

THE INTERFACE OF REAL WORLD, LEXICALIZATION AND CONCEPTUALIZATION ON THE EXAMPLE OF THE CONTACT SENSE OF THE GERMAN PREPOSITION *AN* (ON, AT) AND ITS POLISH SPANISH AND ENGLISH COUNTERPARTS

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Abstract

The paper takes up the issue of creating meanings, focusing the dynamic relation between lexicalization and conceptualization on the example of prepositions. By providing a systematic view of the specific meanings of the Contact Sense of the German preposition *an* (on, at) and its Polish, Spanish and English counterparts, the interface between the given real spatial relation of two objects, its lexicalization and the emerging conceptualization is highlighted. Special attention is paid to the role of the particular pieces of knowledge and experience being activated in creating these meanings in order to look closely at the concept of context as this context is usually interpreted differently by different researchers. The attempt to show what happens step by step when conceptualizing a real spatial relation and its linguistic expression fixed in the lexicalization pattern is motivated by the finding that the difficulty with clear determination and separation of the context information from the information actually creating the meaning is one of the reasons why studies on the cognitive aspects of the semantics of prepositions have been abandoned over time. The paper aims to contribute to the elaboration of an authoritative method of establishing and identifying meanings of prepositions, and to contribute to the discussion about the language-thought relation providing arguments supporting the view of language as a trigger for conceptualizations provided by the embodied cognition rather than as a tool shaping thoughts.

Key words: cognitive linguistics, lexicalization, conceptualization, German preposition, lexicology

1. Introduction

In the discussion of the relation between language and thought, two views of cognition are constantly in play, i.e. the view of cognition as a computer-like system transforming the information coming from the environment into abstract, amodal symbols (performing them computationally), and the view of cognition as an intrinsically embodied system including the body and the environment,

strengthening, in the enactive approach, the subjective experience of a given person as well (Negri et al. 2022). While scientific evidence negates the independency of cognition, sensorimotor processes and environment, emphasizing complex processing against serialized and human-engaged embodied position against disembodied and observing one (a.o. Thompson 2007, Borgi and Binkofski 2014), embodied cognition is viewed as coping with „the urgency of taking an action in the complex scenarios of everyday life” (Negri et al. 2022: 2). Embodied cognition is viewed as an embodied simulation taking shape „through the reactivation of sensorimotor schemes that are exploited to make sense of what happens in field and levels of experience different from those in which these schemes have been developed“ (Negri et al. 2022: 2). The psycholinguistic, cognitive and neuroscientific evidence gives an inhomogeneous view of the relation between language and thought. As, on the one hand, humans can (i) think without having words for their thoughts or without having access to the targeted words at the given moment, (ii) use words in metaphorical ways, and, what is more, (iii) create new ideas and inventions before names for them are found (Malt 2020: 242, 245), the independency of language and thought seems to be obvious. This view is supported by neuroimaging evidence showing that many brain regions are activated independently of language while performing nonlinguistic tasks such as arithmetic and music processing, reasoning or spatial navigation (Fodorenko, Varley 2016). However, on the other hand, the evidence coming from the cognitive science, and neuroscience as well, concerning semantic memory shows that semantic memory cannot be reduced to language because it encompasses

norms as well - that is „everything from concepts to facts and beliefs (...) and associations between concepts, categories and their bases” (Malt 2020: 244). These heterogeneous, but at the same time, complementary data lead to a consensus that (i) language interacts with perceptual and conceptual systems and (ii) concepts as symbolic abstractions are „heavily interactive with sensorimotor systems” (Mahon, Kemmerer 2020: 238). Since both linguistic and nonlinguistic information may influence conceptual processing (Mahon, Kemmerer 2020: 238), it should not be surprising that it is postulated to view the relation between language and thought as „task and context dependent” (Mahon, Kemmerer 2020: 239) and that „the insight offered by (...) tasks needs to be identified within the context of the target of study” (Malt 2020: 249). Nevertheless, the language-thought relation is still being researched, mostly in the Neo-Whorfian perspective (Kay and Kempton 1984, Levinson 1997, Wierzbicka 1997, Boroditsky 2000, 2001a, 2001b, 2003), that is in terms of shaping and not determining (Whorf [1940] 1956) thought. The questions mostly discussed now concern, on the one

hand, the extent to which language influence thought and, on the other, „the conditions under which sensory/motor/affective systems (for embodied views) or linguistic structure (for “Whorfian” views) affect conceptual processing” (Mahon, Kemmerer 2020: 238). The views are, however, varied here. While some argue in favor of the influence of language on thought like Gomila (2015) who relates its extent to the degree of ‘recoding during linguistic development’, others argue for rejecting this hypothesis at all (Dyke 2022).

Evidence reflecting this problem comes, among other sources, from the investigation of the influence of grammatical gender on conceptualization of objects. This is so, as the tasks conducted by pictures to avoid the effect of language do not exclude the access to linguistic information and linguistic tasks in turn show that the features assigned to the objects result from the focusing on mostly nonlinguistic qualitative features of the objects the nouns refer to (Mazurkiewicz-Sokołowska, Safranow 2020). The last fact goes in line with the crosslinguistic evidence of a shared underlying conceptual space. The way humans perceive elements of the world proves to be less varied than the crosslinguistically different lexicalizations of them. However, at the same time, different lexicalization may influence perception leading attention to specific regions of the perceptual continuum (Malt 2020: 244). Referring these facts to the semantics of prepositions and bearing in mind the evidence on encoding spatial relations between objects and surfaces revealing these relations „to be more shared across speakers of several languages than their systems for naming those spatial relations” (Munnich, Landau and Doshier 2001, in Malt 2020: 244), the interface between the lexicalization of a given spatial relation of two objects and its conceptualization is investigated in this paper. The goal of this investigation is to specify the contextual information in relation to the pieces of knowledge and experience emerging as ‘active zones’ (Langacker 1991/2002) of the TR and LM in the TR-LM relation under examination. Studies on the cognitive aspects of the semantics of prepositions used to be an area of scientific interest in the past but have been abandoned over time. The difficulty of developing an authoritative method of establishing and identifying meanings resulting from the overlapping contextual information, often leading to the attribution of different meanings to the same expressions is one of the reasons for that loss of scientific interest in studying this issue.¹ Addressing this topic is, therefore, interesting

¹ Comprehensive examinations of prepositional meanings can be found, for instance, in Brenda (2014) on the category of the English preposition *over*, Brenda, Mazurkiewicz-Sokołowska (2022) on the prepositional category *to* and its German, Polish and Russian counterparts or Mazurkiewicz-Sokołowska (2023 in print) on the category of the German preposition *an* (on, at).

