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Spatial Concepts in Slavic

A Cognitive Linguistic Study
of Prepositions and Cases

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Abbreviations

ACC	accusative
DAT	dative
GEN	genitive
INSTR	instrumental
LOC	locative
NOM	nominative
FEM	femininum
MASC	masculinum
PL	plural
PREP	preposition
SG	singular
LM	landmark
TR	trajector
Cro	Croatian
OCS	Old Church Slavic
Pol	Polish
Russ	Russian
Sln	Slovenian

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Introduction

In the great number of studies of Slavic philology, certain major languages (first Russian and then Polish and Czech, followed by Bulgarian) receive more attention than others. As a rule, western South Slavic is in last place. Recent discussions of western South Slavic linguistic issues have mainly been sociolinguistic studies about the disintegration of Serbo-Croatian. It is difficult to find any contemporary book-length analysis that focuses on the semantics of this language area. This is why western South Slavic is the main focus of attention in this study and why the other languages considered – especially Russian and Polish – are given secondary attention. Specifically, the analyses in this book concentrate on the language B/C/S.¹ “B/C/S” refers to the language area formerly known as Serbo-Croatian, which is presently differentiated into the standard languages of Bosnian, Croatian, and Serbian. In the parts of the book in which I concentrate, for example, on Croatian examples and corpora only, I use the term “Croatian”. However, the findings on the topics examined in this book are generally applicable to all the standard languages. In the parts of analyses treating topics for which differences occur and/or are relevant, I refer to a particular standard language or language register with a precise term; for example, “standard Serbian” or “spoken Serbian”. If examples used in the analyses originate from languages other than Bosnian/Croatian/Serbian, this is explicitly indicated. If the language is not indicated, it is B/C/S examples that are cited and discussed.

A comparative dimension is present in the analyses because I believe that a small number of comparative analyses of different Slavic languages (e.g., JANDA 1993, 2002; DICKEY 2000) offer a different, productive, and more in-depth view not only on each single language analyzed, but also on Slavic as a language group. Furthermore, the comparative view contributes to the study of language universals, language typology, and language acquisition. Moreover, the findings of such an analysis contribute to machine translation.

The topic of this book, spatial conceptualization in Slavic, and its impact on the conceptualization of non-spatial domains, has not often been dealt with in the framework of cognitive linguistics. The prepositional and case semantics of South Slavic have seldom been addressed in any semantic framework beyond grammatical descriptions. In recent years there have been an increasing number of cognitive analyses of Slavic. However, these analyses concentrate on the major languages mentioned above. Moreover, the majority of existing studies are limited to the analysis of single categories (e.g., single prepositions or prefixes, or single cases), restricting their attention in most cases to a single Slavic language.

1 Another western South Slavic language, Slovenian, is also considered in Chapter 2.

When one considers analyses dealing with prepositions and cases in the cognitive framework, CIENKI's (1989) study, following JACKENDOFF's (1983) theoretical framework, is the first monograph dealing with a set of Russian and Polish spatial prepositions and their English equivalents. Some later analyses employ a comparative view on Russian and English spatial prepositions (ŠABANOVA ET AL. 2001; PEKAR 2001; SELIVERSTOVA, MALJAR 1998). The analyses in the collected volume edited by PAJAR, SELIVERSTOVA (2000) illustrate the state of the art in research on individual Russian prepositions, mainly their spatial meanings. PAJAR, PLUNGJAN (2000) examine the Russian preposition *nad*, PLUNGJAN, RAKHILINA (1996) *skvoz'* and *čerez*, as well as *pod* (2000), and SELIVERSTOVA (2000) and KUSTOVA (2001) *na*. Among the first analyses of Polish prepositions within the cognitive framework is KALISZ (1985), concentrating on the preposition *za*. Individual Polish prepositions are analyzed by DĄBROWSKA-MICHALCZAK (1992) and KOCHAŃSKA (1996); the object of these analyses are *pod*, and *przez* and *w*, respectively. HAMMEL (2003) analyzes several Polish prepositions – limiting himself to the description of spatial relations; WŁODARCZYK (2003) is similar. WEISS (2003) examines the main set of Polish prepositions used in the temporal domain, concentrating on spatio-temporal metaphorical mappings. The study by PRZYBYLSKA (2002) is the most extensive analysis of Polish prepositions in the cognitive framework.

When turning to analyses of case semantics in Slavic within the cognitive framework, even fewer studies can be found. Few analyses are devoted to the cognitive analysis of individual cases in Russian, Polish, and Czech. WIERZBICKA (1988) focuses on the Polish dative in a semantic framework close to cognitive. The Polish dative is also the subject of two cognitive studies: RUDZKA-OSTYN (1992) and DĄBROWSKA (1997). JANDA (1993) provides detailed descriptions of the Czech dative and the Russian instrumental along with a briefer comparative view on the Russian dative and Czech instrumental.² In her later work, JANDA also deals with different aspects of the Slavic case semantics (e.g., JANDA 2002).³ Although they provide valuable methodological insights into the analysis of spatial language in general, and Slavic prepositions and cases in particular, these studies have left western South Slavic entirely out of consideration. Apart from my own analyses of certain aspects of prepositional and case semantics of Croatian (ŠARIĆ 1998, 2001, 2002, 2006a, 2006b), only one book-length study (KLIKOVAĆ 2002, rev. ed. 2006) partly concentrates on issues related to the concept of space in western South Slavic, specifically on the containment concept in Serbian and English.

This study of prepositions and cases is conducted within the theoretical framework of cognitive linguistics, an approach that provides an outstanding basis for

2 Single Slavic verbal prefixes have been the subject of several analyses (e.g., RUDZKA-OSTYN 1983; JANDA 1986; PASICH-PIASECKA 1993; TWARDZISZ 1994; DĄBROWSKA 1996; SHULL 2003; BELAJ 2008).

3 For an overview of JANDA's work on case semantics, cf. <http://hum.uit.no/lajanda/mypubs/mypubs.html>.

analysis of the issues related to the perception of spatial relations and their language coding (LAKOFF 1987; LANGACKER 1987, 1991a, 1991b; JANDA 1993; DĄBROWSKA 1997; EVANS, TYLER 2004; TYLER, EVANS 2007). Constructionist approaches such as GOLDBERG (1995, 2006) are very promising for the analysis of topics related to those dealt with in this study; see, for example, their application to Slavic material in FRIED (2004, 2005).

Cognitive linguistics implies that grammar is inherently symbolic and that all grammatical forms are meaningful. Therefore, in the analysis of linguistic forms, I aim to define their meanings and demonstrate how the proposed semantic analyses differentiate them from other related categories. A very brief outline of some basic concepts employed in the subsequent chapters follows. Other theoretical issues are discussed in greater detail in the respective chapters. The concept of the semantic network (LANGACKER 1991a: 369 ff., 1991b: 266 ff.) means that the senses of polysemous linguistic units form a network that is organized by various categorizing relationships, which include *extension from a prototype* and the *similarity principle*. Extension implies that a peripheral member of a category is related by general cognitive principles to the more central, “prototypical” member. General cognitive principles employed in this process are metaphor and metonymy. Similarity implies resemblance among the members of a category when it is not possible to identify basic, or central, members, thus contributing to a distinct shape of a category.

