Static spatial Relations in Vietnamese

A case-study of Vietnamese and German-Vietnamese bilingual speakers

Stefanie Siebenhütter
Johannes Gutenberg-Universität, Mainz
ssiebenh@uni-mainz.de

Abstract

The aim of this paper is a semantic and typological case-study of static spatial reference in Vietnamese. This includes reviewing already presented theories for the description of Vietnamese spatial language and the representation of the encoding of spatial relations in Vietnamese. Data from Vietnamese speakers (L1) grown up in Germany were analysed and the paper presents a rapid observation of selected Vietnamese static spatial relations. Methodologically, one widely known elicitation tool, the *topological relations picture series* (TRPS) for the study of topological relations were used. The analyzation allows reassuring that the expression of spatial concepts is not universal, but rather language-specific. This means that there is no semantic universality when encoding space. As a result, the paper visualizes how the encoding of specific spatial situations and especially the semantic scope differs considerably in a European language like German and the Southeastasian Vietnamese.

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Keywords: Spatial reference, bilingualism, semantic scope, Language and space, Spatial language

ISO 639-3 codes: vie

1. Introduction

1.1 Spatial reference in Vietnamese

The expression of spatial concepts is not universal, but rather language-specific. This means that there is no universality in the encoding of space in the languages of the world. The aim of this paper is a semantic and typological case-study of static spatial relationships in Vietnamese. This includes reviewing existing theories for the description of Vietnamese spatial language and the representation of the encoding of spatial relations in Vietnamese. The special semantics in the Vietnamese language will be accessed by analyzing the encoding of static spatial relations and periodically comparing the measured data with the corresponding German prepositions. The difference within the semantic scopus is specifically remarkable. In summary, the paper presents a rapid observation of selected Vietnamese static spatial relations collected from bilingual Vietnamese and German speakers.

1.2 Basic structures of Vietnamese

Vietnamese belongs to the Việt-Mường group within the Austro-Asiatic language family [1] (Vũ 1983:12) and belongs to isolating languages (Graffi 2011: 27-28; Bossong 2001: 249-251) according the linguistic typology of Humboldt and Schlegel. This means that individual lexemes do not change their shape and all grammatical relations are not expressed by morphology, but only by means of word order and function words (Nguyễn 1997: 17). Nguyễn divides the Vietnamese lexicon in "full words" i.e. content words and "empty words" i.e. function words. Nouns, classifiers, numerals and verbs are considered content words while adverbs, prepositions and conjunctions are considered function words (Nguyễn 1997: 36, 256). Vietnamese is a tonal language with six tones, which means that changes in pitch result in a change of the semantics. The dominant word order is SVO (Vũ 1983: 12p.). Grammatical relations are expressed in isolating languages solely on the word order (Comrie 1989).

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[1] Vietnamese belongs to the sub-Mường language family of Mon-Khmer languages.

Vietnamese is a neutral system, which means that Agentive, Subjective and Objective are marked the same way (see Nichols 1992: 65). In Vietnamese not only Agentive (A), Subjective (S) and Objective (O) are unmarked as illustrated by examples 1-4. Also, the Indirect Objective (IO), which represents the role of the addressee in example 3 and the Indirect Agentive (IA), which represents the instrument in example 4 are unmarked.

	S		→	**LOC**		
(1)	*Tôi*	*chạy*	*lại*	*nhà*		
	1P.SG	run	come	house		

'I run home/to the house.' (Bisang 1992: 311)

	A		→	**O**		
(2)	*Anh*	*khôi*	*đọc*	*bao.*		
	brother	name	read	newspaper		

'Brother Khoi reads newspaper.' (Vu 1983: 47)

	A		→	**IO**		**O**
(3)	*Ông*	*ấy*	*đửa*	*bà*	*ấy*	*tien.*
	3P.SG.M	this	give	3P.SG.F	this	money

'He gives her the money.' (Bisang 1992: 294)

	A		→	**IA**		**O**
(4)	*Tôi*	*đi*	*xe*	*đi*	*học.*	
	1P.SG	go	car	go	study	

'I go to the lesson by car.' (Bisang 1992: 317)

1.3 Research design and methods

The presented paper is built on data collected from native speakers, a real linguistic basis of everyday life for the investigation at their disposal. Data were collected from bilingual Vietnamese speakers, grown up in Germany.