and functions as the main motivation for this paper. In cognitive linguistics, no sharp distinction between linguistic and nonlinguistic knowledge is assumed (Langacker 2008: 37) as concepts seen as “the building blocks of our thinking” (Negri et al. 2022: 3), and conceptualizations, i.e. all mental phenomena occurring in cognitive processing involving concepts, rely on multimodal experience including sensorimotor and linguistic ones (Langacker 2008: 30). As a result, the relation of concepts and words and their role in creating meanings can be defined. Being viewed as „reactivation of the neural activation pattern that occurs when objects and entities from the external world are experienced“ (Negri 2022: 3) concepts are formed in „an unconscious process based on the meaningfulness of experiences (...) throughout life, supplemented by conscious attention and effort through deliberate learning and thinking” (Nelson 2017: 406). As thoughts and conceptualizations are symbolized by linguistic means (Taylor 2002), words are to be viewed as „a symbolic bridge in the exchange of meaningful messages” (Nelson 2017: 407). „[P]roviding access to indefinitely many conceptions and conceptual systems (...) evoke[d] in a flexible, open-ended, context-dependent manner” (Langacker 2000: 4) words should be seen as triggering (and not having) meanings, which in turn can be different in different contexts (Nelson 2017: 408). „When a speaker uses a word, hearers refer it to their lexical-conceptual base; if it is found there in conjunction with a contextually appropriate meaning, all is well – but only if the meaning found coheres with that intended by the speaker. The hearer interprets the speaker’s meaning in terms of his/her own meaning system, concepts, percepts, and context” (Nelson 2017: 407). Therefore, word meaning should be seen „within the larger communicative system that serves as the interface between mentales and an external audience“(Malt 2020: 245). Arising from „an extensive, multifaceted conceptual substrate [containing] (i) the conceptions evoked or created through the previous discourse, (ii) engagement in the speech event itself, as part of the interlocutors’ social interaction, (iii) apprehension of the physical, social, and cultural context, and (iv) any domains of knowledge that may prove relevant” (Langacker 2008: 42), meaning constitutes the part of the substrate that an individual can currently process. This results from human ability to categorize, schematize, group, focus attention, compare and to the imaginative and interpretative abilities based on all facets of thinking like metaphorization, blending, fictivity, and mental space constructing (Langacker 2000: 2-3, 2008: 16-17, 42). The meaning consists of both the conceptual content these facets of thinking evoke and the way of imagining this content resulting from the degree of specificity/granularity, focused and prominent elements and the perspective of viewing (Langacker 2008: 55). Each language offers many ways

of expressing the same idea and the choice of the label depends on the speaker's communicative intention (Malt 2000: 244). „[T]he meaning understood by an addressee is not simply retrieved from memory. It derives from some interaction of stored knowledge and context (...) [and] must be distinguished from conceptual representations” (Malt 2020: 243) because it always constitutes only parts of the activated substrate (Langacker 2008). For this reason, the matter of context is especially relevant when establishing meanings, particularly in the case of the meanings of prepositions.

The first question to be posed about the context while examining the meanings of prepositions is if the TR and the LM of the preposition are to be viewed as contextual information (Szwedek 2007: 258-259) or, being the primary (TR) and secondary (LM) focus of the prepositional relation, as the inherent parts of the unit undergoing investigation (Langacker 2008: 70). As one recognizes the polysemous nature of the preposition reflected in the TR-LM relation, another question arises. It concerns the size of the investigated unit, as the TR of the preposition does not have to be exclusively nominal. Since the TR of the preposition can also be relational, in the case of a temporal relation the TR of the preposition is constituted by the verb (Langacker 1991/2002: 23, 2008: 116). Thus, in sentences such as *He went to the car* it is not the TR of the verb, *he*, that should be taken as the TR of the preposition as proposed by Tyler and Evans (2003: 150), but the action of going expressed by the verb *went* that includes the TR of the verb (Brenda and Mazurkiewicz-Sokołowska 2022: 10). Therefore, in the cases where the TR of the preposition is elaborated on by an action or state, expressed by the verb, the TR of the verb, and/or the LM of the verb if present, are to be taken into consideration as inherent parts of the TR of the preposition and thereby of the investigated unit (for more, see: Method). Bearing in mind the dynamic interaction between the pieces of knowledge and experience activated when conceptualizing meanings described above, the crucial question is which of them really take part in creating the meaning and what role they play in this process. This is so because, on the one hand, parts of the TR and/or LM may become backgrounded, and, on the other hand, some contextual information may turn out to be crucial for the meaning being created. The problems that arise relate to (i) the degree of granularity of the items adopted (Lakoff 1987), (ii) different interpretations of the same expression by different interpreters as, for example, in the case of the activity of *dancing to the music* referred by Rice and Kabata (2007: 455) to the concept of accompaniment, by de Cuypere (2013: 130) to the concept of direction and by Brenda and Mazurkiewicz-Sokołowska (2022: 108-109, 214) to the concept of reference, and (iii) different interpretations of the same expression

by the same interpreters as in the case of *Write or wire to Uncle C.* depending on the conceptualization of the LM as a recipient or an abstract destination (Brenda and Mazurkiewicz-Sokołowska 2022: 198). All these problems are a matter of what aspects of the activated knowledge and experience come to the fore for the interpreter, that is, what parts, aspects or properties of a TR and/or LM are seen as participating directly in the analyzed relation becoming the actual ‘active zones’. As an active zone is not a delineated region of an entity, but „the focal area of the relational interaction, the participation of a region becoming more tenuous the farther it lies from this focus” (Langacker 1991/2002: 190), the question arises where the ‘active zones’ end and, subsequently, where the context begins. To examine this relation and describe what happens at the interface of the real world, lexicalization and conceptualization is required allowing a systematic specification of what is generally referred to as context. The number of different pieces of knowledge and experience activated when conceptualizing meanings becomes especially tangible when discussing the specific meanings within one given sense of a preposition.

The dynamic interaction between TR and LM, their ‘active zones’ and other activated pieces of knowledge and experience are discussed on the example of the Contact-Sense of the German preposition *an* (on, at) because of the multiply of specific meanings it exhibits, and by the Polish, Spanish and English counterparts. The asymmetry between the actual spatial relations in the real world, their very general in nature lexicalization patterns and conceptualizations varying in the degree of specificity/granularity, shown in detail below, are discussed with regard to the language-thought relation exposing the embodied conceptual substrate.

2. Analysis of the German preposition *an*

2.1. The Methods

The material under study consists of expressions exemplifying the Contact Sense of the German preposition *an* (on, at) extracted on the course of an extensive corpus research on the semantics of this preposition on the basis of a database of 1000 examples chosen randomly from the DWDS (Digital Lexicon of the German Language) (Mazurkiewicz-Sokołowska 2023 in print). The 157 instances of the Contact Sense of *an* found in the collected database proved to be so inhomogeneous that they were divided into 8 subgroups. The following analysis is based on 8 examples of the Contact Sense of the German preposition *an*, one of each subgroup, accompanied by their Polish, Spanish and English counterparts, 32 instances in all:

- (1) *die Fäulnis **an** der Innenseite des Brettes*
*zgnilizna **na** wewnętrznej stronie deski*
*la putrefacción **en** el lado interior del tablero*
*the rot **on** the inner side of the board*
- (2) *eine helle Lampe **an** der Decke*
*jasna lampa **na** suficie*
*una lámpara brillante **en** el techo*
*a bright lamp **on** the ceiling*
- (3) *Butjadingen **an** der Nordseeküste*
*Butjadingen **na** wybrzeżu Morza Północnego*
*Butjadingen, **en** la costa del Mar del Norte*
*Butjadingen **on** the North Sea coast*
- (4) *Frankfurt **am** Main*
*Frankfurt **nad** Menem*
*Frankfurt **del** Meno*
*Frankfurt **on** the Main*
- (5) *der Regierungschef aus Bonn **an** der Spree*
*szef rządu z Bonn **nad** Szprewą*
*el jefe de Gobierno de Bonn **en** el Esprea*
*the head of government from Bonn **on** the Spree*
- (6) *Autoschrott und Müll **an** der East Side Gallery²*
*złom samochodowy i śmieci **przy** galerii East Side*
*coches desguazados y basura **en** la East Side Gallery*
*auto scrap and rubbish **at** the East Side Gallery*
- (7) *Sie wischte [die Gabel] **an** ihrer Serviette ab*
*Ona wytarła [widelec] **o** swoją serwetkę*
*Ella limpió [el tenedor] **en** su servilleta*
*She wiped [the fork] **on** her napkin*
- (8) *Seine Les-Paul-Gitarre lehnt **an** der Palme*
*Jego gitara Lesa Paula opiera się **o** palmę*
*Su guitarra Les Paul se apoya **en/contra** la palmera sobre contra*
*His Les Paul guitar is leaning **on/against** the palm tree*

In order to ensure objective and unequivocal investigation and to reduce the probability of different interpretations of the same instances, special attention was paid to the clear determination of the TR-preposition-LM units to be analyzed and to separating them consistently from any contextual influences. As can be seen in the examples (1-6), they constitute TR-preposition-LM units, but examples (7-8) are more complex. In the last two cases because of the temporal relations they contain, in line with Langacker (1991/2002, 2008) as mentioned above, the

² *East Side Gallery* is the open-air gallery on a part of the Berlin Wall and refers to the paintings there.

complex verbal TRs of the preposition [TR_p] were taken under consideration: the action of wiping in (7) with the TR_p, *wiped*, containing its own TR (the TR of the verb, TR_v, *she*) and its own LM (the LM of the verb, LM_v, *the fork*), and the action of leaning in (8) with the TR_p, *is leaning*, containing the TR_v, *his Les Paul guitar*. In order to clearly separate the entities under investigation from the contextual influences, the role of the particular pieces of knowledge and experience emerging when conceptualizing the meaning of a given TR-preposition-LM unit were examined step by step with respect to their (ir)relevance for conceptualizing the meaning. Special attention was paid to the pieces of knowledge and experience coming to the fore and identified as TR's and LM's 'active zones' by treating all pieces of information beyond the strict TR-preposition-LM relation dictated exclusively by their 'active zones' as contextual ones. The described method was used in the aforementioned study of the semantic network of the German preposition *an* (on, at) (Mazurkiewicz-Sokołowska 2023 in print) as well in the cross-linguistic investigation of the English *to* and its counterparts (Brenda, Mazurkiewicz-Sokołowska 2022). The method initially based on the criteria of establishing meanings proposed by Tyler and Evans (2003) has been refined in the way mentioned above in order to obtain objective and unequivocal results.

As the Contact Sense of the German preposition *an* (on, at) proves to be very varied, it constitutes good material to explore what conceptualizations arise at the linguistic and conceptual level and how they relate to reality, contributing to the discussion on the question of whether language shapes thought.

2.2. The Results of the Study

In (1-6), containing nominal TRs of the preposition, things enter the relation with the LMs, and in (7-8), containing complex verbal TRs of the preposition – an action and a state, respectively. Of all the spatial relations described in examples (1-8) only those in examples (1-3) are expressed in all four languages by means of equivalent prepositions: the German *an*, the Polish *na*, the Spanish *en* and the English *on*. Whereby, in (1) and (2), the equivalence of the four is only superficial: In (1), while the German *an*, the Polish *na*, and the English *on* refer clearly to the surface of the inner side of the board, the Spanish *en* refers both to the surface and to the interior. In (2), while all four lexicalization patterns omit the location of the TR, *the lamp*, 'under' the LM, *the ceiling*, activating only the concept of adherence in this case, the Spanish *en*, may additionally activate the concept of 'inside' foregrounding the kind of fixing of the lamp.

Of all other examples, (5) and (7) contain equivalent prepositions in three languages, i.e. the German *an*, the Spanish *en* and the English *on*. Polish requires the prepositions *nad* (by) in (5) and *o* (on, literally: about) in (7). Example (4) includes two equivalent prepositions, the German *an* and the English *on*. Polish lexicalizes such relations with the preposition *nad* (by), and Spanish with the preposition *de* (of). Spatial relations like in (8) can be lexicalized by equivalent prepositions in three languages by means of the German *an*, the Spanish *en* and the English *on*, but at the same time Spanish and English use the prepositions

contra and *against* equivalent to each other to express this relation. Polish, in turn, requires the preposition *o* (on, literally: about). Example (6) differs from the other ones in many ways. First, it is ambiguous in that the TR and LM alone are not sufficient to establish their actual spatial relation. Without contextual information about the TR and LM's mutual location available from the scene and/or activated individually in the mind of a single language user, not inherent to the TR and LM, example (6) can be classified as one of the Contact Sense but also of the Nearby-location Sense. What is more, because of this vagueness, the German *an* in this case causes difficulties in the choice of the appropriate counterparts in Spanish and English.

This short look at the specific meanings of the one prepositional sense in one language and their counterparts in three other languages already sheds a particular light on the concept of context with respect to the TR and LM of the preposition and their 'active zones' in a given language and cross-linguistically.

In the following, the concepts contributing to conceptualizing meanings of the instances in the examples (1-8) are discussed in regard to their particular role in this process and to the role of linguistic and nonlinguistic information in thinking.

With respect to reality, in (1), the TR representing a substance, *the rot*, because of its property of rotting is in contact not only with the LM, the surface of the board, expressed by *the inner side of the board*, but also the interior, by penetrating it. The prepositions, German *an*, Polish *na* and English *on*, however, refer only to the surfaces, excluding the insides, and the Spanish *en* that encodes the meaning of 'on' and 'in' cannot activate the latter because of the LM referring with 'side' exactly to a surface. If the LM had been replaced by *el interior* (without the 'side'), as in *la putrefacción en el interior del tablero*, the Spanish *en* could evoke the conceptualization of both 'on' and/or 'inside' the LM. It is worth noticing that the German equivalent of this expression, *die Fäulnis im Inneren des Brettes*, requires the preposition *in* (in), and the Polish and English ones do not require any prepositions at all: *zgnilizna wewnątrz deski* (rot inside the board) and *rot inside the board*. Even though the German *an*, the Polish *na* and the English *on* do not refer to the 'inside' at all and the Spanish *en* does not have the concept of being 'on' and 'inside' at once, the interplay of the 'active zones' of the TR and LM results in a conceptualization in which the TR goes beyond the LM, the surface of the board, penetrating its interior;