Meaning in cognitive linguistics is equivalent to conceptualization. It comprises not only content, but also imagery, or *construal* of the content. The ability to construe the same content in different ways is one of the most important human cognitive capacities. An example of profiling is the relation of semantically related verbs and nouns; for example, *reading* and *to read*. Whereas verbs profile processes, nouns involve construing an event as a “thing”. The term “thing” in cognitive grammar covers physical objects, abstract entities, and qualities (i.e., entities designated by nouns). The noun *reading* backgrounds a temporal dimension profiled by the verb *to read*. Verbs, adjectives, adverbs, and prepositions designate relations between entities. When perceiving relations, we tend to impose different perspectives on the event and participating entities. Our tendency is to view one element as the central element of a scene against the background of other entities. In cognitive grammar, the more salient element is termed the *trajector*, and the elements of the background are referred to as *landmarks*. A construction may involve more than one trajector and landmark; for example, the clausal trajector may differ from the trajector of a preposition involved in a construction. I use the terms “trajector” and “landmark” through the analyses in this book in a simplified way: I analyze spatial constructions typically involving two entities placed in a spatial relation with the help of a preposition and a case; for example, *knjiga je na_{PREP} stolu_{LOC}* ‘a book is on the table’. By the term trajector (TR), I refer to a located object, be it a moving ob-

ject or stationary object (*knjiga* in the given example). By the term landmark (LM), I refer to the object in relation to which the TR is located (*stol* in the given example).⁴

Speakers of a language often construe the same content by imposing contrasting images; that is, by highlighting different aspects of the situation. The language offers a range of options, and speakers choose options that best match their communicative intentions. The choice between different prepositional and case coding is always semantically motivated. The constructions may convey a similar meaning, but they illustrate choice options, and at times considerable differences in what is highlighted in a situation. It is challenging to analyze the motivations for different coding within one language, and even more the varieties in prepositional and case usage between two or more related languages. In some cases, we are confronted with intriguingly different ways of seeing spatial settings, of foregrounding and backgrounding their elements. Choices are always logical and explainable, although they may not be predictable. Grammatical choices reflect conceptualization patterns conveying a particular image behind the form. The grammar imposes a particular perspective on a situation.

Cognitive approaches to prepositions have enabled a different insight into the long catalogue of meanings listed in traditional linguistic descriptions and dictionaries. They observe meanings of a preposition traditionally considered “irregular” and “idiomatic” as part of a structured meaning network of the preposition. Regarding cases, cognitive linguistic studies have demonstrated that they can be analyzed differently: not only in purely syntactic terms, in which the case ending seems to be merely a formal exponent of grammatical function, or as in traditional grammars, which attempt to define cases in describing their numerable uses, whose interrelation is very difficult to discover. Cases in cognitive linguistics are ascribed distinct meanings. It has been demonstrated that the meaning of a single case can be seen as a structured meaning network (cf., e.g., JANDA 1993 for the Czech dative and Russian instrumental, and DĄBROWSKA 1997 for the Polish dative).

Moreover, a semantic approach to prepositions and cases in the tradition of cognitive linguistics is a valuable didactic tool in language acquisition (JANDA, CLANCY 2002). I am convinced of the applicability and strength of the main ideas of cognitive linguistic in analyzing prepositional and case semantics. However, the analysis of spatial language must try to link spatial language and perceptual processing more directly (e.g., REGIER, CARLSON 2001). The relation of spatial language and geometric relations in the scene being described is certainly an important factor, as shown, for example, in HERSKOVITS (1986) and LANDAU, JACKENDOFF (1993). Even so, an account must also be sought that takes into consideration how objects interact with

4 LANGACKER (1987: 217 ff.) introduced the terms *trajector* and *landmark* to distinguish a foreground figure that is mobile or more movable in relation to its location, which usually is more stationary. The foreground is called the *trajector* and the background the *landmark*. There are various opinions regarding the adequacy of the terms in describing various spatial configurations.

each other, the forces they exert on each other, and the conceptual relation between the objects that is reflected in the prepositional and case usage. The advantages of such an account are illustrated, among other approaches, in the “functional geometric framework” of COVENTRY, GARROD (2004).

Overview

By concentrating on selected prepositions *and* cases, the chief aim of this work is to overcome the limitations related to the analysis of single language units (i.e., prepositions or cases). Hence it concentrates on an important segment of spatial language, which I believe emerges in the interrelation of prepositional and case meaning in the Slavic languages that have preserved nominal inflection. I address not only the semantic profile of spatial expressions, but also how spatial concepts are used in the construal of non-spatial domains. Because an overview of spatial language in its entirety far exceeds a book-length study, the selection of individual topics analyzed in the individual chapters of this book is motivated by their importance for the conceptualization of space.

Various language corpora are used in this analysis of spatial constructions. The corpora and other sources (e.g., dictionaries and collections of old text examples) are indicated in individual chapters. When relevant, a diachronic perspective is included in the analysis as well. Diachronic study of the usage of spatial expressions is useful not only when verifying the temporal order in which particular usage types occurred, but also when seeking an explanation for the development of the contemporary usage network.

The first chapter of this book is devoted to the main theoretical notion this analysis operates with: metaphorical extension. Cognitive linguistics has recognized the importance of spatial semantics in conceptualizing other non-spatial domains. However, analyses have often left uncertainties regarding the real status of the spatial domain and how it is related to other domains. This chapter seeks to introduce and exemplify the relation of spatial usages of prepositions and cases (i.e., prepositional constructions) to other, non-spatial usages. Selected examples are used to discuss what a spatial prototype is and how it can be extended, as well as how metaphorical extensions map spatial usages onto non-spatial domains. The analysis seeks to demonstrate how the meanings of spatial prepositions and cases they combine with extend – for example, into the domain of causal and temporal usages.

In concentrating on two of the most basic and most frequent spatial prepositions in Slavic – that is, on two opposite spatial relations, “in-ness” and “on-ness” and their interrelation in Chapter 2 – the principles of organizing their meaning network are demonstrated along with the variety of spatial settings these prepositions cover. Moreover, the choice of the prepositions *na* ‘on, at; to’ and *u* ‘in, into; to, at’ and their equivalents in Slavic enables a view of their interrelation with the cases they combine with; that is, the accusative and locative. These two prepositions are the

most typical prepositions occurring with the accusative and locative. The close correspondence between the concepts expressed by *u/v/w* and *na* in Slavic suggests similarities in the conceptualization of basic spatial relations that are associated with straightforward geometry. However, the observable divergences of the prepositional and case usages in individual languages reveal a challenging field of investigation because they are already observable in the conceptualization of basic spatial relations. An equally interesting issue concerns overlap in the usage of prepositions denoting “in-ness” and “on-ness” within a single language.