As the basis for this study, the topological relations picture series (TRPS) with 71 pictures for the study of topological relations, developed by the Language and Cognition Group at the Max Planck Institute for Psycholinguistics in Nijmegen (Bowerman & Pederson 1992, Bowerman & Choi 2001, Levinson & Wilkins 2006: 9) was used. It is assumed that the TRPS with its 71 images (simple drawings of static spatial concepts) covers all basic topological concepts: at, in, on, under, over, near, etc. (Levinson and Meira 2003: 488). The research design follows Levinson's and Wilkins' (2006: 514p.) procedure, asking Vietnamese (L1) speakers grown up in Germany and able to speak German (L2). The informants answered the question "Where is X?", which was asked while presenting the pictures. The answers allow the analysis of the verbalization of static spatial notions by Vietnamese language users. Using the 71 images of the TRPS series, elaborated by informants' surveys, the data serving as the basis for the presented study were collected.[2] All of the following examples are - unless indicated otherwise - attributed to them.[3]

Data were collected several times: First, from Vietnamese L1-Speakers in Germany (2012), 5 female speakers, grown up in Germany reporting a bilingual proficiency (being able to handle any situation in both languages with a more or less equal competence). Second, a repetition in Germany (2017) with 4 female and 4 males. Additionally, data from speakers in Vietnam (2014): 4 male, 4 female, and a second repetition in Vietnam (2017) including 5 female and 5 male speakers, all between 20-25 years, old were included.

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[2] According to the interviewed informants, usually several options were possible in response to the "Where"-questions. However, tendencies for one general way to answer could be found. It should be recognized that there is often not only a single correct way. The surveyed native speakers mainly come from Northern Vietnam (dialectal differences within the Vietnamese were not investigated in this work). Some of them have been speaking German from an early age.

[3] For easier orientation, all language samples are provided in brackets with the original numbers of the TRPS.

According to Levinson and Wilkins (2006: 15pp) each language uses a kind of hierarchy to encode spatial notions, the *Basic Locative Construction* (BLC). The BLC is the dominant construction used in a language to verbalize prototypical spatial relations (Levinson & Wilkins 2006: 15ff.).[4] Examples for the BLC will be given in section 2. The BLC for Vietnamese will be discussed in detail in Siebenhütter (2016, 2020).

Each picture represents a relationship between two objects in space, more precisely between figure and ground. The terms figure and ground – introduced by Talmy (Talmy 2000 and 1983) – are profiling the relationship between two objects in space. Figure will be roughly described as smaller, portable, central and limited, while larger, unlimited, immobile and information weaker entities are called ground (for more details see Talmy 2000 or Evans & Green 2006). An event idea with figure and ground can always be seen as 'before' and 'after' (linearization). This, among other things, results in the word order. Configured for languages such as Vietnamese, the word order is crucial to understanding an utterance and therefore deserves special attention.

In **section 2**, selected topological relations of Vietnamese speakers who grew up in Germany or immigrated to Germany in their early childhood will be analyzed. In **section 2.5**, the semantic scope will be reviewed. **Section 3** summarizes the main findings.

2. Topological Relations of Vietnamese

2.1 Topological Relations

Body experience was long time seen as a universal basis for spatial language (Levinson 2003: 13):

"It will become clear below that there are languages and cultures where these generalizations seem quite out of place (and an inkling has already been given in the anecdotes above) – indeed I will argue that they are simply false. The problem is that, as in so many other aspects of psychology and linguistics, we are heavily biased by our own Western cultural traditions and languages. This tradition has, since Aristotle's six directions, generally placed the human body at the centre of our spatial notions."