in (2), the TR representing a three-dimensional object, *a bright lamp*, is in contact with the LM representing a plain, *the ceiling*, by its upper part, from below. Since the concept of 'below' is not present in the semantic spectrum of the German *an*, the Polish *na*, the English *on* and the Spanish *en*, the meaning relies on the concept of adherence that all the prepositions evoke. However, the conceptualization of the meaning at the conceptual level may include or foreground the location of the TR under the LM, adhering the LM from below. The Spanish *en* encoding, apart from 'on', the meaning of 'in' might activate it, for example when conceptualizing a specific lamp such as 'chandelier' and taking the kind of fixing to the fore. The kind of fixing is to be viewed as the concept mediating the meaning being the contextual information relevant for establishing

it. It determines the choice of ‘in’, instead of ‘on’, and causes the assembly of the lamp in the ceiling to become the ‘active zone’ of the TR;

in (3), *Butjadingen*, the peninsula representing a part of the LM, *the North sea coast*, sticks out from it. All four prepositions, the German *an*, the Polish *na*, the English *on* and the Spanish *en*, evoke the concept of adjacency of both parts of the mainland, the peninsula and the coast foregrounding the concept of their implicit edges adjacent to each other. There is an interesting conceptual interplay between not two but three objects, ‘peninsula’, ‘coast’ and ‘mainland’, since, apart from the conceptualization of the TR as a part of the LM, both, TR and LM, can be conceptualized as two parts of the mainland. The concept of ‘mainland’, however, is a contextual piece of information, irrelevant for establishing meaning.

In (4), the TR and LM representing two three dimensional objects in the real world, *Frankfurt*, a city, conceptualized metonymically as CONTAINER (Lakoff and Johnson 1980) and schematically as a spot, and, *Main*, a river, conceptualized schematically as a strip, like on a map, are in contact by their edges. The edge of the ground where the TR is located and the edge of the riverbank, or of the schematic spot and strip, are adjacent to each other. Other than the German *an* (on) and the English *on*, the Polish *nad* (by) generally encodes the concept of a horizontal plain on which the TR is placed, and the Spanish *de* (of) encodes the concept of ‘belonging’. However, these different lexicalization patterns in Polish and in Spanish do not significantly affect the meaning at the conceptual level. In all four languages, the conceptualization is based on the concept of contact of the objects, specifically of the edges of the TR and LM as their ‘active zones’. However, the conceptualization of the meaning by means of the Polish *nad* (by) is zoom-dependent due to the concept of the horizontal plain on which the TR is placed. Therefore, when the TR-LM relation is conceptualized schematically like on a map, this concept might remain inactive and the concept of contact is taken to the fore, but when zoom increases and the TR-LM relation is conceptualized in a more and more concrete way, the concept of the horizontal plain with the TR on it becomes active. Thus, while the German *an* and the English *on* evoke the concept of contact, the Polish *nad* might additionally evoke the concept of the plain with the TR on it. Interestingly, since *nad* does not specify the distance of the TR being on the plain relative to the LM, the concept of the plain is a mediating one but without influencing the meaning. The information about the distance is crucial for establishing the meaning of *nad* in a given expression as an instance of the Contact Sense or Nearby-Location Sense. This information may be an inherent property of the TR becoming its ‘active zone’ like in the case of the TR in question, TR’s adjacency to the LM, or a contextual one as in expressions like *kaczki nad Menem* (ducks on the Main) where, without the contextual information, the TR may stay in contact with or distant from the LM. The conceptualization of the meaning by means of the Spanish *de* (of) is even more interesting. The concept of ‘belonging’ generally encoded by *de*, becomes backgrounded when conceptualizing geographic names, taking, in line with the real spatial relation, the concept of contact to the fore. Therefore, the concept of ‘belonging’ might be seen as mediating the conceptualization, but without any effect on it.

Tab. 1. The concepts contributing to the meanings at the lexical and conceptual level in examples (1-3).

.Ex.	Specific meanings of the Contact Sense of German <i>an</i> and their Polish, Spanish and English equivalents				Conceptual level		
	TR	LM	Meaning	TR Active zones	LM Active zones	Meaning	Mediating concepts
(1)	substance	plain	TR <i>on</i> the LM	property of rotting	surface	TR <i>on the surface</i> of the LM in line with the reality: TR <i>on the surface</i> and <i>inside</i> the LM	-
(2)	object	plain	TR <i>on</i> the LM (G, P, S, E) TR <i>in</i> the LM (S)	part adhering to the LM (G, P, S, E) part in the LM (S)	place where the part of the TR adheres place where the part of the TR is in (S)	TR <i>adhering to</i> the LM <i>from below</i> TR <i>in</i> the LM	- kind of fixing
(3)	object	object	TR <i>on</i> the LM	implicit edge of the part of the LM sticking out from it	implicit edge adjacent to the implicit edge being active zone of the TR (the part of the LM sticking out from it)	TR adjacent to the LM	-

Legend:

Ex. - example

TR – trajector; LM – landmark

G – German; P – Polish; S – Spanish; E – English

Finally, neither of the lexicalization patterns verbalizes the fact that many cities, including Frankfurt on the Main, lie not only on one side of the river. This, however, does not preclude that in the arising conceptualizations the actual location of the city appears at the conceptual level.

Example (5), only seemingly similar to (4), illustrates at first the metonymical and metaphorical processes happening cross-linguistically when conceptualizing the TR and LM and influencing the arising meaning: TR, *the head of government from Bonn* refers metonymically to the chancellor (conceptualized by generalizing simply as a person), and the LM, *the Spree* refers metonymically to the capital city, Berlin (according to the metonymy PART FOR WHOLE: RIVER FOR CITY conceptualized metaphorically as CONTAINER). As a result, all four prepositions receive, at the conceptual level, the meaning of ‘in’, noting that only the Spanish *en* contains this meaning in its semantic spectrum. In the conceptualization, the TR appears inside the LM. More precisely, when foregrounding the ‘active zones’ of the TR and LM, the soles of the TR’s feet and the lower surface of the CONTAINER, the TR emerges inside the LM with the soles of its feet in contact with this surface. When the concept of CONTAINER is backgrounded, only the delimited space on which the TR is (with the soles of its feet), is taken to the fore. Interestingly, with regard to the TR and LM in question, not only the Polish *nad*, but also the other prepositions, the German *an*, the Spanish *en* and the English *on*, activate the concept of the horizontal plain on which the TR is, resulting in an overlap of the lower surface of the CONTAINER and the horizontal plain evoked by the prepositions. Thus, the metonymical and metaphorical processes as a result of which person, CONTAINER, delimited ground or their parts appear in the conceptualization as the ‘active zones’ of the TR and LM, respectively, cause the German *an*, the Polish *nad* and the English *on* to receive the meaning of ‘in’, and the Spanish *en* to activate this meaning (instead of ‘on’), or, to specify the conceptualization of the German *an*, the English *on* and the Spanish *en* (meaning ‘on’) in the way typical of the Polish *nad* with regard to the TR being on a horizontal plain in contact with the LM. However, the horizontal plain evoked by the prepositions also plays the role of the mediating one irrelevant for establishing the meanings in this case.