Proximity is another crucial spatial relation. The choice of the preposition *kod* ‘by, beside, next to, near, at; during; among’ in the discussion of proximity concepts in Chapter 3 is motivated by its frequency and the fact that this preposition is semantically less “distinct” and thus less restrictive regarding its combination with different kinds of spatial landmarks than other proximity prepositions. With the variety of concepts it covers, it is an ideal candidate for explaining how the spatial conceptualization of proximity relations influences the understanding of non-spatial domains. Furthermore, the contexts it occurs in offer a view of an important aspect of the semantics of the genitive case. The preposition *kod* has been a “troublesome” preposition for language normativists. It occurs in static and dynamic contexts, the second being a matter of controversy in the standardization processes of Serbo-Croatian and the languages that emerged after its disintegration. Although *kod* primarily relates to static scenes, I argue for the validity of dynamic usages of *kod* on the basis of the general semantics of the genitive, the case it combines with. I also argue that the constructional meaning actually triggers the dynamic usage of *kod* because its occurrence strongly depends on the meaning of the verb used in a construction. This analysis opens additional challenging issues, such as how the opposition static vs. dynamic is expressed in Slavic, how the speakers of a particular language conceptualize motion vs. static scenes, and what this means for the coding possibilities of a language. A part of the chapter addressing proximity relations deals with the preposition *pri* ‘by, at, near, close to, next to’, which is a preposition shared among the Slavic languages. The analysis of its meaning network seeks to account for the divergences in the spatial and non-spatial usages of *pri* in different languages and to demonstrate how one and the same basic spatial meaning enables different metaphorical extensions and meaning shifts that may occur in individual languages while not being observable in other, albeit closely related, languages. In addition, *pri* offers a closer look at the general semantics of the case it combines with – the locative. Thus, through their central spatial meaning, *pri* and its near-synonym *kod* enable a perspective on the semantic profile of the locative and genitive, respectively.

When examining the prepositions *na* and *u* – that is, the containment relation and contact with a surface relation – the analysis in Chapter 2 covers most typical accusative and locative prepositions, hence providing a solid basis for an insight into the semantics of the accusative and locative. The inclusion of proximity relations enables a closer look at a great deal of spatial semantics of the genitive and locative case. However, an intriguing phenomenon remains, which is the subject of the

Chapter 4. Two cases in modern B/C/S, the dative and the instrumental, resemble spatial “cases proper” in certain other languages in that they convey spatial information not only with, but also without prepositions. In the analysis dealing with the spatial meaning of the dative case, dative prepositional usages are first examined in detail, including comparative remarks on the semantics of the preposition *k* in various Slavic languages. This dative preposition is shared by the Slavic languages, hence providing a perspective on their unexpected divergence in prepositional usage. The analysis of the bare “directional” dative that follows in the second part of Chapter 4 seeks to determine the motivations and sources of this “peculiar” usage – peculiar, because analytical tendencies and a tendency toward increasing the set of prepositions are observable in modern Slavic. The bare directional dative form appears to represent an opposite tendency, thus raising the issue of the motivations for this usage. It is argued that the specific semantics of the bare directional dative, which occur almost exclusively in contexts with humans as end-points of the motion, are closely related to other, central meaning domains of the dative case.

1 Spatial usages of prepositions and their relevance for other facets of prepositional semantics: Extensions from spatial meaning

Prototype theory has had the most influence on the development of cognitive linguistics. Pioneering experimental and theoretical work on prototype theory was carried out by ROSCH and her colleagues (e.g., ROSCH 1973a, 1973b, 1978; ROSCH, MERVIS 1975). Their research built on earlier insights, notably WITTGENSTEIN (1953). The basic idea that not all members of a given category have the same status – that is, that some category members are “better” examples of a category than others – has been applied not only to the study of nouns and verbs, but also to the study of words traditionally considered “grammatical”. ROSCH (1973, 1978) demonstrated how the notion of “class”, or the prototype, evolves from repeated experience of typical exemplars. The notion of similarity or resemblance is a crucial category in forming mental categories. The modification of existing prototype-like categories occurs via the process of extension, which may be conceived of as analogy or metaphor. Analogy and metaphor are in principle pragmatic, open, context-dependent notions.

Metaphorical extensions are a fundamental source of changes in lexicon, phonology, morphology, and syntax. They are an important prerequisite in the analysis of the structure of a language category and its relation to another related or distant category. The extension of category membership to new members is part of cognitive processes and language structure. Before turning to prepositional semantics in the strict sense (Section 1.3), some observations about metaphorical extensions are presented.

1.1 Metaphorical extensions in lexical and constructional meaning

An example of metaphorical extensions in lexical and constructional meaning is illustrated by the sentences in (1):

- (1) a. On je oko sebe *sagradio zid*. ‘He built a wall around himself.’
b. On se *sakrio u mišju rupu*. ‘He crawled into a hole.’ (literally, ‘He hid in a mouse hole.’)
c. On se potpuno *povukao u sebe*. ‘He withdrew into himself.’

All three examples are based on concrete spatial images and convey similar information. In all of them, a subject has isolated himself from the rest of the world. The volitional isolation process of an individual is conveyed through three phrases: *sagraditi zid (oko sebe)* ‘to build a wall (around oneself)’, *sakriti se u mišju rupu* ‘to crawl into a hole’ (literally, ‘to hide in a mouse hole’), and *povući se (u sebe)* ‘to withdraw (into oneself)’. The first image presupposes the similarity of something in the subject’s behavior to the physical activity of building a wall around an object in physical reality. The spatial image conveys information about the subject being surrounded by a tall object that is able to protect and hide, and keep foreign views outside of the subject’s physical sphere, defined by the interior borders of the wall. The concrete meaning of the lexeme *zid* ‘wall’ includes building material, such as cement or bricks formed in a structure of a certain thickness and elevation. The image of this structure and its function gives rise to the extended meaning of the lexeme that can be formulated as partition, divider, or barrier. The metaphorically construed object can either be an obstacle in a situation in which someone is trying to reach a goal (*naišao je na zid* literally, ‘he encountered a wall’), or an object providing defense or protection from the outer world. The second spatial concept involved in sentence (1a) is suggested by the verb *sagraditi* ‘to build’. The action of building in the real world implies handling material in order to produce an object of certain structure and appearance. This action metaphorically transfers into a domain similar to the building process: the metaphorical action involves a series of the subject’s distinct actions leading to the accomplishment of protecting himself.

The image conveyed by sentence (1b) is based on the metaphorical potential of the concrete spatial object designated by the word *rupa* ‘hole’. Its primary meaning relates to an image of a container-like object excavated in the earth or similar solid substance. It is capable of containing and enclosing objects. However, more than the general semantic features related to the word *rupa*, its modifier *mišji* ‘mouse’ is more important for the complete image. A ‘mouse hole’ implies a small, extremely bounded location. An object enclosed in such a space is less visible than an object hidden in a hole of average dimensions. In addition, the image also conveys the subject’s attitude. He has undergone a process of becoming smaller in a metaphorical sense. The process itself is referred to by a verb with spatial semantics, *sakriti se* ‘to hide’. It preserves its primary spatial semantics in the image conveyed by (1b).

