g. *před domem* 'in front of a house' is typically in front of that part of the house where the front entrance is situated). The deixis can then be oriented towards selected qualities of the given entity (e.g. something can be in front of, or on the left of, something else). Hirschová (2013, p. 72) states that this subsystem is typically of a binary nature. The so-called *absolute* subsystem that uses orientation towards, for example, points of the compass, can also appear, but usually only in specific contexts (e.g. communication based on the orientation of a map).

In common with many other languages, the system of *temporal deixis* in Czech tends to show a linear orientation from the past, through "now", to the future (e.g. Talmy,

⁴ Some authors distinguish the deictic centre (*origo*) from the point of reference (cf. Hirschová, 2013); the term viewpoint is also used (e.g. Vandelanotte, 2017).



2017). Like spatial deixis, temporal deixis has several subsystems (see also 2.3): events can be seen as oriented towards the moment of the utterance, but also towards some other event; they can also form a sequence. The moment of “now” seems to be a prominent moment which typically coincides with the moment of the utterance, but Czech also allows for various shifts in usage (e.g. the “now” can be conceptualised more broadly, including non-actual uses etc., e.g. *ted' si čtu* ‘I am reading now’, *ted' máme 21. století* ‘it is the 21st century (now)’, *absolvoval a ted' pracuje v kanceláři* ‘he has graduated and works in an office (now)’; see 2.3 as well). In Czech, the repertoire of means used for temporal deixis oriented towards the past seems to be richer than that which points towards the future.

The following organising principles (typically in the form of oppositions) are important for a “Czech” understanding of deixis:

- (a) The opposition *proximal* (closer to the deictic centre) *versus distant* (further away from the deictic centre) is the basic opposition in Czech spatial and temporal deixis (cf. *zde* ‘here’ versus *tam* ‘there’, or *nyní* ‘now’ versus *tehdy* ‘then, pointing towards the past’). Some deictic means are considered neutral in relation to the proximal-distant opposition (e.g. *ten* ‘it, that’⁵ for spatial deixis; e.g. Hirschová, 2013, p. 69).
- (b) There is a relation between the opposition *proximal to the speaker versus distant from the speaker* and another important opposition, *we (our) versus they, the others (not our)*. In this opposition, the proximal pole is related to the speaker, to something that is one’s own or similar to the speaker. The distant pole is associated with entities that are not connected with the speaker or that are different from them. The proximal pole (*we, our*) is typically positively evaluated; the distant pole (*they*) is associated with something foreign and is often negatively evaluated.⁶ The proximal-distant opposition thus exhibits an *egocentric* (me-first, cf. Lakoff & Johnson, 1980) orientation: that which is closer to the speaker is considered better.
- (c) The opposition *animate versus inanimate* (and in some cases *person versus not-person*, e.g. in some uses of pronouns such as *kdo* ‘who’ versus *co* ‘what’) is also important. The opposition appears (in a slightly varied and more grammaticalised way) in morphology (e.g. grammatical gender, see 2.3) and syntax (e.g. different congruence for masculine animate and inanimate subjects).
- (d) Various originally spatial oppositions tend to be connected with *evaluation*, often polarised into *positive versus negative* (cf. metaphors such as *GOOD IS UP* or *BAD IS DOWN*, and evaluation of *RIGHT* and *LEFT*; see 2.2), which is also typical of many other languages. The basic oppositions (e.g. *proximal versus distant, we versus they*)

⁵ *Ten* can point to both animate and inanimate entities.

⁶ Cf. the opposition *human beings versus animals*. For example, there tend to be specific expressions for human and animal body parts or activities in Czech (e.g. *ústa, pusa* ‘mouth’ of human beings; *tlama, huba* for animals; *jíst* ‘to eat’ for humans, *žrát* for animals). When we use the originally animal expression (e.g. *huba* or *žrát*) about humans, they usually acquire negative connotations. (For a more detailed analysis in Polish, see Pajdzińska, 2007.)



can extend to other fields, such as pragmatics (e.g. social distance in politeness), and can develop into complex *evaluative systems* in discourse. (For an analysis of the opposition *we-they* in Czech and German newspapers, see Samek, 2016.)

2.2 LEXICAL AND OTHER EXPONENTS OF TIME, SPACE AND MOTION

Space, time and motion can be expressed by many lexical means, lexemes, idioms and constructions, as we can see in the long entries in thesauruses and dictionaries of synonyms. For example, the thesaurus by Klégr (2007) contains tens of pages of lexical expressions for space, size, shape, movement and time. This type of data has been researched within the cognitive theory of the linguistic worldview (e.g. Bartmiński, 2009) and linguistic picture of the world (e.g. Vaňková et al., 2005). In the Czech context, research has tended to focus on metaphors and (more recently) on profiles of the three concepts.

Analysis of *spatial dimensions* shows that words denoting time, space and motion are typically polysemous and that there may be several conceptualisations connected with each of them (cf. Linde-Usiekiewicz, 2000, for Polish; Šlédrová, 2000, 2001, for Czech). For example, *hluboký* 'deep' can refer to several different physical situations, such as *hluboký sníh* 'deep snow', referring to a thick layer of snow, *hluboká díra* 'deep hole', referring to a hollow space measured from the top to the bottom, or *hluboké kořeny* 'deep roots', referring to the parts of a plant that go deep into the soil (Grzegorzycowa, 2001, p. 14). There are also numerous metaphorical extensions that use *hluboký* (e.g. *hluboký spánek* 'deep, sound sleep', *hluboký hlas* 'deep, low voice', *hluboký smutek* 'deep sadness', *hluboká krize* 'deep crisis').

Within the Czech conceptualisation of space, the following principles (oppositions) are important: (a) *left-right* orientation; (b) *up-down* orientation; and (c) *front-back* orientation (e.g. in front of the speaker or other entity — behind the speaker or other entity). In some cases, the opposition (d) *inside-outside* (or the related oppositions *deep-shallow* or *surface-core*) are also salient.