However, in his view, spatial thinking is heavily influenced culturally and therefore is not the semantic representation in the universal language of the world (Levinson 2003: 15-16, 18). The spatial elements of Vietnamese include some complications that seem unexpected from the perspective of European languages (Thompson [1965]1987: 316) and therefore deserve closer attention. Below, some selected static basic spatial relations of the Vietnamese language are examined. The human body can serve as a model for categorizing spatial conceptions of objects in a maximum of 6 sides: vertical (*up/down*), horizontal respectively frontal (*front/behind*) and lateral (*right/left or beside*).[5] Furthermore there is possibly a notion of within or outside of a container, respectively object. In cognitive linguistics, this schematization is called embodiment, a basic strategy for the creation of the cognitive meaning. Environmental stimuli and experiences are processed in image schemas with the idea of the body (Lakoff 1987: 272-73). In cognitive linguistics, image schemas are defined as schematic versions of images (Croft & Cruse 2004: 44-45).

To the disposition of basic spatial conceptions, some models are presented below. Zwarts divides spatial relations into fundamental relationships between geographic regions with *in* and *on*, and axes-based semantics for projective prepositions *over* and *behind* (Zwarts 2010: 211). Carstensen (2001) prefers a trichotomy of local prepositions in topological (e.g. German *in, an, auf, bei*), dimensional (e.g. *über, unter, vor, hinter, rechts, links*) and way-prepositions (e.g. *um, durch, längs*). Levinson divides the spatial language in semantic part territories (Levinson 2003: 66, Levinson & Wilkins 2006: 3). For this work, subdividing the static location in angular and non-angular relations in this way is interesting. Non-angular relations are understood as topological and angular relations as vertical and horizontal relationships, which in turn may be divided into three different frames of reference. The intrinsic frame of reference is used, if the speaker refers to an object (figure) by means of a ground object that stands on an axis in relation to figure: *The bicycle stands in front of the church*.

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[4] See figure 1.5 in Levinson and Wilkins (2006: 16).
[5] The criteria are already systematized by Miller / Johnson-Laird (1976: 403) (Wunderlich 1985: 75).

If the speaker uses body coordinates, he turns to the relative frame of reference: *The unicorn sits right beside the tree*. The third possibility, the absolute frame of reference uses fixed points, geographical landmarks for the description of spatial conceptions: *The cost lies in the north of the mountains* (Levinson & Wilkins 2006: 4). Alle three frames of reference can occur with or without deictic center (Levinson 2003: 50). According to Levinson and Wilkins (2006: 22) each language prefers one or two frames of reference to encode spatial concepts in everyday language, although there are also languages that use all three. In this paper, both, horizontal and vertical, angular relations (*up, down, front, back*), as well as non-angular, topological relations (in) will be considered in more detail below.

	vertical/up	vertical/down	horizontal/front	horizontal/back	in/inside
+contact	'cup on table'	'chewinggum sticks under the table'	'picture on the wall'	'postcard sticks behind the picture'	'apple in the bowl'
-contact	'lamp over table'	'cat under table'	'dog in front of hut'	'child behind chair'	'fish in glass'

Table 1: Examples of basic topological relations

In Table 1 some examples of basic spatial relations are listed, which are examined in more detail on the basis of Vietnamese representations: relations *up/down*, *front/back* and *in/inside*. This selection aims to study Vietnamese spatial reference of Vietnamese/German bilinguals and Vietnamese native speakers in Vietnam and does not claim to be complete.

The spatial relationships will be considered with the differentiation *with and without contact* of figure and ground object if appropriate. Within this broad classification it was possible to differentiate more precisely, e.g., between *force dynamic relations* such as *attachment* or *support*.