In (6), the ambiguous example that depending on the contextual information, not inherent to the TR and LM, may represent the Contact Sense or the Nearby-Location Sense, the preposition *an* (at) evokes the meaning of contact in which some objects constituting the TR, *auto scrap and rubbish*, are adjacent to the LM, *the East Side Gallery*, an open-air gallery on the Berlin Wall, precisely to some places on the surface of the vertical plain of it. There is an interesting interplay between the edges of some objects constituting the TR and some places on the surface of the LM, being their ‘active zones’. As the compound TR consists of multiple objects, the concept of the horizontal plain on which the TR is may become activated by all four prepositions even though it is generally less evident in the meaning of ‘at’. The concept being a mediating one is irrelevant in this case for establishing the meaning.

Tab. 2. The concepts contributing to the meanings at the lexical and conceptual level in examples (4-5).

.Ex.	Specific meanings of the Contact Sense of German <i>an</i> and their Polish, Spanish and English equivalents				Mediating concepts		
	Lexical level		Conceptual level				
	TR	LM	Meaning	TR Active zones	LM Active zones	Meaning	
(4)	object	object	TR <i>on</i> the LM (G, E) TR <i>nad</i> (by) the LM (P) TR <i>de</i> (of) the LM (S)	edge of the TR (spot or CONTAINER) adjacent to the edge of the LM	edge of the LM (strip) adjacent to the edge of the TR	TR adjacent to the LM (G, P, S, E) TR supported by the horizontal plain adjacent to the LM (P)	- horizontal plain where the TR is on (P) belonging* (S)
(5)	person	object	TR <i>on</i> the LM (G, E) TR <i>nad</i> (by) the LM (P) TR <i>en</i> (on/in) the LM (S)	whole / soles of the feet	CONTAINER / lower surface of the CONTAINER or ground inside the delimited space	TR inside the LM TR inside the LM on the lower surface of the LM	horizontal plain where the TR is on

Legend:

Ex. - example

TR – trajectory; LM – landmark

G – German; P – Polish; S – Spanish; E – English

* - concept from a different domain than adjoining/adjacency

Tab. 3. The concepts contributing to the meanings at the lexical and conceptual level in example (6).

		Specific meanings of the Contact Sense of German <i>an</i> and their Polish, Spanish and English equivalents				
		Conceptual level				
.Ex.		Lexical level				
TR	LM	Meaning	TR Active zones	LM Active zones	Meaning	Mediating concepts
(6)	object	TR <i>an</i> (at) the LM (G) TR <i>przy</i> (<i>at</i>) the LM (P) TR <i>en</i> (at) the LM (S) TR <i>at</i> the LM (E)	edges of some objects adjacent to the LM	places of the surface of the vertical plain to the edges of some parts of the TR	TR adjacent to the LM	horizontal plain where the TR is on

Legend:

Ex. - example

TR – trajector; LM – landmark

G – German; P – Polish; S – Spanish; E – English

In (7) and (8), due to the verbal TR of the preposition (TR_p), a more complex interaction of concepts can be observed.

In (7), the action of wiping, expressed by the TR_p, *wiped*, including the TR_v, *she*, the LM_v, *the fork*, and the LM_p, *the napkin*, according to the German and English lexicalizations by means of the prepositions *an* and *on* respectively, takes place on the overt side of the LM_p, *the napkin*, foregrounding the contact place(s) of the LM_v, *the fork*, with the LM_p. The information whether the LM_v, *the fork*, is involved in the action as whole or as parts (for example only the tines) is a contextual information irrelevant for the created meanings of the prepositions. The Polish *o* (on) evokes, according to the accusative it requires, an additional concept of pressure on the LM_p, *the napkin*, exerted by the LM_v, *the fork*, by the action of the TR_v, *she*, metonymically conceptualized as her hand(s). Finally, the Spanish *en* (encoding the meanings of ‘on’ and ‘in’) requires contextual information for differentiating the meanings. Thus, apart from the ‘active zones’ of the LM_v (whole fork or its parts) and LM_p (the place on the serviette), the metonymical conceptualization of the TR_p, *she*, as her hand(s) contributes as an ‘active zone’ to the meaning, however, only of the Polish *o* (on) – with respect to the concept of pressure. The conceptualizations in German, Spanish and English foreground the contact with a surface.³

In (8), the state of leaning, expressed by the TR_p, *is leaning*, concerns the TR_v, *his Les Paul guitar*, a schematical object, the one edge of which is in contact with a place on the LM, *the palm tree*, the surface of its trunk, to be precise. While the German *an* and its equivalents, the Spanish *en* and the English *on* foreground only the contact point of the TR_v and the LM, the Polish *o* (on, literally about) activates additionally the concept of pressure of the TR_v on the LM, and the other Spanish and English counterparts, *contra* (against) and *against*, the concept of resistance of the LM. The horizontal plain and the place on it with which the other edge of the TR_v is also in contact, appearing in all conceptualizations, stay in the background. There is an interplay between the one edge of the TR_v and a place on the trunk of the palm tree as the ‘active zones’ of the TR_v and the LM, in that, according to the preposition, different concepts become foregrounded. The German *an*, the English *on* and the Spanish *en* foreground the concept of contact, while the Polish *o* (on, literally about) foregrounds the concept of pressure of the TR_v on the LM, and the Spanish *contra* (against) and the English *against* – the concept of the resistance of the LM. The other interplay, taking place at the same time between the opposite edge of the TR_v and the ground on which the TR_v is, remains backgrounded. The concept of the ground with the TR_v on it is a mediating one that does not contribute to the meaning, but at the same time is indispensable for this meaning to exist.

³ To express the TR-LM relation as encoded by the Spanish *en* meaning ‘in’ in the other languages, the German *in* (in), the Polish *w* (in) and the English *in* Polish would be required, encoding the concept of ‘interior’. All four prepositions would activate the conceptualization of the LM_v in contact with the LM_p on both insides of the folded LM_p. Due to the accusative, the German *in* (in) and the Polish *w* (in) would require additionally the concept of pressure like the Polish *o* (on).

Tab. 4. The concepts contributing to the meanings at the lexical and conceptual level in example (7).

		Specific meanings of the Contact Sense of German <i>an</i> and their Polish, Spanish and English equivalents								
		Lexical level			Conceptual level					
.Ex.	TR _v	TR _p	LM _v	LM _p	Meaning	TR _v Active zones	LM _v Active zones	LM _p Active zones	Meaning	Mediating concepts
(7)	person	action	object	object	LM _v <i>on</i> the LM _p (G, E) LM _v <i>o</i> (on) the LM _p (P) LM _v <i>en</i> (on) the LM _p (S)	hand(s)	whole or parts	overt side	LM _v in contact with the overt side of the LM _p	pressure of TR _v ' active zone (P)

Legend:

Ex. - example

TR – trajector; LM – landmark

G – German; P – Polish; S – Spanish; E – English

Tab. 5. The concepts contributing to the meanings at the lexical and conceptual level in example (8).