All three basic oppositions (*left-right*, *up-down*, *front-back*) apply not only to the conceptualisation of space, but also to various non-literal or *metaphorical* spheres and frequently have *evaluative* connotations. One pole (typically right, up, front) tends to be evaluated positively and the other (typically left, down, back) negatively. Similar evaluative connotations appear in other European and Indo-European languages. For example, van Leeuwen-Turnovcová (1990, pp. 76–125) has studied the opposition *left versus right* in European culture and has demonstrated that the right side is typically associated with something good ('right', 'organised', etc.) and the left tends to be evaluated negatively.⁷ The opposition *up versus down* appears, for example, in the metaphors *UP IS GOOD*, *DOWN IS BAD*, which can be found in many languages, includ-

7 RECHTS IS GEBEN, GERADE, VORNE/VORGEORDNET, STARK/TAPFER, TAUGLICH, POSITIVE WERTE, ORDNUNGSGEMÄSS); LINK(S) IS GEWINN, UNGERADE, NACHGEORDNET/UNTEN, SCHWACH/SCHLAFF, MANGELHAFT, NEGATIVE WERTE, ORDNUNGSWIRDIG, VOM GUTEN RUF, ALT (van Leeuwen-Turnovcová, 1990, pp. 76–125).



ing Czech.⁸ The opposition *front versus back* is often associated either with something that is visible or better (typically front), or with something hidden, not right or bad (typically back). In some cases, the opposite evaluation is possible: the front or visible part may be seen as a (superficial) surface, while the rear or invisible (or perhaps more precisely inner) part is conceptualised as the real but hidden quality.⁹

As in many other languages, *time* in Czech is often referred to using spatial vocabulary, although some authors point out that the space-time relationship is probably more complex than it is often seen to be (e.g. Konečná, 1974; Sweetser & Gaby, 2017a).

Both of the basic metaphors of time, MOVING TIME and MOVING EGO (e.g. Lakoff & Johnson, 1980; Evans, 2004), appear in Czech (e.g. *blíží se prázdniny* ‘holidays are coming’; *blížíme se ke konci semestru* ‘we are approaching the end of the semester’). Time in Czech can be conceptualised as either *linear* (developing from the past, through “now”, to the future) or *cyclic* (the cycle of the seasons of a year; cf. Svašková, 2014). The linear conceptualisation seems the more dominant. The *front-back* and *left-right* oppositions (or axes) mentioned above can also apply to the concept of time. The future is typically situated (metaphorically) in front of the subject, while the past is behind. Co-speech gestures by Czech speakers also indicate (cf. Saicová Římalová, 2017) that the future can be towards the right and the past towards the left.¹⁰

In sequences of events, the more recent event is typically placed on the right of its predecessor, as we see in various lists or time axes of events or iconic verbal expressions where the order of expressions corresponds to the order of events (e.g. *absolvoval univerzitu a odstěhoval se do Brna* ‘he graduated from university and moved to Brno’, where the first event mentioned is likely to have happened first, followed by the second event mentioned). In some cases, sequences of events can be organised along the *up-down* opposition (axis). The more recent (newer) event generally used to be at the bottom, below the previous events, possibly for technical reasons related to writing (such as in chronicles where the newest event is added at the end or bottom). But in some cases (and probably more recently), the events may be organised in the reverse order (cf. personal CVs or internet news pages, where the most recent work experience or an event is placed at the top).

In contemporary Czech, spatial and temporal meanings can be expressed not only by autosemantic lexical units, but also by so-called synsemantic units (e.g. prepositions) or morphemes (e.g. prefixes). Analysis of the semantics of Czech *prepositions* has mostly been conducted using the functional-structural approach and has focused

8 Cf. expressions such as *vysoce postavený manažer* ‘a manager with a high status’, *nízké úmysly* ‘low (bad) intentions’, *zvednout někomu náladu* ‘to cheer someone up’, *být skleslý* ‘to be depressed’, *propadnout se do deprese* ‘to fall into depression’.

9 Cf. expressions where the facial expression, a smile for example, is seen as the front showing something, while the real emotions, in the heart, may represent something different: cf. *Mácha’s na tváři lehký smích, hluboký v srdci žal* ‘a light smile on the face, deep sorrow in the heart’.

10 The evidence from linguistic and non-linguistic sources can differ in the way they conceptualise time; cf. Sweetser & Gaby (2017b).



predominantly on so-called primary prepositions and their “physical” (especially spatial) meanings. Various similarities and differences between prepositions with spatial and temporal meanings have also been observed. Konečná (1974, p. 262) points out that primary prepositions in Czech are typically polysemous and that their meaning always contains a spatial component. *Prefixes*, apart from expressing various spatial and temporal meanings like those of prepositions, are seen as another organising principle in Czech vocabulary: words with the same prefix may be regarded as belonging to one general group (cf. Lehoučková, 2010; for a more abstract theory see Dokulil, 1962). Prefixes and *suffixes* may also participate in the expression of aspect or *aktionsart* (see 2.3).

In Czech utterances, the meanings of prepositions (especially primary prepositions), cases (see 2.3) and prefixes are interconnected. For example, Hirschová (1977) sees prefixes and prepositions expressing dynamic spatial meanings (e.g. *odstoupit od okna* ‘to step away from the window’, *vejít do domu* ‘to go into the house’) as means that cooperate (in various ways) in the expression of the orientation of linear motion. The authors of *Mluvnice češtiny 2* (Komárek, Kořenský, Petr & Veselková, 1986) suggest that prepositions modify or specify general meanings of cases expressed by the connected nouns. Czech constructions often combine prepositions, prefixes and cases with similar meanings (e.g. *dojít do lesa* ‘to go as far as into the woods’, *odejít od rodičů* ‘to leave the parents in order to live somewhere else’, where the prefixes and prepositions have a similar meaning and form, and the noun in the genitive form expresses the goal or the starting point; or *vejít do domu* ‘to go into the house’, *přijít k domu* ‘to come to the house’, where the prefixes and prepositions have a similar meaning but a different form).