The lexeme *ở*, called a locative helping word (Vũ 1983: 67), co-verb (Bisang 1992: 309p.), or general position verb (Thompson [1965]1987: 316), plays a decisive role in the encoding of spatial representations in Vietnamese. In this paper, according Siebenhütter (2016, 2020) Positional Marker (PM) will be used to label *ở*. The Meaning of *ở* can be described roughly as 'to be located at' and 'stay' or 'life' are conceivable translation options (For other meanings see table 4). In unique situations, such as in example (5), *ở* can be omitted:

(5)   *Con   méo   ngồi (ở)   **dưới**   cái   bàn.*
       CL   cat   sit   (PM) **uder** CL   table
       'The cat is sitting under the table.' (Picture 31)

In German, *sich befinden* 'to be located' is, besides *sein* 'to be', the most general verb that is used to describe the location of objects in space. It denotes nothing but a mental representation, which then must be specified by a prepositional locative word (Vater 1991: 77). In Vietnamese, a statement only with *ở* is still a very non-specific description of a spatial sense, because no information about the exact nature of how and where an object is located is given. Hence, for the description of spatial ideas *ở* is usually combined with one spatial relator, which is used to determine the position of the object to be described in more detail (Thompson [1965]1987: 316).

In German, the spatial relators are best translated with prepositional phrases and therefore often referred to as prepositions (Thompson [1965]1987: 316). For Vietnamese Thompson used spatial relators because they behave besides their prepositional functions like nouns. Hereinafter, the term spatial relators will be used. Le et al. describe category alternations of the Vietnamese spatial relators *trên* and *trong*. According to their description, alternations between nouns and verbs are very often without morphological variation: "In general, Vietnamese articles can be used as nouns, and the adjectives and prepositions can sometimes play the role of nouns" (Le et al. 2006: 2). Following this idea, it is unnecessary to ask, whether to describe words such as *trên* and *trong* as spatial relators, prepositions, or otherwise. The semantics of these terms is already very flexible without morphological change.

Evaluating the collected data material exhibits a ranking of the elements: *numeral - classifier - noun - verb* – optional *ở* and spatial relator for the expression of a static spatial relation. However, according to Nguyễn (1990: 57) in the noun phrase also *noun - numeral - classifier* is possible: CL + N + V + (*ở* + spatial relator). A numeral is not necessary to basically achieve a complete statement. Considering the whole utterance of a spatial expression, the figure object (FIG) always precedes the ground object (GND) as shown in examples (6) and (7). This can be illustrated simplified as: CL + FIG + locative verb and/or PM *ở* + spatial relator + CL + GND.

		FIG			GND	
(6)	*Cái*	*quyển sách*	*ở*	**trên**	*kệ tường.*	
	DEM	CL book	PM	**on**	shelf	

'The book is on the shelf.' (Picture 8)

		FIG			GND	
(7)	*Cái*	*khău bàn traỉ*	*ở*	**trên**	*cái*	*bàn.*
	DEM	CL tablecloth	PM	**on**	CL	table

'The tablecloth is on the table.' (Picture 29)

Phía, *bên* and *đằng* together with a spatial relator can form a compound locative noun to express local conditions even clearer (Vũ 1983: 71). This is illustrated in sentences (8) with PM *ở* and (9) without the PM *ở*.

(8)	*Chi*	*Kim*	*ngồi*	*ở*	**đằng**	*sau.*
	older sister	name	sit	PM	**direction**	in the back

'Kim sits in the back.' (Vũ 1983:71)

(9)	*Một*	*con*	*trai*	*ngồi*	**bên cạnh**	*đồng*	*lửa.*
	one	CL	boy	sit	**beside**	CL	fire

'The boy sits beside the fire.' (Picture 38)

2.2 Vertical – on top, down

2.2.1 Vertical/on top

The vertical relation will be considered using examples of Table 1 above, with or without contact of figure and ground object.