.Ex.	Specific meanings of the Contact Sense of German <i>an</i> and their Polish, Spanish and English equivalents							
	Lexical level			Conceptual level				
	TR _v	TR _p	LM	Meaning	TR _v Active zones	LM _p Active zones	Meaning	Mediating concepts
(8)	object	state	object	TR <i>on</i> the LM (G, P, S, E) TR <i>against</i> the LM (S, E)	edge adjacent to the LM	place on the surface of the vertical part of the object	TR in contact with the LM (G, P, S, E) TR in contact with the LM exerting pressure on the LM (P) TR in contact with the LM, exerting resistance relative to the TR _v (S, E)	horizontal plain where the TR _v is on; opposite edge of the TR _v (G, P, S, E) pressure of the TR _v on the LM (P) resistance of the LM relative to the TR _v (S, E)

Legend:

Ex. - example

TR – trajectory; LM – landmark

G – German; P – Polish; S – Spanish; E – English

As illustrated by the examples above, even a simple relation of objects in the world is very detailed and there is a clear discrepancy between the relations, their lexicalizations and conceptualizations. While the lexicalizations are schematical, conceptualizations of the perceived real relations as well as their lexicalizations may range from schematic to concrete. This fact alone raises awareness of the asymmetry between language and thought and the limited linguistic means in relation to the multiplicity and diversity of thoughts supported by the non-compositionality of meanings. Linguistic means trigger elements of the conceptual substrate available to a single language user according to their embodied knowledge and experience.

As shown above, the schematic Contact Sense of the German *an* exhibits 8 specifications with respect to the real world: (i) contact on and inside the LM in (1), (ii) adjacency and contact from below in (2), (iii) contact of two parts of a whole in (3), (iv) contact of an object with a part of another object in (4), (v) being inside a CONTAINER, or, more precisely, on its lower surface, or, being on a delimited ground in (5), (vi) contact of parts of a composed object with another object in (6), (vii) contact on the surface of the LM in (7) and (viii) contact of a part of the TR with a part of the LM with background support in (8).

The brief cross-linguistic insight into the conceptualization process revealing the concepts that arise while creating the conceptualizations of meanings sheds light on their interplay and the role the particular kinds of them (TR and LM, their active zones, concepts encoded by the prepositions, mediating concepts and (ir) relevant contextual information play in this process in each of the investigated languages.

The comparison with Polish, Spanish and English shows what follows with respect to the language-thought relation:

- in (1) $an = na = on \neq en$, referring only partially to the real TR-LM relation to the exclusion of inside the LM,
 - en – able to refer to the real relation by replaced LM,
 - TR on and inside the LM – conceptualization in line with the reality;
- in (2) $an = na = on < en$ referring only partially to the real TR-LM relation foregrounding the concept of adherence,
 - en – context dependent activation of the meanings ‘on’ or ‘in’, the last happening when focusing the specific kind of fixing,
 - TR adhering to the LM from below – conceptualization in line with the reality;
- in (3) $an = na = en = on$ evoking the concept of adjacency of the TR and the LM by their implicit edges as ‘active zones’,
 - contact of a part and a whole or of two parts of a whole – conceptualizations in line with the reality;
- in (4) $an = on = de \neq nad$ evoking the concept of adjacency of the TR and LM by their edges as ‘active zones’,
 - de – backgrounded concept of belonging,

nad – optional backgrounded concept of the horizontal plain where the TR is on

contact of an object with a part of another object – conceptualization in line with the reality;

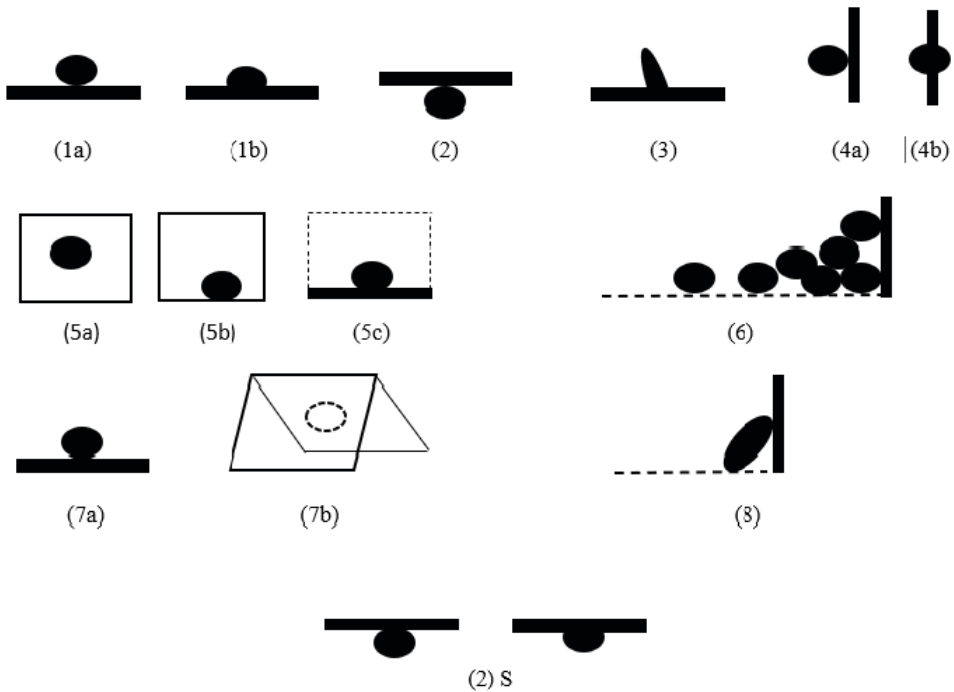
- in (5) *an = nad = en = on* evoking the meanings of ‘being in’, ‘being in on the ground’ or ‘being on the ground of a delimited space’, emerging in result of the metonymical and metaphorical processes,
 - being on the ground of a delimited space – conceptualization in line with the reality;
- in (6) *an = przy = en = at* referring to the TR being on a plain adjacent to the LM and in contact with the LM,
 - contact of parts of a compound object with another object – conceptualization in line with the reality;
- in (7) *an = on = en (on) ≠ o (on)* referring to an object in contact with the other on the overt side of it,
 - o (on)* – contact and pressure on the LM,
 - contact of one object with another on the overt side of it exerting pressure on it – conceptualization in line with the reality;
- in (8) *an = on = en (on) ≠ o (on)* and *contra (against) = against* referring to one part of an object in contact with the other, with background support of the object, the part of which is in contact with the other,
 - o (on)* – contact and pressure on the LM,
 - contra (against) = against* – contact and resistance of the LM,
 - one part of an object (being on a ground) in contact with the other – conceptualization in line with the reality.

Figure I presents the specifications of the Contact Sense of the German *an* (on, at) and their Polish, Spanish and English counterparts.

The asymmetry between the general coarse-grained lexicalizations and varied conceptualizations reaching from schematic to concrete ones, including most often modified content are discussed in detail on the examples presented above. It does not only bring to light the well-known fact of non-compositionality of linguistic meanings in a general sense, but first and foremost enables one to trace in detail the concepts activated through the linguistic means from the accessible conceptual substrate, confirming their embodied and experience-based nature and character according to the embodied and experience-based knowledge of a single language user.