Some of the results of functional-structural research can also be of interest in cognitively based analysis, such as descriptions of meanings organised along the line of *contrasts* or *oppositions*. For example, Konečná (1974) describes the spatial, temporal and other abstract meanings of prepositions using Hjelmslev’s triad of phases (approaching — the stable phase — leaving, becoming distant) and suggests the following three phases: the *initial* phase (*předobjektová* ‘before the object’); the *object* phase (*objektová*); the *final* phase (*postobjektová* ‘after the object’).¹¹ Hirschová (1977) uses the triad starting point — environment (or the middle member) — goal in her analysis of spatial meanings of prefixes and prepositions. In another study (Konečná in Komárek et al., 1986, p. 202), Konečná uses the following oppositions to describe spatial and temporal meanings of primary prepositions: *static versus dynamic*; *oriented versus not oriented*; *in contact versus without contact*. The first opposition can be illustrated by examples such as (*něco*) *je na stole* ‘(something) is on the table’ versus *položit (něco) na stůl* ‘to place (something) on the table’, the second by (*něco*) *je před stolem* ‘(something) is in front of the table’ versus (*něco*) *je u stolu* ‘(something) is by the table’, and the third by (*něco*) *je na stole* ‘(something) is on the table’ versus (*něco*) *je nad stolem* ‘(something) is above the table’.

11 In relation to location, the expression *je před mostem* ‘(something) is in front of the bridge’ would represent the initial phase, *je na mostě* ‘(something) is on the bridge’ the object phase, and *je za mostem* ‘(something) is behind the bridge’ the final phase.



Motion can also be expressed in many ways. The extent of the repertoire depends on how we classify ‘motion’ (cf. Saicová Římalová, 2010, 2008): the category can cover both intentional and unintentional motion, the motion of whole entities or their parts, and so on. We can also distinguish various types of motion, such as vertical or horizontal motion¹² or various manners of motion.

Motion can be referred to by various word classes in contemporary Czech, but *verbs* seem to be the prominent category. *Verbs denoting motion* are important in many languages and have been the subject of much analysis. Talmy (e.g. 2000, esp. pp. 213–288) has even proposed a typology of languages based on the way they express motion and scenes containing motion (cf. the well-known classification of satellite-framed and verb-framed languages; for a summary of the theory, see e.g. Martinková, 2018). Czech linguistics includes numerous classifications of verbs and predicates which denote motion. Daneš and Hlavsa (1981, pp. 88–119) suggest that verbs denoting motion can function as predicates which refer, for example, to situations when one moves oneself from one place to another (e.g. *jít* ‘to go on foot’), when one changes one’s position (e.g. *postavit se* ‘to stand up’), or when one manipulates something (e.g. *nést* ‘to carry’). Filipec (Filipec & Čermák, 1985, pp. 155–163) analyses a large group of verbs denoting motion using eight dimensions: the environment of the movement, subject, means, manner, direction, goal, the object of the movement, and time. Grepl and Karlík (1998, pp. 113–121; translated by the author) define two basic groups: verbs (predicators) that refer to situations when “something or somebody moves or does not move from one place to another”, and verbs (predicators) that refer to situations when “somebody or something causes somebody or something to move from one place to another”. They observe that some verbs (predicators) can imply, for example, the starting point of the motion (e.g. *odejít* ‘to leave’), the direction or the purpose (e.g. *vstoupit* ‘to enter’), or the path (e.g. *prolézt* ‘to crawl through’).

Verbs denoting motion are also frequently used in *non-literal* (*metaphorical*) meanings.¹³ They can undergo *grammaticalisation* (e.g. Majsak, 2005) and can express so-called *fictive motion* (e.g. Evans, 2004). In Czech, many of the verbs are *extensively polysemous*.

I believe that the *image schema of the path* (or “the metaphor of the journey” or “the source-path-goal schema”; cf. Lakoff & Johnson, 1980; Johnson, 1987; Lakoff, 1987) is a useful tool for describing the behaviour of verbs denoting motion in Czech. We can use the basic components of the image schema (e.g. the starting point, the goal, the path and its shape, the manner of movement, the quality of the environment in which the movement takes place, etc.) to capture the way the given verb (and the

12 Linguistic analysis seems to pay more attention to horizontal motion than to vertical motion. See e.g. Sweetser & Gaby (2017a).

13 For example, Collitz (1931, pp. 7–11) long ago noted that “most verbs of motion, when used figuratively, can acquire the signification of propriety, fitness, suitability, or related meanings” and divided figurative meanings into three basic groups: (a) broadly defined emotions, positive and negative; (b) propriety and impropriety including meanings such as fitness, suitability, behaviour, similarity, relationship, custom or success; (c) intellectuality, cleverness, sharpness and the reverse.



syntactic structure in which the verb participates) structures the scene. We can then observe which components of the schema are expressed within the verb, which are expressed using morphemes (e.g. prefixes) or words (cf. various types of syntactic complementation), and which are expressed by a combination of means (Saicová Římalová, 2009b, 2016, 2018).¹⁴

The image schema of the path is also suitable for analysis of *metaphorical “paths”* (cf. metaphors such as LIFE IS A JOURNEY, COMMUNICATION IS A JOURNEY, REASONING IS A JOURNEY; Saicová Římalová, 2010, pp. 51–54). In Czech, Vodrážková has analysed the image schema of the path in the linguistic picture of human life, human memories (Vodrážková, 2016), and the human body (Vodrážková, 2017). Vodrážková (2016) has noted that the target domains of the path schema typically exhibit a *temporal*, processual dimension. Vodrážková (2017) has also identified numerous semantic components associated with *motion* in Czech phrases connected with the human body. Similar research demonstrates that elements of motion are abundant in the Czech language and can be detected in various contexts and in linguistic expressions of varying complexity.

There is a special group of verbs in Czech (and in other Slavic languages) which denote motion and are specific in several ways. The group is usually called *verbs of motion*¹⁵ and consists of several pairs of verbs. The core of the group is formed by the verbs *jít–chodit* (with the basic meaning ‘to go on foot’), *jet–jezdit* (‘to go in or on a vehicle or using some specific item, e.g. skis’; see below), *běžet–běhat* (‘to run’), *letět–létat* (‘to fly’) and the transitive verbs *nést–nosit* (‘to carry, typically while moving on foot’), *vést–vodit* (‘to lead, typically while moving on foot’), *vézt–vozit* (‘to carry in or on a vehicle’). There are also several pairs that belong only partially to this group as their behaviour resembles or corresponds to typical imperfective verbs (*vléci–vláčet* and *táhnout–tahat* both meaning ‘to drag’, *hnát–honit* ‘to chase or dash’, *valit–válet* ‘to roll’).