Vertical/on top +contact

Examples (10-14) describe static spatial situations in which figure and ground object are in physical contact with each other, while figure is located on top of ground. The four examples illustrate the most typical construction for encoding a static spatial relationship in Vietnamese: NP$_{FIG}$ + Positional Marker (PM) *ở* + spatial relator (SPR) + NP$_{GND}$ (see Siebenhütter 2016 and 2020 for details).

	NP$_{FIG}$			PM	SPR	NP$_{GND}$
(10)	*Cái*	*tách uống*	*trá*	*ở*	**trên**	*bàn.*
	CL	cup drink	tea	**PM**	**on**	table

'The cup is on the table.' (Picture 1)

(11)	*Cái*	*quyển sách*	*ở*	**trên**	*kệ tường.*
	DEM	CL book	**PM**	**on**	shelf

'The book is on the shelf.' (Picture 8)

(12)	*Trái*	*táo*	*ở*	**trên**	*cái*	*điã.*
	CL	apple	**PM**	**on**	CL	plate

'The apple is on the plate.' (Picture 19)

(13) *Cái   khău   bàn traỉ   **ở**   **trên**   cái   bàn.*
      DEM   CL   tablecloth   **PM**   **on**   CL   table
      'The tablecloth is on the table.' (Picture 29)

(14) *Cây   bút   **ở**   **trên**   bàn.*
      CL   pen   **PM**   **on**   table
      'The pen is on the table.' (Picture 59)

Vertical/on top -contact

Examples (15) and (16) describe the vertical figure-ground relationship while figure is located on top of ground and the two objects are not in physical contact. In both examples additionally to the spatial relator *trên* ('on') a manner verb of location, *treo* ('hang') or *nằm* ('lie') is used to describe the spatial scene.

(15) *Cái   đèn   treo   **trên**   cái   bàn*
      CL   lamp   hang   **on**   CL   table
      'The lamp is hanging over the table.' (Picture 13)

(16) *Một   đám   mây   nằm   **trên**   đỉnh núi.*
      one   heap   clouds   lie   **on**   mountaintop
      'A cloud is above the mountain.' (Picture 36)

For such concepts of spatial reference gravity can be considered. *Suspension*, *support*, and *containment* is then a relationship, where the figure object is controlled by the ground object, and the expected movement of figure is avoided (Vandeloise 2006: 143).

The encoding of the relationship between figure and ground is the representation of immobility. This immobility of figure and ground object, which describes static spatial situations illustraited in the examples of this paper is a specific relationship. This can be described in other words as the result of a balance between two opposing forces (Vandeloise 2006: 139). Accordingly, the pen in example (14) would fall to the ground if there would not be the table below it. This *control* can be described as a condition in which the controlling object (ground) overwhelmed the controlled object (figure) (Vandeloise 2006: 142).

If the figure object is hanging in relation to the ground object as shown in example (17), the relationship can be designated as *suspension* while example (10) can be described as support (the cup is supported by the table). In this example the table is no longer seen as the reference or ground object. Instead the ceiling *trần nhà* is used as the relatum (ground) of the lamp.

(17) *Cái   đèn   treo   dưới   trần nhà.*
      CL   lamp   hang   under   ceiling
      'The lamp hangs from the ceiling.' (Picture 63)

In different languages, different levels of precision can be found: For example, the Vietnamese *trên* represents a more general notion of control whereas the German *auf* conveys more specific notions of *support* as illustrated below (19a-d) (see Siebenhütter 2016, 2020, Vandeloise 2010: 189). Levinson and Wilkins (2006) describe these preferences in a language with the BLC (*Basic Locative Construction*) the prototypical relations, which are used by a native speaker for the encoding of a prototypical *on*-relation e.g. "The cup is on the table" (Levinson & Wilkins 2006: 9-10).[6]

Furthermore, in *support* relations it can be distinguished between verticaler *support* such as *cup on table* and lateral *support* by *attachment* or *adhesion* such as *phone on wall* (Carstensen 2001: 62).