The same lexicalizations and linguistic expressions may evoke different conceptualizations by different people as well as by the same person at different times depending on the focus, perspective, degree of concretization/schematization, granularity and taking different concepts to the fore. While conceptualizing *a peninsula on a coast* we can focus more the part of land being surrounded by water than the implicit edges of the two objects, we can view the two objects as a part and a whole or as two parts of a whole and we can imagine

the relation from the inside or from the outside. We can conceptualize *a city on a river* only schematically as a spot on a strip like on a map or in a detailed way by imagining a particular city with particular buildings, streets and places on a particular river also imagining its shape. When conceptualizing *a person in a city* we seldom focus on their soles in contact with the ground, we tend to imagine the person as an object being in a delimited space treating the exact contact of the feet or precisely of the soles as implicit, but available to focus on at all times. Finally, we can conceptualize an object simple leaning on another without activating concepts such pressure or resistance even if they are encoded by linguistic means and, conversely, we can activate these concepts even if they are not linguistic encoded, and at the same time we cannot overlook the concept of a ground supporting the leaning object even if it is not verbalized.



Legend:

1, 2, 3 ... - the numbers of the examples discussed above

a, b – variants of conceptualizations

S - Spanish

Figure I. Specifications of the Contact Sense of the German *an* (on, at) and their Polish, Spanish and English counterparts

Thus, while discussing the language-thought or lexicalization-conceptualization relation, the conceptual substrate available to a single language user must be taken into consideration as well as the fact that this substrate, like all their knowledge

and experience, is embodied containing multimodal concepts evoked in it in a differentiated manner by the same words and linguistic expressions that are on the one hand schematic, and, on the other, not precise. Even the lexicalizations of simple spatial relations catch them, as illustrated above, only partially like in the case of 'the lamp on the ceiling' that focuses the adherence of both objects by ignoring the contact of the 'lamp' with the 'ceiling' from below. Neither of the investigated languages has means to lexicalize the relation of being at the same time 'on' and 'in' as evident by the case of 'the rot on the inner side of the board'. Even if as mentioned above the LM had been replaced by 'board' only, the available linguistic means would allow to express the state either 'on' or 'inside' the board but not 'on' and 'inside' at once. The way to express the real spatial relation of 'rot' and 'board' by linguistic means would be to use that expression separately to the relation of 'on' and of 'inside' the board. Such precise expressions, however, are not always needed because of human ability to infer information. When conceptualizing expressions like *rot on the board* and *rot inside the board* language user might evoke the concept of 'inside' with respect to the first and of 'on' with respect to the second one, provided they have knowledge about both objects and activate the property of rotting and its implications.

On the other hand, there are expressions like the German *an*, the Spanish *en* and the English *at* that can refer to complex spatial relations evoking at the same time the concept of a space 'inside', 'outside' and 'next to' an object like in *an der Ziellinie* (at the finish line), *en la meta* (at the finish line) and *at the finish line*. Due to their complexity, these prepositions in turn are not sharp enough to determine the proximity of the relating objects making expressions like (6) *Autoschrott und Müll an der East Side Gallery* (auto scrap and rubbish **at** the East Side Gallery) ambiguous. Expressions like this present a case where the information included in the TR and LM is not enough for establishing the meaning, requiring attention to be paid to an appropriate contextual information that in such a case becomes relevant. Example (6) also reveals cross-linguistic difficulties in finding the most suitable counterparts for the German *an* to express the contact sense when *an* means 'at'. In Polish, the preposition *przy* (at), is the closest equivalent of it when expressing such relations. It also leaves the proximity undetermined, but, at the same time, allows the contact of the objects. The advantage of the Polish *przy* (at) is that it does not have in its semantic spectrum such complex concept like the German *an* and the English *at* as mentioned above. This is why, when seeking the English counterpart, the preposition *next to* might be taken in to consideration. Similarly, but for another reason, the equivalent of the English *next to*, the Spanish *al lado de*, might be taken into consideration instead of *en*, since *en* encodes generally, context dependent, the meanings of 'on' or 'in'.

This unequivocal nature of the Spanish *en* might lead to the ambiguity like in (2) being able to evoke the concept of adherence (in the meaning of 'on') as well the concept of the kind of fixing (in the meaning of 'in') foregrounding in the last case the assembly of the lamp in the ceiling. At the same time, when

replacing the German *an*, the Polish *na* and the English *on* by the German *in* (in), the Polish *w* (in) and the English *in*, expressions like *the lamp in the ceiling* in German, Polish and English, would evoke a conceptualization of the whole lamp located ‘inside’ the ceiling. While cases like (2) can be used to suggest that lexicalization shapes conceptualization, cases like (4) in Spanish, *Frankfurt del Meno*, show otherwise. Even though the preposition *de* encodes the meaning of ‘belonging’, the meaning that arises at the conceptual level when referring to geographic names bases on the knowledge and experience about the real relation of these objects in the world.

While defining the concept of context as information on which meaning depends, the TR and LM of the preposition themselves were to be viewed as such. But for the reasons mentioned in the Introduction, due to the relational nature of the prepositions having their primary (TR) and secondary (LM) focus, TR and LM are to be viewed as integral parts of the linguistic unit taken into account when establishing the meanings of the prepositions including information inherent to them being relevant for establishing the meaning, their ‘active zones’. Therefore, only other pieces of information arising when conceptualizing meanings of prepositions are to be viewed as contextual ones. As shown by way of examples discussed above, these other pieces of information may play different roles and have different significance for creating meanings ranging from concepts mediating meanings and other irrelevant contextual information to the relevant ones, making establishing meanings more difficult.

Such contextual information is found in all examples with the exception of (1) and (3), and of three instances of (2), where only in the case of the Spanish one due to the ambiguous preposition *en* the information concerning the kind of fixing assumes the role of a relevant contextual information for establishing the meaning. Since this piece of information, if emerges, is activated by the preposition, the kind of fixing can be viewed as a relevant mediating concept. Another concept mediating the meanings is the horizontal plain on which the TR is, appearing in (4), (5), (6) and (8) encoded by the Polish *nad*, but activated zoom-dependently in (4), evoked by all four prepositions, but overlapped with the LM as a result of the metaphorical processes in (5), evoked by the German *an* meaning ‘at’ and its Polish, Spanish and English counterparts in (6) and by the German *an*, the Polish *o*, the Spanish *en* and the English *on* in (8), due to the given TR, TR_p and/or LM. Noting that this concept does not affect the meaning, but is, at the same time, immanent and, like in (8), imperative for the TR-LM relation. Pressure evoked by the Polish *o* in (7) and (8) as well resistance evoked by the Spanish *contra* and the English *against* in (8) are further mediating concepts that, when activated, specify the meaning. Example (6) when confronted with expressions like *kaczki nad Menem* (ducks on the Main) mentioned above, illustrates the difference between an ‘active zone’ and a relevant contextual piece of information, the adjacency of the TR, as the inherent property of it, relevant for establishing the meaning of contact in (6), and a required contextual piece

of information that is not inherent to the TR and/or LM that would be needed to establish an unequivocal meaning of the opposite example with ducks. Example (8) is a case that additionally illustrates the situation when one part of an object (here TR) takes part on the TR-LM relation as the ‘active zone’ and another one takes part on the TR-LM relation constituting a part of a contextual information indispensable for the TR-LM relation, but, at the same time, implicit with regard to the meaning in question.