The most salient feature of these verbs is their atypical aspectual behaviour. The members of the pairs are the only Czech verbs that distinguish specific sub-meanings within the imperfective aspect associated with oppositions such as *directed towards a goal versus not directed towards a goal* and (partially) *single versus repeated* (see 2.3). The first member of the pair (*jít, jet* etc.) is the less typical imperfective verb: it forms future and imperative forms using the prefix *po-*;¹⁶ it does not usually express some meanings typical of imperfective verbs (e.g. ability, see 2.3); and it is not used in the formation of habitual-iterative verbs (see 2.3). The second member of the pair (*chodit*,

14 For example, when somebody enters a house, we can describe the scene using constructions such as *šel do domu, vešel do domu, šel dovnitř, vešel dovnitř, šel dovnitř domu, vešel dovnitř domu, přišel do domu*. The manner (‘to go on foot’) is expressed by the root of the verb, the destination and the direction are expressed by various combinations of prefixes, adverbs and prepositions.

15 Mrhačová (1993) uses the term “correlative” verbs of motion.

16 In some cases, the typical formation of the future form (e.g. *budu nést*) can also appear. Sometimes there is a semantic difference between the form with and without *po-*, e.g. the imperative *jdi* ‘go (somewhere)’ versus *pojď* ‘come (towards the speaker)’ or ‘go (somewhere with the speaker)’.

jezdit etc.) behaves more like a typical imperfective verb: it forms the future and imperative forms in the same way as other imperfective verbs in Czech; and it can form the basis for the derivation of iterative-habitual verbs (*chodívat, jezdívat* etc.; see 2.3).¹⁷

The verbs exhibit *rich polysemy* (Saicová Římalová, 2009a, 2010), with meanings that differ in their degree of concreteness-abstractness or in the intensity with which the meaning of motion is preserved. They also have rich metaphorical extensions and are frequent components of idioms. The verbs can undergo grammaticalisation or pragmaticalisation (e.g. constructions such as *jde o (něco)* ‘(something) is concerned or at stake’ or *jít* + infinitive of a full verb expressing a modal meaning; cf. Majsak, 2005).

The group also offers a *specific categorisation of motion* (which seems to correspond to the categorisation of motion as reflected in Czech verbs; cf. Saicová Římalová, 2010, 2016). The following *features and oppositions* are important for the Czech linguistic picture of motion: *the character of the moving entity* (e.g. human being versus other beings or inanimate things); *self-propelled motion versus motion with the help of something*; *manner, speed, obstacles* or difficulties associated with the motion; and the *surface* or environment where the motion takes place (especially solid surface versus water versus the air). Various transpositions are also possible. For example, a verb typical of the motion of animals (e.g. *lézt* ‘to crawl’) or things (e.g. *valit se* ‘to roll oneself’) can be transferred to refer to the motion of human beings (and can often be accompanied by negative connotations).

The opposition “*jít*” versus “*jet*” is important in Czech. The first type (*jít, chodit*) refers typically to self-propelled motion on foot by human beings and on a solid surface. The second type (*jet, jezdit*) typically refers to motion carried out with the help of an engine or some gadget and which takes place on a relatively solid surface (e.g. to travel by a vehicle, to ride a bike, to ski etc.; it can also refer to the motion of cars and other means of transport, e.g. *auto jede* ‘the car is going’). The opposition also extends to some transitive verbs. For example, *nést, nosit* and *vést, vodit* are typically associated with movement on foot; *vézt, vozit* with movement in a vehicle. Czech thus distinguishes two types of motion in cases where some other languages use the same verb (e.g. *to go* in English).

Within *syntax*, the expression of space, time or motion is related to the structure of an utterance and to the way the utterance construes the scene (the spatial scene or

17 The verbs also behave specifically in other respects. They participate, for example, in rich and sometimes irregular word-formation processes (the derivation of nouns, adjectives) which result in groups of formally similar words expressing various semantic nuances (cf. *chůze* versus *chození, příchozí* versus *přicházející* etc.). Some word-formation processes (typically prefixation) change the aspectual behaviour of the verbs. They may be accompanied by (sometimes quite radical) changes of meaning and changes in syntactic behaviour which enlarge the distance between the members of the original pair. Compare, for example, *jít* ‘to go on foot’, determinate, imperfective, versus *najít* ‘to find’, perfective, transitive; *chodit* ‘to go on foot’, indeterminate, imperfective, versus *nachodit* ‘to go on foot for some distance, typically longer’, perfective, versus *nacházet* ‘to find’, “typical” imperfective, transitive, or less frequently ‘to go on foot for some distance’, “typical” imperfective.



the scene of motion), including the temporal organisation of events. Languages may then differ in the way they express various components of the given scene or event. We can analyse these conceptualisations using image schemas (e.g. the *image schema of the path*; see above). The question can also be partially captured by *valency theory*¹⁸ and is addressed by selected typologies of verbs or predicates (see above).

We can observe several general tendencies in the syntactic behaviour of Czech verbs which denote motion (cf. Saicová Římalová, 2010, 2016). For example, un-prefixed forms tend to express the starting point and the goal by independent words (complements, adjuncts), while prefixed words may incorporate information about them into the verb (e.g. *vyjít* 'to go out' — the prefixed form of the verb implies that the starting point of the motion was inside of something). The manner of the motion and the nature of the environment tend to be expressed by the verb but can also be expressed by independent words (complements, adjuncts). Some verbs also imply the nature of the moving entity. We can also observe that Czech verbs of motion of the type *jít–chodit* seem to best fulfil the image schema of the path when they refer to physical motion. When the verb expresses more abstract meanings, the image schema of the path seems to deteriorate (cf. *Anna jde ze školy domů*. 'Ann is going home from school.' versus *jde za svým cílem* 'he follows his dream' versus *hodiny jdou* 'the clock is working' versus *jde o hodně* 'a lot is at stake').

2.3 GRAMMATICAL CATEGORIES

The notion of *time* tends to be strongly associated with *verbs*. In Czech linguistics, verbs as a word class are semantically defined as relating to features that change over time (e.g. Komárek et al., 1986). The two basic grammatical categories from verbal grammatical categories connected to time are *tense* and *aspect*.