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[6] There are particularly large differences in how non-prototypical specific spatial notions will be realized (see Siebenhütter 2016 for details).

Hanging can be seen in examples (21) and (44) as *attachment*. Interestingly, the idea of a fixed object is also expressed with the spatial relator *trên*, as the vertical notions of space above. In Vietnamese, there is obviously no essential distinction of spatial relators when encoding spatial conceptions with *support* and *attachment*. Instead, the conceptions can only be distinguished by the used verb. In German, a different preposition must be used, which will be discussed in more detail in section 2.5. *Attachment* in Vietnamese can be expressed with *treo* ('hang'), illustrated in example (21), *support* with the Positional Marker *ở* in combination with *trên* ('on'), illustrated in example (20). In German, a distinction of *auf* ('on') and *an* ('on') is needed (c-d), in English both spatial relations can be verbalized with *on* (19a-b) (Vater 1991: 72). In Vietnamese a distinction between preposition and spatial relator is not necessary as illustrated by examples (18) and (19). Just by using the appropriate verb, a difference is expressed.

(18)   *Cái*   *phôn*   *treo*   *trên*   *tường.*
       CL   phone   hang   on   wall
       'The phone is hanging on the wall.' (Picture 25)

(19)   *Bức*   *tranh*   *treo*   *trên*   *tường.*
       CL   picture   hang   on   wall
       'The picture is hanging on the wall.' (Picture 44)

(19)   a) *The picture **on** the wall.*   c) *Das Bild **an** der Wand.*

       b) *The picture **on** the table.*   d) *Das Bild **auf** dem Tisch.*   (Vater 1991: 72)

(20)   *Cái*   *tách*   *uống*   *trá*   ***ở***   ***trên***   *bàn.*
       CL   cup   drink   tea   **PM**   **on**   table
       'The teacup is on the table.' (Picture 1)

(21)   *Cái*   *đèn*   ***treo***   ***trên***   *bàn*
       CL   lamp   **hang**   **on**   table
       'The lamp hangs over the table.' (Picture 13)

Examples (20) and (21) illustrate that in Vietnamese the fact that figure and ground object have physical contact does not need to be expressed explicitly in any case. The verb *treo* 'hang' however can specify the situation and clarify that figure and ground object are not in contact with each other. This clarification cannot be reached by using a spatial relator as in languages like German or English. The relator *trên* which is used in both sentences has a wider semantic scope. Vietnamese speakers have the option to use additional manner verbs as in the examples (22-25) whenever the relationship between two objects should be explained further. Such locative manner verbs such as *nằm* – 'lie', *đứng* – 'stand' and *ngồi* – 'sit' which can express static spatial concepts even more precise, may be used in addition to the spatial relator *trên* when the situation cannot be known by the addressee from the context alone. If locative manner verbs e.g., 'lie', 'stand', 'sit' etc. are used, they generally replace the Positional Marker *ở*.

(22)   *Cuộn*   *dây*   *thung*   ***nằm***   *trên*   *gốc cây.*
       role   cord   gummi   **lie**   on   stump
       'The hose is on the stump.' (Picture 23)

(23)   *Người đàn ông*   ***đứng***   *trên*   *mái nhà.*
       man   **stand**   on   roof
       'The man stands on the roof.' (Picture 34)

(24)   *Con*   *mèo*   ***ngồi***   *trên*   *tấm*   *thảm.*
       CL   cat   **sit**   on   CL   carpet
       'The cat sits on the carpet.' (Picture 40)

(25) *Cây   thông   **đứng**   trên   đỉnh đồi.*
CL   pine   **stand**   on   knoll
'The pine stands on the hill.' (Picture 65)