The image conveyed by construction (1c) implies two spatial sub-images: the first relates to the meaning of the reflexive verb *povući se* ‘to withdraw’. It implies a volitional action of leaving one location in order to reach the other. The motion depicted is gradual and slow. The second component of the spatial conceptualization is the metaphorical image of the body as a container and the subject, metonymically understood as subject’s psychological dimension, inhabiting that space. However, this particular image implies the subject’s “division”: the subject’s interaction with the outer world represents a metaphorical leaving of his original location; that is, his body. The subject leaves his inborn container in order to approach outer reality. The approach is realized by means of communicational abilities. After deciding not to

interact, the subject is involved in a spatial image again: he leaves the outer world by stopping communication, for example, and returns to his inborn container and original location: into his body again. The metaphorical extensions related to the verb *povući se* ‘to withdraw’ are associated with certain pragmatic inferences. The withdrawal – that is, moving away from a certain location or object, going further in order to protect oneself from outer threats – results in an escape from the outer world. The metaphorical extension of the category *povlačenje* ‘withdrawal’ enables inclusion of hiding and escaping as metaphorically derived semantic features.

The constructional context of metaphorical extensions from the spatial domain sheds light on their contextual relevance. Some contexts exhibit more stability within the cultural context or within human conceptualization processes as a whole. The metaphorical extensions included in the constructions in (1) illustrate the relevance of spatial images in construing meanings other than spatial.

1.2 Metaphorical extensions underlying grammaticalization, and transitive vs. intransitive coding of events

Metaphorical extensions of prototype-like categories are central in grammaticalization processes, traditionally described as a process in which “autosemantic” words either change their meaning in a “bleaching” process in which they become “synsemantic” words,¹ or as a process in which the meaning of autosemantic words influences the meanings of synsemantic words. To demonstrate this process with an example: verbs with an explicit spatial reference – for example, *ići* ‘to go’ and *doći* ‘to come’ – may transform their concrete spatial meaning which, via meaning extension, applies to non-spatial domains. In (2), a mental process is referred to. However, the explicit meaning of a process is expressed in construction (2a) only. Construction (2b) conveys the image of decision-making as a spatial image involving motion: the subject has approached the decision (*je došao do* ‘he came to’), which is conceived of as a spatial object and a goal of the motion. The spatial semantics of the preposition *do* ‘to, till’ and the spatial semantics of the genitive case realize this spatial construal along with the motion verb *doći* ‘to arrive/come’:

- (2) a. On je odlučio. ‘He made a decision.’
 b. On je *došao do odluke*. ‘He made a decision.’ (literally, ‘He came to the decision.’)

Metaphorical extension of the spatial meaning of *doći* and *ići* can be seen in examples conveying temporal “motion”; for example, *to će doći na isto* ‘it will be the

1 In the traditional understanding of grammatical categories, two types of lexical units are identified on the basis of their reference type: one type refers to “language external” reality, such as nouns and verbs, and the other refers to “language internal” relations, such as conjunctions and prepositions.

same; it will make no difference' (literally, 'it will come on the same'), *ide na bolje* 'it is getting better' (literally, 'it is going on the better'). The expression *doći na isto* implies an unspecified object or event approaching a destination termed "sameness". The metaphorical arrival at that destination implies the futility of the efforts preceding the metaphorical motion to the location. The expression *ide na bolje* extends from the spatial domain, in which it designates the physical motion of an object or event toward a destination, implied in the semantics of *na* and the accusative case of the comparative *bolje*, into the temporal domain. Reaching the metaphorical destination termed "better" at a future point means acquiring a better state; that is, to improve. The overall meaning of the construction implies a shift from the spatial into the temporal domain.

Another example of metaphorical extensions related to the domain of space can be found in the domain of verbal transitivity. The transitivity concept is a central concept in understanding events and actions as different from states. The prototypical definition of an event includes three instances: an agent or cause that might be overt or hidden, an activity or effect on an overt or hidden patient, and a measurable change observable in the time in which an event emerges. Prototypical transitive events, as in (3), include the following constellation of an agent (*Ivan*), a patient (*kuća* 'house'), and an action (*srušiti* 'to demolish'), resulting in the observable physical change of the patient at the end-point of the action:

- (3) Ivan je srušio kuću. 'Ivan demolished the house.'

However, many events involve less typical patients that are less concrete, less visible, or less highlighted in the image. Although not prototypical patients, they undergo an observable change in an event. The fact that some of their features are comparable to those of prototypical patients makes them metaphorical patients grammatically encoded as direct objects. The examples in (4) and (5) use the same verb conveying the event described as intransitive in (4) and transitive in (5):

- (4) a. Jahao je *na* konju. 'He was riding on a horse.'
 b. Preplivao je *preko* rijeke. 'He swam across the river.'
 c. Obišli su *oko* katedrale. 'They went around the cathedral.'
 d. Prošetao je *sa* svojim psom. 'He walked with his dog.'
- (5) a. Jahao je konja. 'He was riding a horse.'
 b. Preplivao je rijeku. 'He swam the river.'
 c. Obišli su katedralu. 'They circumvented the cathedral.'
 d. Prošetao je svoga psa. 'He walked his dog.'

Expressions in (4) involve spatial images conveyed by the prepositional phrases *na* ‘on’ + locative, *preko* ‘across’ + genitive, *oko* ‘around’ + genitive, and *s(a)*² ‘with’ + instrumental. The patients depicted in the spatial constructions in (4) are less controlled and less affected by the event. In (4a), the horse is the location of the event, whereas in (5a) it is the controlled, manipulated patient, affected by the event of riding. In (4b) the river is merely a geographical location, whereas in (5b) it is the patient and is absolutely affected by the event. The cathedral in (4c) is a spatial object whose shape and position defines the motion of the subjects. In (5c), its contours are “controlled” by the subjects’ motion. In the scene depicted in (4d), the dog is a companion with his own freedom. In (5d), it is a controlled, manipulated patient.

Different ways of conceptualizing the same event can also be illustrated by the examples *prijeći preko ceste* ‘to go across the road’ vs. *prijeći cestu* ‘to cross the road’, *preletjeti preko polja* literally, ‘to overfly the field’ vs. *preletjeti polje* ‘to fly over the field’, and *preskočiti ogradu* literally, ‘to overjump the fence’ vs. *preskočiti preko ograde* ‘to jump over the fence’. Although the events may be identical in reality, the spatial entities involved in the image might be construed as prototypical patients, with event depiction in a prototypical transitive construction, or as less typical patients that are not controlled or manipulated in an intransitive construction.

1.3 The relation of spatial and non-spatial concepts in the analysis of prepositions

Cognitive linguistics has recognized the importance of spatial semantics in conceptualizing other non-spatial domains. When it comes to prepositions, their analyses have often left uncertainties regarding the real status of the spatial domain and how it is related to others. This section aims to examine the relation of spatial usages of prepositions and cases (i.e., prepositional constructions)³ to other, non-spatial usages.

There is cross-linguistic variability in how locative terms map onto spatial relations. Hence the wide range of relations covered across languages. Each language contains only a few prepositions or equivalent spatial expressions that have to encode a variety of spatial relations. Natural languages only encode a limited number of spatial relations between objects (LANDAU, JACKENDOFF 1993) and these relations have to cover the whole multitude of relations found in physical reality. This

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- 2 The preposition occurs as *sa* in standard Croatian when the following word begins with *s*, *š*, *z*, or *ž*. In all other cases, *s* is a single-consonant preposition.
 - 3 In Slavic, a preposition always occurs with a non-nominative case (excepting idiomatic constructions such as Sln *kaj je to za en* + nominative or Russ *čto èto za* + nominative ‘what kind of a(n) . . . is that?’). Thus, the semantics analysis of prepositional constructions must take into consideration the semantic impact not only of prepositions, but also of the cases they combine with.

leads directly to the issue of polysemy, one of the most difficult problems to deal with in analyzing not only prepositional semantics, but spatial semantics in general.