Czech grammars distinguish two types of *tense*: *absolute* tense, which situates the depicted event or action in relation to the moment of the utterance (past, present and future tenses, e.g. *psal, píše, bude psát* — past, present and future forms of 'to write', imperfective); and *relative* tense, which situates the event or action relative to some other event or action (before, at the same time, or after). Absolute and relative tenses can be expressed by the same verbal form. Some non-finite forms (*přechodníky*, transgressives) are specialised for relative time, but their use by contemporary speakers of Czech is infrequent.

Although the temporal system of Czech verbs appears less complex than systems in other languages, the use of tenses by Czech speakers is still of interest. The category is interwoven with other grammatical categories (see below) and various contextual transformations are possible. For example, in some contexts it is possible to use the present form to express the future (e.g. *zítra odjízďím* 'I am leaving tomorrow')

¹⁸ Valency theory is a specific theory that has developed within Czech and Slavic linguistics (Daneš & Hlavsa, 1981; for the history of the theory cf. Panevová, 2016). Valency theory sees finite verb forms (the predicate) as the centre of an utterance (a sentence) and studies verbs (and, more recently, other parts of speech) and the nature of their complementation.



or the past (e.g. in narrations about the past: *vešel do domu a vidí, že tam není sám* ‘he entered the house and saw that he was not alone there’ — both *vidí* and *není* are present forms in Czech). The speaker can also transform categories such as tense and mood for pragmatic reasons (e.g. to express polite requests: the direct request *dejte mi to* ‘give it to me’ uses the imperative, while the polite versions *dal byste mi to?* ‘would you give it to me?’ or *dáte mi to?* ‘will you give it to me?’ use the conditional or the future form of indicative mood). Events depicted in longer speech acts typically have multiple orientation: both towards the moment of the utterance and towards each other. In addition to grammatical verbal categories, various other lexical or syntactic means are used for this purpose.

In Czech, the category of tense depends on the category of *mood* and on the *aspect* of the verb: only indicative forms of the verb express the absolute tense.¹⁹ Several temporal forms depend on aspect. For example, only imperfective verbs (see below) have all three forms: past, present and future. Perfective verbs have one form that can express the past (e.g. *přečetl* ‘(he) has read’) and one form that formally resembles the present form of the imperfect verbs but semantically expresses the future (e.g. *přečte* ‘he will read / will have read’).²⁰

*Aspect*²¹ is a grammatical category of Slavic languages that has been extensively researched (Dickey, 2000) but only a brief summary is possible here. Comrie (1976) related aspect to time and tense by seeing aspect as the “inner time” of the event and tense as its “outer” temporal orientation. Janda (e.g. 2006) has used metaphors to describe aspect: the perfective aspect is like a solid object, the imperfective aspect is like sand. Other authors have used other metaphors: the perfective is like a photograph, the imperfective is like a film. This type of explanation has a long tradition.

In Czech tradition, aspect is usually described as being divided into two types: the perfective (e.g. *napsat* ‘to write’) and the imperfective (e.g. *psát* ‘to write’). The semantic difference between the two types is frequently defined with the help of oppositions such as *limited* — *not limited or closed*; *finished* — *unfinished, in progress*. Within the imperfective aspect, two subtypes are sometimes distinguished: the imperfective “simple” aspect, which is neutral with respect to repetition (e.g. *psát* ‘to write’), and the imperfective “repetitive” aspect (verbs of the type *psávat, dělávat*). Danaher (2003) calls the second subtype habitual-iterative and has shown that such use describes a specific conceptualisation of repetition, a habit. This *specific type of repetition* is thus encoded in the grammatical system of Czech verbs.

Czech verbs typically express a single aspect, but there are exceptions. Some verbs are potentially bi-aspectual (e.g. *darovat* ‘to give a gift’) and their aspectual interpretation depends on the context (discussed by Chromý, 2014; Starý, 2017, and many others). In some contexts, certain verbs that typically belong to one aspect may express meanings typical of another. For example, *ten kabát mu sedne*

19 Imperative forms are oriented towards the future. Conditional forms conceptualise the event or action as being possible or not possible and as dependent on some condition. Czech grammars do not assign tense to these forms.

20 The formation of transgressives and imperatives also depends on the verbal aspect.

21 Aspect can also be preserved in some nouns or adjectives derived from verbs.



(perfective) / *sedí* (imperfective) can both be interpreted imperfectively as ‘the coat fits him’ (e.g. Starý Kořánová, 2019, and other sources).

Some authors (e.g. Němec, 1956, 1958) believe that contemporary aspect developed from an older category of spatial or temporal determination and the opposition *determinate versus indeterminate*.²² In contemporary Czech (and some other Slavic languages), there is one remnant of the determinate–indeterminate opposition in *verbs of motion* (*jít–chodit, jet–jezdit*, etc.; see above). The so-called determinate–indeterminate opposition covers several sub-meanings (Saicová Římalová, 2010): the determinate pole typically refers to a single case of event (motion) along a path towards a goal, although some other meanings are possible (e.g. motion from the starting point, and — but only in specific contexts — the ability of the motion or even a repetitive motion); the indeterminate pole typically conceptualises the event as repeated, but a motion without a goal or the expression of ability are also possible. We should note that only some meanings (especially concerning physical or literal motion) of lexical units relate to the determinate–indeterminate opposition. Some meanings (especially the more abstract ones) lose this ability and the verbs tend to behave like verbs of indeterminate aspect (e.g. *jde o* ‘something is concerned or at stake’).²³ The determinate–indeterminate opposition also disappears with word-formation (e.g. prefixation).

We can also detect temporal and (less frequently) spatial features in the so-called *manner of the verbal action* (or *aktionsart*), which is a semantic classification of verbs based on features such as the duration, repetition, phase or intensity of the action or event. For example, duration may be conceptualised as taking time versus being a single, typically short and quick act (e.g. *běžet* ‘to run’ versus *bodnout* ‘to stab’). Various phases of activity can be foregrounded. For example, some verbs primarily denote the beginning of an activity, or its end, or some limited realisation (e.g. *rozběhnout se* ‘to start running’, *doběhnout* ‘to finish running, to reach the goal’, *proběhnout se* ‘to run for some time; to run until one feels satisfied’, etc.). Representatives of individual subgroups can be derived by various prefixes or suffixes and may differ in aspect.