A special case of spatial relation can be found if the figure object is realized as skript or paint on a ground object. This can be for example the photograph of a woman or a dinosaur on the cover of a magazine. According to Carstensen, notions such as German "Frau auf Foto" ('woman on picture') and "Dinosaurier auf Titelblatt" ('Dinosaur on cover') are therefore especially remarkable. They seem to be needed to understand as a special usage type within prepositional semantics (Carstensen 2001: 62). The evatluation showed that Vietnamese speakers do not use the basic locative construction to describe this kind of relationship (see Siebenhütter 2016, 2020). As illustrated with example (26a) the locative verb *nằm* ('lie') is used together with the spatial relator *trên*. This combination allows the speaker to specify the spatial relation with a manner verb that describes the way of being located on the stamp. The locative verb *nằm* ('lie') to describe this spatial scene is the same than used in examples (16), (22) and (32) for encoding the spatial scenes 'cloud over mountain', 'hose on stump' and 'wool in front of basket'.

(26) a) *Hính   người   **nằm**   trên   con   tem.*
          image   person   **lie**   on   CL   stamp
          'The image is on the stamp.' (Picture 28)

      b) * *Die Frau **liegt** auf der Briefmarke.*

      c) * *The woman **lies** on the stamp.*

According to Wunderlich (1985), translation problems of prepositions are not resulting from the fact that the applicability conditions change from language to language, but that the objects are categorized differently (Vater 1991: 73). As it can be seen from the Vietnamese examples above, for instance, it is possible to categorize the 'picture on the stamp' (example 26a) with the same manner verb *nằm* ('lie') which can be used to categorize 'pen on the table' (example 14). English or German speakers would not be able to use *ly* or *liegen* ('ly') for encoding the situation (examples 26b and c).

2.2.2 Vertical/under

For encoding spatial relations like *under,* with or without contact of figure and ground object, Vietnamese is using the spatial relator *dưới* with preceeding verb or Positional Marker. Positional Marker and verb can also be combined as in example (30). In this case *ở* can be omitted, especially in colloquial language, because the location does not have to be specifically emphasized. Combined with *dưới* ('under'), the verb *ngồi* ('sit') delivers already enough information to know that a prototypical cat won't touch a prototypical table when sitting under the table. Comparing examples (27) and (28) with the examples (29) and (31) illustrates how the difference between + or – contact can be expressed: In example (29) however no manner verb is used that would describe the way of how the ball is being located under the table. It can be suggested, that it becomes clear without any additional information that a prototypical ball won't touch a prototypical table. Certainly, the principle of economy plays a role as well, which means that speakers use no more words than needed. In (31) a manner verb *treo* ('hang') is used. This might be in order to clearify that the lamp is not attached directly to the ceiling.

Vertical/under +contact

(27) *Cái   muỗng   ở   **dưới**   cái   khăn.*
      CL   spoon   PM   **under**   CL   cloth
      'The spoon lies under the cloth.' (Picture 24)

(28) *Kẹo cao su   dán   **dưới**   bàn.*
      chewinggum   stuck   **under**   table

'The chewing gum stuck under the table.' (Picture 53)

Vertical/under -contact

(29) *Cái   trái   banh   ở   **dưới**   cái   ghế.*
      DEM   CL   ball   PM   **under**   CL   chair
      ,The ball is under the chair.' (Picture 16)

(30) *Con   méo   ngồi   (ở)   **dưới**   cái   bàn.*
      CL   cat   sit   (PM)   **under**   CL   table
      'The cat sits under the table.' (Picture 31)

(31) *Cái   đèn   treo   **dưới**   trần nhà.*
      CL   lamp   hang   **under**   ceiling
      'The lamp hangs from the ceiling.' (Picture 63)

2.3 Horizontal – in front of, behind

2.3.1 Horizontal/in front of

For the presentation of the front/rear ratios, it is of specific interest, whether an object has a front and back side on its own, such as a chair or a cabinet. By its very nature such objects have already a defined front and back side. Thus, the speakers refer to the intrinsic properties of an object without additional objects must be present.