A significant problem with studies of prepositions is that most do not explicitly define the place and importance of non-physical uses of prepositions (e.g., HAWKINS 1984; HERSKOVITS 1982, 1986; REGIER 1992, 1996; VANDELOISE 1984) within the scope of the analysis. This implies that the relation of the spatial and non-spatial domains remains unsolved. It leaves the question open whether methodologies applied to the study of spatial meanings could be adapted to a more comprehensive study of prepositional semantics. The establishment of the category structure of prepositions as polysemous items is not complete if all the domains in which they operate are not taken into consideration. To settle the semantic characteristics of the spatial and physical usage of a preposition means solving one side of the problem only. However, it is legitimate to do so as long as the analysis explicitly states its aim. Most analyses engaged in the examination of the spatial and physical uses of a preposition tend to attribute their conclusion to the prepositional category as a whole, although usage examples other than spatial might have not been addressed.

Despite the remarkable interest for metaphorical conceptualization within the framework of cognitive linguistics, the abstract uses of prepositions have received attention only randomly. DIRVEN (1993) dealt with non-spatial uses of prepositions, and his analysis sought to explain how concepts built up in mental space were motivated by the categorization effected by prepositions in the spatial and physical world. DIRVEN associated certain concepts with the prepositions he studied and explained how they are categorized differently according to the semantic content of each preposition. For the first time, different levels of abstraction are established in a continuum in which space, time, and other abstract relations that prepositions set up are found.

The motivation for this study is the idea of the privileged status of spatial conceptualization in the understanding and representation of non-spatial domains in the languages considered. Nevertheless, the question of whether spatial semantics can account for *all* the other non-spatial usages of a preposition must not result in a positive answer at any cost. The relation of spatial and non-spatial meanings conveyed by cases is even more complex and needs much detailed research, which exceeds the scope of this analysis.

The case studies of selected spatial constructions in the following chapters emphasize spatial usages. However, the aim is to show not only the meaning differentiation within the spatial domain, but also how this domain is reflected in other, non-spatial domains. Consequently, the analysis seeks to provide a complete semantic description of the selected units. If the spatial domain cannot be related to certain prepositional usages, other modes of explanation are sought. Still, the emphasis of this analysis primarily remains on spatial usages. The analysis includes not only prepositions, but also selected cases as instances of spatial conceptualization. Due to the scope of this book, some problems of the usage of analyzed units in domains other than spatial are only outlined.

The historical dimension is partly included in the analysis of selected items because claims about the origin of a category and its development should be subject to verification followed by an attempt to establish the historical evolution and changes within the category. Diachronic study of prepositional and case usage is useful when verifying the temporal order in which particular usage types occurred, but also when seeking an explanation of the development of the network of contemporary usages.

1.4 Prepositional prototypes and core meanings

Extensions of prepositional meanings are metaphorical in their nature because they emerge in mappings of primary domains of human experience onto a more abstract domain. This section shows the general directions of extensions of spatial meanings of prepositional constructions based on some Croatian examples.

The establishment of a prototype from which all other senses of a preposition derive via lexical operations seems controversial. However, most analyses appear to agree that other related senses of a preposition radiate from a *core meaning* or *prototype*. A synchronic examination of the attested senses of a category can help to hypothesize some directions of meaning extension. An organized system appears to function in human minds when using a polysemous preposition. Nonetheless, it is questionable to what extent the speaker's consciousness about the relatedness of the meaning network resembles linguists' representations of prepositional meaning. As SANDRA, RICE (1995) and RICE ET AL. (1999) observe, semantic accounts of prepositions do not have to make serious claims of conceptual organization. In other words, the prepositional senses that linguists identify do not necessarily have counterparts in the speaker's conception of a linguistic category.

To check if a presupposed core, central, or prototypical meaning of a preposition is only an elegant linguistic construct, testing native speakers' judgments about the centrality of certain uses is useful. If native speakers are asked to cite a representative example of the use of the Croatian preposition *u* 'in, at; to, into', which, according to them, conveys a central image related to it, sentences with various spatial configurations are given. However, in all of them a TR is enclosed in a container-like LM (e.g., *Voda je u boci* 'There is water in the bottle', *Knjiga je u torbi* 'The book is in the bag.'). This is felt to be one of the central, most representative usage types of the preposition *u*. In many cases, the container is not prototypical, but the LM is still capable of spatial enclosure. When some subjects choose other examples of enclosure with less typical containers, such as a localization of something in a book, in the rain, or in heaven, this does not illustrate the "instability" of semantic analysis of the preposition *in*. On the contrary, it vividly illustrates the embodiment principle; that is, that humans reason about domains they do not have direct spatial contact with (e.g., heaven) using direct spatial experience. GUARDDON ANELO (2005) describes her test with thirty subjects asked to establish a hierarchy of various usages of English *in*. The author's intention is to show speakers' disagreement

regarding the idea of the most representative member of the prepositional *in*-category. She observes that two of her subjects referred to temporal usages of *in* as prototypical, whereas none of them thought that the metaphorical expressions *in trouble* or *in love* were the best representatives of the category. Ten subjects considered location in a three-dimensional container to be prototypical, whereas eight chose an example that referred to geographical location; that is, location in a country seen as a container. The analyses confirm that the relation in which a TR is placed in a three-dimensional container is an example of the prototypical use of the preposition *in*. Instead of showing much disagreement, the test actually shows that concrete spatial relations – in particular, the container relation – are the most prominent in reasoning about prepositional usage. It also indicates that other categories (e.g., temporal) tend to establish their cognitive “independence” (cf. KEMMERER 2005).⁴

In the case of spatial prepositions, one or a few spatial senses related to elementary human spatial orientation appear to form a basis for meaning extension that enables not only other, less central spatial usages, but also non-spatial usages. Extensions of prepositional meaning can be related to ROSCH’s categorization model (ROSCH ET AL. 1976; ROSCH 1977, 1978), according to which a category is a hierarchy in which a central/prototypical member⁵ represents the “best example” of a

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- 4 EVANS (2007: 733–735), speaking of temporal experience, points toward findings from neuroscience showing that perceptual processing is underpinned by perceptual moments; that is, temporal intervals that facilitate the integration of sensory experience into perceptual “time-slots”. Perception presents and updates our representation of the external environment, and the updating occurs by virtue of timing mechanisms; that is, perceptual moments that hold at all levels of neurological processing and range in duration from thousandths of a second to around three seconds. Our awareness of time emerges from the process of perceiving, and from the perceptual apparatus properties. The experience of time (e.g., time passing) is introspective or subjective, but phenomenologically real, as suggested by psychological research. Thus, EVANS insists on time as a real experience, although it is neither a physical thing nor a physical sensory experience.
 - 5 “By prototypes or categories we have generally meant the clearest cases of category membership defined operationally by people’s judgments of goodness of membership in the category. A great deal of confusion in the discussion of prototypes has arisen from two sources. First, the notion of prototypes has tended to become reified as though it meant a specific category member or mental structure (. . .) Second, the empirical findings about prototypicality have been confused with theories of processing – that is, there has been a failure to distinguish the structure of categories from theories concerning the use of that structure in processing (. . .) a reasonable hypothesis is that prototypes develop through the same principles such as maximization of cue validity and maximization of category resemblance (. . .) the more prototypical of a category a member is rated, the more attributes it has in common with members of the contrasting categories (. . .) prototypes appear to be just those members of a category that most reflect the redundancy structure of the category as a whole” (ROSCH 1978: 36–37). The term “prototype” refers to judgments about the degree of prototypicality: “To speak of a *prototype* at all is simply a convenient grammatical fiction; what is really referred to are judgments of degree of prototypicality (. . .) for natural-language categories, to speak of a single entity that is the prototype is either a gross misunderstanding of the empirical data or a covert theory of mental representation” (ROSCH 1978: 40).