Case is important with respect to nominal grammatical categories. Czech grammars distinguish seven cases in contemporary Czech. Semantically oriented descriptions of case often note spatial (and less frequently temporal) components of the case meaning. For example, Skalička (1950) defines several basic meanings of cases: (a) syntactic meanings; (b) independent meanings of each case; (c) spatial, temporal, causal components; and (d) cases without a specific meaning, assigned only through the sentence structure and the valency (see above) of the verb. Skalička sees *spatial* and *temporal* components as semantically strong and states that Czech, unlike some other languages, does not have purely “local cases” but only cases that express some spatial meanings. He also points out that in some cases the meaning of the case may not be spatial — it may be only a non-spatial function

²² Some authors doubt this interpretation, cf. e.g. Bláha (2008, esp. pp. 59–61); some use different terminology (e.g. unidirectional — non-directional; Nessel, 2010).

²³ Various meanings of the verbs correlate not only with various aspects but also with different syntactic behaviour (valency).

or meaning integrated with a spatial component or it may be understood in spatial terms (*lokalizace* ‘spatialisation’ of case). Skalička believes that it is possible to explain (with more or less difficulty) meanings of all cases in spatial terms (*ibid.*, p. 148) and that the spatial component can vary in strength in different contexts (*ibid.*, p. 149).

Space seems to be the key background (source domain) for understanding case semantics in many theories. Some independent theories also explain case semantics in spatial terms. In the Czech context, this subject was introduced and discussed by Novák (2010a/1974, 2010b/1974). Novák (2010a/1974) states that the *spatial theories of case semantics (lokalismus)* are supported by a wide range of linguistic evidence. For example, repeating patterns in the semantics of cases, prepositions, affixes, lexical units, etc. in many languages indicate that selected non-spatial meanings (e.g. the goal, the cause, etc.) are expressed in the same way as certain spatial notions (e.g. approaching something, moving away from something). Novák (1974/2010b) suggests that most explanations of so-called global meanings of cases are essentially spatial. The spatial component of case semantics in Czech has also been elaborated by Konečná and Nebeský, who interpret Czech cases as expressing various *degrees of (spatial) unity of two entities* (Konečná & Nebeský, 1970, pp. 223–224). Local case is seen as expressing the most compact unity (“factual unity”, e.g. *člověk o holi* ‘a person moving with the help of a stick’); the instrumental case weakens this unity (e.g. by stressing the autonomous nature of the entities, e.g. *člověk s holí* ‘a person with a stick’); the genitive makes the unity even weaker (*člověk u hole* ‘a person by a stick’) or states the absence of unity (*člověk bez hole* ‘a person without a stick’); the dative does not state anything about the unity but confronts the two entities as being independent (*člověk proti holi* ‘a person against a stick’); and the accusative case denies the unity (*mimo dům* ‘outside the house, not in the house’). The authors also discuss the opposition *static versus dynamic (moving)* within case semantics (*ibid.*, p. 225): instrumental and local cases fit well within the static model, while some other cases are connected rather with the domain of movement organised along three prominent points: the starting point; a point touched by the movement; the final point or goal (*z domu* ‘from the house’; *o dům* ‘by the house’; *do domu* ‘to, inside the house’; cf. Konečná, 1974, above). Movement expressed by the accusative, dative and instrumental cases tends to be one-dimensional and linear, but it can become two-dimensional with the genitive case (*kolem domu* ‘around a house’). Another important observation, also stated by other authors, is the tendency for a case to express a similar meaning to a preposition that demands this case.

More recent cognitively oriented studies of case semantics do not use space or movement as the single domain of explanation and rarely try to find a single general (invariant)²⁴ meaning for all instances of the given case. Rather, they tend to

24 Novák (in Komárek et al., 1986, pp. 53–66) attempts a holistic description of Czech case semantics valid in specific contexts. The author suggests the following basic semantic field of case semantics based on functional-semantic features: integration, union into a whole versus hierarchy (with four subgroups: (a) genesis, intervention, inert intervention; (b) focusing; (c) inclusion; (d) catalysis). According to Novák, each case tends to express one



build upon various metaphorical mappings and propose networks of interconnected meanings (e.g. Janda & Clancy, 2006).

3. CONCLUSION

There is no doubt that space, time and motion are important concepts in the Czech linguistic picture of the world. The Czech language offers a whole continuum of means of various types and different levels of abstraction which can refer to these concepts, such as morphemes, lexemes, constructions and grammatical categories. In Czech utterances, several means connected with space, time and motion can (and often do) appear together. Some words participate in the construction of the scene and its temporal, spatial or motional aspects, but some grammatical categories are also related to time (e.g. verbal tense and aspect) or space (e.g. some nominal cases). The three concepts therefore tend to be interconnected, and their linguistic expression can be complex.

The Czech conceptualisation of space, time and motion may be convoluted, but it is nevertheless organised in various ways: for example, along selected oppositions (such as proximal-distant, left-right, up-down, front-back, directed towards a goal — not directed towards a goal, not repeated — repeated — repeated as a habit, and many others) or with the help of figuration, especially metaphors or image schemas (metaphors such as MOVING TIME, MOVING EGO, image schema of the path, and many others). Time is very often conceptualised metaphorically. Space and motion often function as a source domain for metaphors of more abstract concepts. Some of the oppositions or metaphors discussed in this paper also appear in many other languages, but some cases are typically Czech. For example, the group of determinate-indeterminate verbs of motion (although the group also exists in other Slavic languages) exhibits several specific features, such as the categorisation of motion into the *jít* and *jet* types, and the specific and rich polysemy of the members.

I could only touch on some topics that I consider important in this paper. There are many potential topics and questions that would be worth a more detailed investigation. There is no comprehensive cognitively oriented analysis of the conceptualization of time, space and motion in Czech yet. Further research in various partial topics would be undoubtedly fruitful as well (e.g. the analysis of the relationship between verbal and non-verbal means of expression; idioms and various linguistically fixated constructions; the conceptualization of time, space and motion in specific groups of speakers or in specific genres). The comparison of Czech and other languages (e.g. other Slavic languages) would be interesting as well. Comparative analyses or analyses of Czech produced by non-native speakers might lead to useful applications in the teaching methodology of Czech as a second language. They could, for example, help to indicate those moments that might be difficult for learners with a particular first

dominant meaning, but other meanings and contextual modifications (e.g. via prepositions, see above) are also possible.

language, because the complex nature of the linguistic expression of space, time and motion in Czech, the richness of the linguistic means available for this purpose, and the specific features of the Czech linguistic picture of space, time and motion might all present quite a challenge to non-native speakers of Czech.