2.3. Discussion of the Results

The TR-preposition-LM sequence appears as the appropriate one to be taken into consideration with respect to the problem of (i) separating the appropriate linguistic unit when establishing meanings of the prepositions (Lakoff 1987, Tyler and Evans 2003, Szwedek 2007, Langacker 2008) and (ii) analyzing the information appearing when conceptualizing meanings with reference to the relational character of prepositions (Langacker 2008). However, one should take into account not only the nominal TR (Tyler and Evans 2003), but also the relational one (Brenda and Mazurkiewicz-Sokołowska 2022, Mazurkiewicz-Sokołowska 2023 in print). In order to avoid, or, at least, to minimize the possibility of establishing different meanings of the same prepositional expressions (Lakoff 1987, Tyler and Evans 2003, Rice and Kabata 2007, de Cuypere 2013, Brenda and Mazurkiewicz-Sokołowska 2022), of all the information appearing when creating meaning, only the one being inherent to the TR and/or LM should be in focus. Of all other pieces of information (not inherent to the TR, LM or their ‘active zones’), viewed as the contextual ones, the only piece of information that should be considered, is the one that becomes relevant for establishing meaning in ambiguous cases when the properties of the TR and/or LM alone prove to be insufficient for establishing an unequivocal meaning of a given TR-preposition-LM unit. As demonstrated above, information evoked by prepositions playing the role of mediating concepts appears as relevant for establishing meaning only in ambiguous cases, too. Other contextual information, even if in some cases indispensable for the TR-LM relation, should be viewed as irrelevant for establishing meanings.

The results of the analysis showing that:

- conceptualization may include more than one prepositional meaning at once like in (1),
- conceptualization of the meaning of a complex preposition including more specific prepositional meanings may foreground only a part or parts of the complex one like in (6),
- conceptualization may include information about the TR and/or LM, not verbalized in the lexicalization, due to the properties of the TR like in (4) or to metonymical and metaphorical processes like in (5) changing the meaning of the preposition,

- conceptualization of the unequivocal meaning in ambiguous cases may be possible due to the information not included in the lexicalization like in Spanish (1) and all four instances of (6),
- despite different lexicalizations, the conceptualization may remain the same like in (4),

provide arguments regarding the lexicalization-conceptualization and, broadly, language-thought relation, in line with Dyke (2022) that language does not shape thought. Thus, in line with Langacker (2000) and Nelson (2017), linguistic means are to be viewed only as triggers for conceptualizations arising on the basis on the embodied and experienced knowledge of a single language user according to the concepts they activate when conceptualizing the meaning of an expression at a given moment.

Human ability to create

- conceptual wholes emerging from imagination of both encoded concepts at once as in the case of the location of rot in (1), on the basis of linguistic expressions containing linguistic units referring only to parts of the described relation like in the case of the German *an* (on) and *in* (in), the Polish *na* (on) and *w* (in), the Spanish *en* (on, in) and the English *on* and *in*, encoding either the surface or the inside location (the prepositions ‘on’ or ‘in’, respectively),
- conceptual parts as in the case of the location at the Berlin Wall in (6), on the basis of linguistic units referring to complex spaces in the described relation like the German *an* (at), the Polish *przy* (at), the Spanish *en* (at) and the English *at* encoding a complex location (‘on’ a space surrounding and/or in contact with, ‘inside’ and ‘next to’ an object at once),
- other conceptions like in the case of the Spanish *de* (of), encoding the concept of belonging, and evoking the concept of adjacency, when referring to geographic names as in the case of Frankfurt in (4) on the basis of linguistic units referring to one relation encoding one concepts,

highlighted on the examples above, leaves no doubts that conceptualizations are not bounded by lexicalizations or a given linguistic expression, but arise from the embodied and experienced knowledge of a single language user according to the concepts they activate when conceptualizing the meaning of a linguistic expression at a given moment. This fact explains the difficulties in establishing unequivocal meanings of the same linguistic expressions by the same researchers at different times (Lakoff 1987, Tyler and Evans 2003, Rice and Kabata 2007, de Cuypere 2013, Brenda and Mazurkiewicz-Sokołowska 2022). It also strengthens the validity of the arguments raised here in favor of a clear separation of the TR-preposition-LM sequence as the unit under study as well as those in favor of the precise separation of the ‘active zones’ from various types of contextual information.

Coming back to the language-thought relation, humans are able to learn cross-linguistically different lexicalization patterns referring to the same relations in

the world, using them when ‘thinking for speaking’ (Slobin [1996] 1999: 76) in a particular language. Depending on the degree of ‘recoding’ (Gomila 2015), they may or may not encode real world relations in line with the given lexicalization. They encode relations rather in line with their embodied and experienced knowledge having cross-linguistically different lexicalization patterns for expressing them. But, even if, when learning new languages, humans learn new lexicalization patterns and therefore new ways of thinking (Boroditsky 2001), these new lexicalizations do not bound thoughts on these lexicalizations (Brenda, Mazurkiewicz-Sokołowska 2022: 212). For this reason, the same lexicalization patterns evoking different meanings in different languages like in the case of the lamp in (2) are not to be interpreted in terms of shaping thoughts. When a lexicalization evokes different meanings in different languages, humans are able to evoke, apart from these meanings, other conceptualizations going in line with their thoughts, and when a language lacks a proper lexicalization pattern, humans are able to formulate their thoughts otherwise. Thereby, having different linguistic means, languages may facilitate or hinder expressing and conceptualizing meanings (Brenda, Mazurkiewicz-Sokołowska 2022: 212).

3. Conclusions

Summing up, the embodiment of cognition causing partially shared, partially individual and subjectively embodied and experienced knowledge of language users, the individually and subjectively varied conceptual substrate evoked by them through linguistic means at a given moment, finally, the cognitive mechanisms like the metonymical and metaphorical ones discussed here, contradict the claim that language shapes thought. Linguistic information may only influence (not shape) thought and this influence is only temporary and context-dependent, occurring at the time of the particular usage and to a far lesser extent (with reference to only one example, example (2), in the presented study) than the influence of the non-linguistic information arising when conceptualizing meanings (with reference to the effect of the grammatical gender on conceptualizing objects, Mazurkiewicz-Sokołowska, Safranow 2020).

Finally, the investigation presented above, reveals more similarities than differences between languages belonging to different language groups, i.e. Germanic, Slavic and Romance. In general, more similarities are found between the two Germanic and the one Slavic language when compared with the Romance one. Particularly, apart from the similarities between the two Germanic languages, there are similarities between Spanish and English as well Polish and German.

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