given category. That prototypical member should be judged prototypical by the most speakers. Of course, there is no straightforward mapping of this model; that is, its application to natural categories and artifacts cannot be directly transferred to the analysis of all linguistic items. It is particularly difficult with prepositions, prefixes, and cases, which are highly relational and abstract items by nature. After all, there must be a reason why all theories of meaning have struggled with them throughout the history of linguistic thought. Speakers easily establish hierarchies of best exemplars (ROSCH ET AL. 1976) when it comes to lexical categories that have direct referents in the world, such as nouns that denote animals or artifacts. To point to the best member of the category “bird” or “chair” is a different process and requires different experience than estimating the best member of the category “in”. Speakers definitely do not have as clear an idea of what the best member of a spatial relational category is because they do not encounter spatial relational categories in reality like they encounter birds. In the same fashion, they may not be aware of the preposition displaying various use types as they are of different types of birds.

Still, some characteristics of establishing hierarchies with a prototypical center for natural categories and artifacts can be successfully used in elaborating prepositional meanings. The idea of prototypicality must be adapted to this particular category. The prototype in its original sense implies a concrete instance, whereas in the case of spatial prepositions only an abstract spatial relation can represent the central model along which a category is formed. The prototypical or core meaning of a preposition denoting spatial relations can be seen as equivalent to a central idea that forms the basis of all prepositional usages. Other usages relate to the central idea and can be seen as “developing” from it with the help of various adaptations and variations. The basic idea underlying spatial usages and possibly motivating most of the non-spatial usages is, in the case of prepositions that denote elementary spatial relations, conceivable as a relation of a few ideal geometrical objects; for example, as a relation of a point and a line, of two lines, of planes and vectors, and so on.

1.5 Spatial metaphors as a basis for meaning extensions of prepositions into non-spatial domains

1.5.1 Theoretical background

Within the framework of cognitive linguistics, spatial concepts have been regarded as the primary structuring tool in the conceptualization of other domains. LAKOFF, JOHNSON (1980) discuss the extensive use of spatial metaphor, illustrating the importance of spatial orientation in the domain of emotions (e.g., *I'm up today*) and time (e.g., *See you in five minutes*).

LAKOFF (1982: 72) argues that prepositions are the strongest evidence against traditional views on categorization. An example of LAKOFF and his colleagues' approach to spatial categorization is their treatment of the English preposition *over*

(BRUGMAN 1981 [1988]; LAKOFF 1987; BRUGMAN, LAKOFF 1988). They place spatial terms at the center of polysemous representations for *over* and claim that non-spatial senses are linked to and derived from the central prototypical spatial senses of the preposition. The same analysis type was followed by, for example, HAWKINS (1984), JANDA (1986), and LINDNER (1981, 1982). This approach has been criticized (e.g., SANDRA, RICE 1995; COVENTRY, MATHER 2002), the main objection being that it is not clear that the analysis represents much more than a description of the extensive polysemy of the term. Another objection to BRUGMAN, LAKOFF is that they classify geometric relationships between objects in the world and map these directly onto individual image schemas, thus claiming that there is a one-to-one mapping between geometric relations in the world and spatial language. TYLER, EVANS (2003 [2001]; 2007) support a moderate polysemy view by distinguishing between a preposition's *uses* and *senses*. Their main objection to previous approaches (e.g., LAKOFF 1987; KREITZER 1997) is that they fail to distinguish what is coded by a lexical item⁶ itself and the information that must be derived from context and general background knowledge of the world and spatial relations (TYLER, EVANS [2001] 2003: 97). Their polysemy network for *over* contains 14 distinct senses, with the primary sense (protoscene) and other distinct senses resulting from pragmatic strengthening. A means for distinguishing between distinct senses and the process of conceptual on-line meaning construction is seen as an imperative for future research. TYLER and EVANS' analyses also leave room for criticism: VAN DER GUCHT, WILLEMS, DE CUYPERE (2007) offer another view showing that one of TYLER and EVANS' distinct senses, the "covering sense" of *over*, is indeed pragmatically inferable showing 14 different ways in which one can experience, or visualize, the concept "over" in the contexts of utterances. They argue against mainstream cognitive accounts and show that the monosemy approach in the tradition of Leibniz, strongly advocated by Eugenio Coseriu, might be profitably applied to the meaning of *over*. In their approach, the distinction has to be made between semantically self-contained lexical meanings and instrumental meanings that rely on combinations of lexical meanings, as in case of prepositions. The difficulty with this analysis is that it views prepositions as synsemantic words different from the meaning of "autosemantic" words (lexemes) and therefore implies a different methodology of approaching the two categories. Although the polysemy postulate (TAYLOR 2002, 2006; TAYLOR ET AL. 2003) needs further discussion and the moderate view on polysemy (e.g., EVANS 2006; TYLER, EVANS 2007) further modifications,⁷ the

6 The term "preposition" subsumes not only prepositions proper, but also verb-particle constructions, adpreps, and particle prefixes (TYLER, EVANS 2003 [2001]: 124).

7 EVANS (2006) seeks to establish a distinction between lexical concepts, the semantic units conventionally associated with linguistic forms that are an integral part of a language user's individual mental grammar, and meaning, which is a property of situated usage-events, rather than words. In this account, the notion of meaning that relates to situated usage-events remains vague. An additional problem is that the elaboration of lexical concepts strongly relies on the usage context (i.e., situated usage-events). EVANS (2007) argues that semantic values associ-

methodological unity in analysis of various linguistic items, be it lexemes or prepositions, is an important advantage of cognitive approaches. LAKOFF's analysis and those following him have argued for the unity of prepositional semantics, thus offering a solution for conceiving polysemy. In the analysis of *over*, a few primary senses are recognized and represented in the form of a few image schemas. The analysis implies that non-primary senses are extended from primary senses. All other senses are derived from prototypical spatial relations or central schemas using three linking principles: instance links, transformation links, and similarity links. The result of this meaning chain process is that senses at the periphery might have little in common with the central sense(s). However, the relation still exists by virtue of intervening members of the meaning chain. The analyses show how a typical spatial relation expressed by a preposition can be transformed into a less typical spatial relation, and that one into an abstract or highly metaphorical relation. Such an approach to prepositions has enabled a different view into the long catalogue of meanings listed in traditional linguistic descriptions and in dictionaries, as well as perceiving all (traditionally seen) "irregular" and "idiomatic" meanings of a preposition as part of a structured meaning network. Moreover, a semantic approach to prepositions in the tradition of cognitive linguistics is a valuable tool in the language learning process. Therefore, it makes sense to follow the main cognitive linguistics ideas in the analysis of prepositional semantics. The idea of embodiment may need a different application. In addition, the analysis must try to link spatial language and perceptual processing more directly (e.g., REGIER, CARLSON 2001). Studies of prepositional semantics have concentrated on the geometric relations involved in spatial scenes (HERSKOVITS 1986; LANDAU, JACKENDOFF 1993). The relation of the spatial language and geometric relations in the scene being described is certainly an important factor. However, an account must also be sought that takes into consideration how objects interact with each other, the forces they exert on each other, and the conceptual relation between the objects. The advantages of such an account are illustrated in, for example, COVENTRY and GARROD's (2004) "functional geometric framework".