BIBLIOGRAPHY

- Bartmiński, J. (2009). *Aspects of cognitive ethnolinguistics*. Sheffield, Oakville: Equinox.
- Bláha, O. (2008). *Vyjadřování budoucnosti v současné češtině (se zřetelem k ostatním slovanským jazykům)*. Olomouc: Univerzita Palackého v Olomouci.
- Collitz, K. H. (1931). *Verbs of motion in their semantic divergence*. Philadelphia, PA: Linguistic Society of America & University of Pennsylvania.
- Comrie, B. (1976). *Aspect*. Cambridge: Cambridge University Press.
- Danaher, D. (2003). *The semantics and discourse functions of habitual-iterative verbs in contemporary Czech*. München: LINCOM Europa.
- Daneš, F., & Hlavsa, Z., et al. (1981). *Větné vzorce v češtině*. Praha: Academia.
- Dickey, S. M. (2000). *Parameters of Slavic aspect: A cognitive approach*. Stanford, CA: CSLI Publications.
- Dokulil, M. (1962). *Tvoření slov v češtině I*. Praha: Nakladatelství Československé akademie věd.
- Evans, V. (2004). *The structure of time: Language, meaning and temporal cognition*. Amsterdam, Philadelphia, PA: John Benjamins.
- Feist, M. I. (2010). Inside in and on: Typological and psycholinguistic perspectives. In V. Evans & P. Chilton (Eds.), *Language, cognition and space: The state of art and new directions* (pp. 95–114). London, Oakville: Equinox.
- Filípec, J., & Čermák, F. (1985). *Česká lexikologie*. Praha: Academia.
- Grepil, M., & Karlík, P. (1998). *Skladba češtiny*. Olomouc: Votobia.
- Grzegorzczkova, R. (2001). O zkoumání rozdílů v jazykových obrazech světa: Obraz psychiky člověka v prostorových metaforách. In I. Vaňková (Ed.), *Obraz světa v jazyce* (pp. 5–18). Praha: Filozofická fakulta Univerzity Karlovy.
- Hirschová, M. (1977). Vzájemné vztahy předpon a předložek ve vazbách s prostorovým významem: Na materiálu českého jazyka. *Slovo a slovesnost*, 38(2), 103–111.
- Hirschová, M. (2013). *Pragmatika v češtině*. Praha: Karolinum.
- Chromý, J. (2014). The impact of tense on the interpretation of bi-aspectual verbs in Czech. *Studie z aplikované lingvistiky*, 5(2), 87–97.
- Janda, L. (2006). A metaphor for aspect in Slavic. *Henrik Birnbaum in Memoriam. International Journal of Slavic Linguistics and Poetics*, 44(3), 249–260. Available from <http://www.unc.edu/depts/slavdept/lajanda/mypubs.html>.
- Janda, L. (2015). Tense, aspect, mood. In E. Dąbrowska & D. Divjak (Eds.), *Handbook of cognitive linguistics* (pp. 616–634). Berlin, Boston, MA: De Gruyter Mouton.
- Janda, L., & Clancy, S. (2006). *The case book for Czech*. Bloomington, IN: Slavica Publishers.
- Johnson, M. (1987). *The body in the mind*. Chicago, IL, London: The University of Chicago Press.
- Klégr, A. (2007). *Tezaurus jazyka českého*. Praha: Nakladatelství Lidové noviny.
- Komárek, M., Kořenský, J., Petr, J., & Veselková, J. (Eds.). (1986). *Mluvnice češtiny 2*. Praha: Academia.
- Konečná, D. (1974). O významech českých pravých předložek. *Slovo a slovesnost*, 35(4), 261–264.
- Konečná, D., & Nebeský, L. (1970). Jeden záznam pádových významů současné češtiny. *Slovo a slovesnost*, 31(3), 223–226.
- Lakoff, G. (1987). *Women, fire, and dangerous things: What categories reveal about the mind*. Chicago, IL, London: The University of Chicago Press.



- Lakoff, G., & Johnson, M. (1980). *Metaphors we live by*. Chicago, IL: The University of Chicago Press.
- van Leeuwen-Turnovcová, J. (1990). *Rechts und Links in Europa: Ein Beitrag zur Semantik und Symbolik der Geschlechterpolarität*. Berlin, Weisbaden: Otto Harrassowitz.
- Lehoučková, Z. (2010). Slovesná prefixace ve světle Langackerovy kognitivní gramatiky. *Slovo a slovesnost*, 71(4), 340–349.
- Lewandowska-Tomaszczyk, B. (2016). Introducing conceptualizations of time. In B. Lewandowska-Tomaszczyk (Ed.), *Conceptualizations of time* (pp. 9–21). Amsterdam, Philadelphia, PA: John Benjamins.
- Linde-Usiekiewicz, J. (2000). *Określenia wymiarów w języku polskim*. Warszawa: Wydział Polonistyki, Uniwersytet Warszawski.
- Macurová, A. (1983). *Ztvárnění komunikačních faktorů v jazykových projevech*. Praha: Filozofická fakulta Univerzity Karlovy.
- Majsak, T. A. (2005). *Typologija grammatikalizacii konstrukcij s glagolami dviženija i glagolami pozicii*. Moskva: Jazyki slavjanskich kultur.
- Martinková, M. (2018). K tzv. sémantické typologii jazyků: Co česká slovesa pohybu mohou vypovídat o angličtině a španělštině. *Studie z aplikované lingvistiky*, 9(2), 37–53.
- Mrhačová, E. (1993). *Korelativní slovesa pohybu*. Ostrava: Sfinga.
- Němec, I. (1956). Kategorie determinovanosti a indeterminovanosti jako základ slovanské kategorie vidu. *Slavica*, 25(4), 496–534.
- Němec, I. (1958). *Genese slovanského systému vidového*. Praha: Nakladatelství Československé akademie věd.
- Neset, T. (2000). Iconicity and prototypes: A new perspective on Russian verbs of motion. *Scando-Slavica*, 46, 105–119.
- Novák, P. (1974/2010a). K věcné platnosti pádů, jejich tzv. celostnímu (obecnému) významu a lokalismu. In P. Novák, *Lingvistika a jazyková realita: Výbor z díla* (pp. 109–115). Praha: Akropolis.
- Novák, P. (1974/2010b). K lokalistickému pojetí významu pádů. In P. Novák, *Lingvistika a jazyková realita: Výbor z díla* (pp. 116–120). Praha: Akropolis.
- Pajdzińska, A. (2007). Kategorie strukturující jazykový obraz světa: antropocentrismus a opozice „vlastní“ — „cizí“. In L. Saicová Římalová (Ed.), *Čítanka textů z kognitivní lingvistiky II* (pp. 27–44). Praha: Filozofická fakulta Univerzity Karlovy.
- Panevová, J. (2016). Valence v gramatice, valence ve slovníku. In K. Skwarska & E. Kaczmarška (Eds.), *Výzkum slovesné valence ve slovanských zemích* (pp. 13–26). Praha: Slovanský ústav Akademie věd ČR.
- Pourcel, S. (2010). Motion: A conceptual typology. In V. Evans & P. Chilton (Eds.), *Language, cognition and space: The state of art and new directions* (pp. 95–114). London, Oakville: Equinox.
- Saicová Římalová, L. (2008). O ruchu człowieka. In R. Grzegorzczkova & K. Waszakowa (Eds.), *Pojęcie — słowo — tekst* (pp. 27–44). Warszawa: WUW.
- Saicová Římalová, L. (2009a). O významech sloves typu *jít* a typu *chodit* v češtině. *Bohemistika*, 9(3), 161–176.
- Saicová Římalová, L. (2009b). Představová schémata a popis jazyka (schéma cesty v češtině). *Jazykovědné actuality*, 46, 12–20.
- Saicová Římalová, L. (2010). *Vybraná slovesa pohybu v češtině: Studie z kognitivní lingvistiky*. Praha: Karolinum.
- Saicová Římalová, L. (2016). Valence českých sloves pohybu pohledem kognitivní lingvistiky. In K. Skwarska & E. Kaczmarška (Eds.), *Výzkum slovesné valence ve slovanských zemích* (pp. 247–256). Praha: Slovanský ústav Akademie věd ČR.
- Saicová Římalová, L. (2017). Gesta a jazyk vědy: K neverbální komunikaci doprovázející odborné projevy česky hovořících vědců. In M. Stluka & M. Škrabal (Eds.), *Liška a čban: Sborník příspěvků k 70. narozeninám prof. Karla Kučery* (pp. 110–116). Praha: Nakladatelství Lidové noviny.
- Saicová Římalová, L. (2018). Is there such a thing as nonverbal valency? *Prace Filologiczne*, 72, 321–331.

- Samek, T. (2016). *Tahle země je naše: Český a německý veřejný prostor v deiktické perspektivě*. Pardubice: Univerzita Pardubice.
- Sheets-Johnstone, M. (1999). *The primacy of movement*. Amsterdam, Philadelphia, PA: John Benjamins.
- Skalička, V. (1950). Poznámky k teorii pádů. *Slovo a slovesnost*, 12(3–4), 134–152.
- Starý, Z. (2017). Biaspectuals revisited. *Studie z aplikované lingvistiky*, 8(1), 111–123.
- Starý Kořánová, I. (2019). *Vidová kolokabilita*. Unpublished Ph.D. Thesis. Praha: Filozofická fakulta Univerzity Karlovy.
- Svašková, J. (2014). *Cyklčnost a linearita času v českém jazykovém obrazu světa*. Nепublikovaná diplomová práce. Praha: Filozofická fakulta Univerzity Karlovy.
- Sweetser, E., & Gaby, A. (2017a). Linguistic Patterns of Space and Time Vocabulary. In B. Dancygier (Ed.), *The Cambridge handbook of cognitive linguistics* (pp. 625–634). Cambridge, New York, NY, Melbourne, New Dehli, Singapore: Cambridge University Press.
- Sweetser, E., & Gaby, A. (2017b). Space-Time Mappings beyond Language. In B. Dancygier (Ed.), *The Cambridge handbook of cognitive linguistics* (pp. 635–650). Cambridge, New York, NY, Melbourne, New Dehli, Singapore: Cambridge University Press.
- Šlédrová, J. (2000). K sémantice českých rozměrových adjektiv. *Slovo a slovesnost*, 61(2), 112–137.
- Šlédrová, J. (2001). Mělký a plytký v češtině: Kam zmizely plytké talíře? In I. Vaňková (Ed.), *Obraz světa v jazyce* (pp. 78–87). Praha: Filozofická fakulta Univerzity Karlovy.
- Talmy, L. (2000). *Toward a cognitive semantics II*. Cambridge, MA: A Bradford Book.
- Talmy, L. (2017). *The targeting system of language*. Cambridge, MA, London: The MIT Press.
- Vandelanotte, L. (2017). Viewpoint. In B. Dancygier (Ed.), *The Cambridge handbook of cognitive linguistics* (pp. 157–171). Cambridge, New York, NY, Melbourne, New Dehli & Singapore: Cambridge University Press.
- Vaňková, I., Nebeská, I., Saicová Římalová, L., & Šlédrová, J. (2005). *Co na srdci, to na jazyku: Kapitoly z kognitivní lingvistiky*. Praha: Nakladatelství Karolinum.
- Vodrážková, V. (2016). Jazyková realizace konceptuální metafory ŽIVOT JE CESTA v češtině (se zaměřením na vzpomínkové texty). In L. Saicová Římalová & I. Vaňková (Eds.), *Lidský život a každodennost v jazyce* (pp. 51–60). Praha: Filozofická fakulta Univerzity Karlovy.
- Vodrážková, V. (2017). Schéma CESTA v české somatické frazeologii. In I. Vaňková, V. Vodrážková & R. Zbořilová (Eds.), *Horizonty kognitivně-kulturní lingvistiky: schémata a stereotypy v mluvených a znakových jazycích* (pp. 19–27). Praha: Filozofická fakulta Univerzity Karlovy.