1.5.2 Extensions of and from a spatial prototype

Consider the Croatian preposition *na* 'on, at; to, onto', which will be elaborated in detail in Chapter 2 as an example of what a spatial prototype is and how it can be extended. Extension of a spatial prototype can affect the spatial domain, implying that a use of a preposition considered prototypical or central extends into less typical situations via some kind of resemblance with the central or prototypical situation. Moreover, metaphorical extensions map spatial usages onto non-spatial domains. First, consider some examples in which extensions within the spatial domain can be

ated with words are open-ended and highly dependent on the utterance context. The presented theory of lexical concept integration (the Theory of Lexical Concepts and Cognitive Models, or LCCM Theory) is an attempt to establish a cognitively realistic theory of lexical representation.

followed. If native speakers are asked to give an example of a prototypical construction containing the word *na*, they tend to give one resembling (6):

- (6) Knjiga *na* stolu ‘The book on the table’

In prototypical examples of sentences including *na*, there is a relationship between a TR and a LM, with the LM acting as a surface and the TR as an object, one side of which touches that surface. The situation includes the notion of physical contact in which a LM is supporting a TR; compare (6). Now, the situation in which writing is applied to paper bears some similarity to the way a book is placed on a table. The objective differences are not an obstacle in construing the relation with the preposition *na* again: the paper in (7) forms a background with the sentence as foregrounded entity:

- (7) Rečenica *na* papiru ‘The sentence on the paper’

Similarly, the wall in (8) forms the background with the poster as a foregrounded entity. The fact that the wall has a vertical orientation and cannot support objects in the way horizontal surfaces do is ignored:

- (8) Poster *na* zidu ‘The poster on the wall’

Something similar can be said of (9), in which the face is construed as a background against which the wrinkles are displayed, as opposed to (10), in which the small wrinkles are etched more deeply into the skin. The image foregrounds the notion of embedding:

- (9) Bore *na* licu ‘Wrinkles on the face’

- (10) Dva-tri mala zareza *u* koži u krajevima očiju ‘Two or three small wrinkles in the skin at the corners of the eyes’

(11) depicts another topological relationship. The topological relationship of the fly and the ceiling is exactly the opposite of that which holds in the normal situation coded by *na*; for example, in (6). As we move from the prototypical situation to cases such (11), the notion of display seems to assume as prominent a role in the situation as that of support. It appears to be the factor that motivates the incorporation of (11) into the *na*-category:

- (11) Muha *na* stropu ‘The fly on the ceiling’

Nevertheless, the factor that the ceiling functions as a resting place for the fly is also relevant. This shows that the members of the same category may differ from each other quite markedly with respect to what qualifies them for category membership. This poses a critical problem for the traditional Aristotelian theory of category membership (discussed in LAKOFF 1987: 161), according to which there is a necessary feature or features that all members of a category share. In the view of cognitive linguistics, members of a particular category may in fact express meanings that are

diametrically opposed to each other because they relate to central or prototypical members by virtue of quite different features.

The preposition *na* implies different spatial settings, corresponding to different types of geometric relations. The following are most frequently encountered:

1. The relation in which a TR is supported by a LM. There are various ways in which an object can support another. The typical case implies an object horizontally situated at one of the landmark's upward-oriented planes. It need not necessarily be upper side of the LM, but it is typically the outer and visible side: *čovjek na stolici* 'a man on a chair', *note na klaviru* 'sheet music on a piano', *kofer na pokretnoj traci* 'a suitcase on a conveyor belt'.⁸

However, other usages of the preposition *na* involve different positions of the landmark itself along with quite a different position of the TR: the surface of the LM does not have to be horizontally oriented toward the TR. In addition, the LM may support only a part of the TR, as in *slika na štafelaju* 'a painting on an easel'. The next setting may include a hanging TR, as in *kaput na vješalici* 'a coat on a hanger', or a TR fixed on the surface of a LM, as in *boja na zidu* 'paint on a wall'. It can be mechanically fixed and attached to the LM, as in *kvaka na vratima* 'a door-handle' (literally, 'a handle on a door'), and thus only partly movable.

2. Furthermore, a TR is conceptualized as situated on the LM if it is an inherent part of the LM, whereas a TR may independently move, as in *prst na ruci* 'a finger' (literally, 'a digit on the hand'), or be immobile itself; for example, *nokti na prstima* 'fingernails', *čvoruga na glavi* 'a bump on the head', *crtež na stijeni* 'a painting on a wall', and *prištevi na licu* 'blisters on the face'. As these last examples show, the TR must exhibit a special structure in order to be perceivable as a separate object situated on the surface of the LM, especially in cases when the LM in reality is actually not separable from the TR.
3. The relation in which a TR is "attached" to a LM. This relation may, but need not include support: *pas na lancu* 'a dog on a chain', *privjesak na lančiću* 'a pendant on a chain'.
4. The relation of a TR and a LM in which the TR is located close to the LM, and is possibly touching it: *glava spuštена na prsa* 'head bowed to the chest', *prljavi prsti na košulji* 'dirty fingers on a blouse'. Similar examples do not obligatory imply that the LM supports the TR.
5. The relation in which the TR is located on a part of itself: *čovjek na leđima* 'a man lying on his back', *stolac na tri noge* 'a chair with three legs'.

⁸ The noun phrase following the preposition indicating static location is in the locative case. The difference between the dynamic and static contexts is discussed in Chapter 2.

6. The relation in which a TR is located at a geographical location, as in *igrači na nogometnom polju* ‘soccer players on the field’, *svjetlo na trećem katu* ‘a light on the fourth floor’, *demonstracije na trgu* ‘a demonstration on the square’.
7. The relation in which an object touches a line serving as a LM or is located in the proximity of that line: *sunce na horizontu* ‘sun on the horizon’, *selo na granici* ‘a village on the border’, *na rubu stijene* ‘at the edge of the cliff’. The LM can be a physical object resembling a line or an imagined line.
8. The relation in which a TR is placed at a geographical location (being an open space, such as water or roads, conceived of as a surface), or proximal to its edge: *kuća na trgu* ‘a house on the square’, *kuća na jezeru* ‘a house on a lake’, *grad na oceanu* ‘a town on the ocean’, *gostionica na autoputu* ‘an inn on the freeway’.

When an analysis seeks to disclose spatial meanings only, the motivation for the prepositional usage can be found in a core spatial image associated with the preposition or in the bounded register of a few such images that give rise to other spatial usages. The core meaning acquires different faces in different usage types. In the case of the preposition *na*, one can assume the core meaning as the relation of a TR and a LM in which the TR touches the surface of the LM, or is located close to the surface of the LM in such a manner that the LM supports the TR.

Previously cited examples of more-or-less different physical relations observable in spatial contexts with the preposition *na* demonstrate how core meanings in language use can be extended. Extended meanings denote a new, different relation that is related to the initial relation. This relation may vary from close to distant. However, the link is still detectable. The prototypical meaning of spatial expressions changes with meaning shifts in the direction of a new, conceptually close relationship. Certainly, the prototypical meaning of the preposition *na* is not realized in the examples *privjesak na lančiću* ‘a pendant on a chain’, *jabuka na grani* ‘an apple on a branch’. The relation depicted in those examples is a relation of connection, addition, and extension. Addition and extension coexist with support and contact. The apple is an extension of the branch that is “supporting” it; that is, prevents it from falling down. A similar relation is observable in the case of a chain and a pendant. Although the meaning realized in the contexts with “hanging” TRs is by no means the core meaning of the preposition *na* when one investigates most representative usage examples, one can nonetheless establish a relation between it and more typical usage examples (e.g., *knjiga na stolu* ‘a book on a table’). The geometrical image of the book and the table supporting it is definitely different if compared to the image underlying the expression *privjesak na lančiću* ‘a pendant on a chain’. Spatial configurations of the two images still share some common elements: the specific relation of the table and the book implies the table supporting the book. The factor of support is relevant in the relation of the pendant and the chain as well. Yet, in this image a rather different kind of support is involved when compared to the spatial setting of the book on the table. It is worth mentioning that a book is visually per-

ceived as a continuation of the table. The same holds for the pendant being a continuation of the chain.

The contact or coincidence of a TR with a surface or line is implied in many usages of *na* (e.g., *tepih na podu* ‘a carpet on the floor’, *kuća na jezeru* ‘a house on the lake’). With three-dimensional objects, *na* implies support: the LM supports the TR. The support may be indirect, as in *knjiga na stolu* ‘a book on the table’, when the book that is referred to is actually on top of three other books lying on the table. The same type of support is certainly absent from the setting underlying the expression *slika na zidu* ‘a painting on the wall’. It is questionable whether the relation of the physical forces involved in the spatial image conveyed by *slika na zidu* allows for the idea of support at all. After all, the painting must hang on the nail fixed to the wall in order to be conceptualized as *on the wall*. In the linguistic conceptualization, only one aspect of the image is highlighted. That aspect is actually less related to the physical details conditioning the position of the painting, and that aspect is associated with what an observer immediately sees: the physical relation of the painting and the wall resembles the one of the table and the book, the difference being the position of the wall. Instead of the horizontal surface of the table supporting the book, the wall is a vertical surface “supporting” the painting. The effect is the same: despite the questionable manner of support, the painting does not fall down. Consequently, an abstract visual outcome is the same for the both images. Instead of designating the multiplicity of relations by broadening the bounded set of prepositions, humans tend to classify geometrical and abstract relations in a concise manner, by ascribing the features of standard or most typical spatial relations of objects to non-standard situations that *resemble* the standard situations; that is, relations. Even the apparently prototypical meaning of a preposition or a typical prepositional usage in a concrete context departs from the ultimate idea ascribed to it: the prototypical meaning is only approximately involved in the example *knjiga na stolu* ‘a book on the table’ when a tablecloth is placed between the book and the table surface. Various meaning shifts imply gradual differences regarding the distance, exact position, and angle of the objects included in the prototypical image conveying central prepositional meaning. The central/prototypical meaning hypothesis in the case of prepositional semantics cannot be seen as a linguistic hypothesis only. It has a psychological counterpart, as many studies have demonstrated.

Spatial language relates not only to the visual system and to the “objective” geometrical relations between objects in the real world: it also relates to the idea of acting in the world. This should not be neglected. Through various ways of interacting with the outer world, humans obtain knowledge of the geometrical settings of objects. What is more, they obtain knowledge of the function of objects, how objects interact with each other, and what the consequences of that interaction are. This knowledge is central to the comprehension and production of spatial terms. The geometrical dimension in the study of prepositions cannot be neglected. Still, rather than being an abstract geometrical idea stored in the minds of language users, prepo-

sitional meaning cannot be isolated from the knowledge of how objects interact in the real world and which consequences their interaction has on reality.

In some of its usages, *na* refers to a topographical point relative to which the location of an object is defined. In the sentence *Ana stoji na uglu* ‘Ana is standing on the corner’, Ana is seen as situated on a surface that, geometrically seen, forms an angle. This image involves a higher level of geometrical generalization and abstraction than *Ana stoji na ulici* ‘Ana is standing on the street’. Moreover, in the sentence *Ana čeka na autobusnoj stanici* ‘Ana is waiting at the bus station’, the LM is seen not merely as a topographical point of reference relative to which the TR is localized, but as a point with special function. Therefore, the sentence also implies waiting at the bus station in order to catch the bus. The motivation for this usage is provided by the fact that the location of an object is, at the same time, the location of its function and application. The prepositional phrase with *na* in *Ana je na koncertu* ‘Ana is at the concert’ acquires a new sense. Not only being at a particular location is implied, but an activity/performance the person is attending. However, there are spatial parameters motivating this usage. The orchestra is the central point in the spatial image. It is located in a bounded, defined space. The activity happening there is organized around that spatial point. In *Ana je na poslu* ‘Ana is at work’ the spatial dimension is not foregrounded either. It is implied that Ana is at a certain location. That location can have clear spatial boundaries, which are explicitly focused on in *Ana je u uredu* ‘Ana is in the office’. In *Ana je na poslu*, the location is implicitly there, but it is the setting of Ana’s activity the sentence concentrates on. The location is actually defined by Ana’s activity.

1.6 Spatial meanings in the domain of causation

Extensions of spatial meaning can be traced, among other areas, in the domain of causation. In the example *Na zahtjev izdavača prevela je knjigu* ‘She translated the book at a publisher’s request’ the prepositional phrase with *na* expresses a different kind of landmark, yet is related to concrete spatial LMs: the prepositional phrase involving the accusative LM (*na zahtjev_{ACC} izdavača* ‘at a publisher’s request’) denotes an agentive cause as a starting point that leads toward an action; that is, the translation of the book. In the sentence *Na te riječi napustili su sobu*, literally, ‘At these words, they left the room’, the phrase with *na* refers to the starting point that causes a particular action (*napustili su sobu* ‘they left the room’), and, at the same time, to the temporal point preceding an action.

Some prepositional usages of *na* + accusative concentrate on geographical points as the goals of the motion. The concept of a concrete spatial goal involves verbs of motion (e.g., *žuriti na fakultet* ‘to hurry to the faculty’). Those spatial contexts are linked to contexts involving verbs that denote emotions. Accusative constructions with *na* denoting spatial goals transform into constructions denoting “targets” of certain feelings. In addition, those targets are causes of the feelings. In the sentence