Here the relation is again expressed with Positional Marker *ở,* respectively with verb and spatial relator *trước*. In the examples (33-36), the intrinsic frame of reference is used, which means that the relationships are each based on the intrinsic properties of the ground objects. In contrast, example (32) can be understood as the use of the relative frame of reference, since a basket has (apart from the *top* and *bottom*) no clear, intrinsic characteristics like *front* or *back*. The speaker's impression is thus based on a notion in which the ball of yarn is between the speaker and the basket and therefore relative to the speaker in front of the basket.

Horizontal/in front of +contact

Examples (32) and (33) describe horizontal relations while the figure object is located in front of the ground object. Additionally, the objects are in physical contact with each other. Both sentences are verbalized with *trước* ('in front of') and the manner verbs *nằm* ('lie') and *đứng* ('stand').

(32) *Cái   cuồn   dây   **nằm**   **trước**   cái   tô.*
      CL   ball   cord   **lie**   **in front of**   CL   bowl
      'The ball of wool lies in front of the basket.' (Picture 72)

(33) *Cô giáo   **đứng**   **trước**   bảng đen.*
      teacher.F   **stand**   **in front of**   blackboard
      'The teacher stands in front of the blackboard.' (Picture 73)

Horizontal/in front of –contact

(34) *Trái   banh   **nằm**   **trước**   cái   tủ.*
      CL   ball   **lie**   **in front of**   CL   wardrobe
      'The ball lies in front of the wardrobe.' (Picture 74)

(35) *Cái   cây   ở   **trước**   ngôi   nhà.*
      CL   tree   PM   **in front of**   CL   house
      'The tree is in front of the house.' (Picture 75)

(36) *Ciếc   xe đạp   ở   **trước**   ngôi   nhà.*
      CL   bicycle   PM   **in front of**   CL   house

'The bicycle stands in front of the house.' (Picture 76)

The spatial szene in example (37) can instead be described with *trước* ('before') (example 37a) or with *bên cạnh* ('beside') (example 37b), depending on the speaker's preference. The language does not oblige a specific way or describes one way to be better. The speaker selects the intrinsic or relative frame of reference to describe the notion. The absolute frame of reference such as e.g. "The tree is north of the church" is not used by the Vietnamese speakers.

(37)   a)   *Cái*   *cây*   ***đứng***   ***trước***   *nhà thờ.*
            DEM   CL   **stand**   **in front of**   church
            ,The tree is in front of the church.'

       b)   *Cái*   *cây*   ***đứng***   ***bên cạnh***   *nhà thờ.*
            DEM   CL   **stand**   **beside**   church
            ,The tree is beside the church.' (Picture 49)

In example (38) flag and house are in Vietnamese no longer be detected as related situation. Svorou (1994) focused extensively on how long an object can be used as a reference object in a region. She suggests that the conception of region can be understood as the relation that exists between two objects in space (1994: 12pp.). The conception of a regional entity is motivated by the actual application in the individual language. Here is how the flag may be seen in relation to the house, if nothing else would be seen on the picture. Although other elements of a landscape can be seen, this is (at least for the Vietnamese native speakers) is no longer of importance. Hence, it can be illustrated with example (38) that the Vietnamese speakers do no longer describe a spatial notion. German speakers would generally answer at least something like: *Die Fahne steht am Weg zum Haus* ('The flag stands on the way to the house') or something similar.

(38)   *Lá*   *cờ*   *cắm*   ***chưới***   *dất.*
      CL   flag   plug   **under**   ground
      'The flag is plugged into the ground.' (Picture 56)

2.3.2 Horizontal/behind

Horizontal spatial notions such as behind, with and without contact of figure and ground object can be expressed with the spatial relator *sau* and a locative verb or the Positional Marker *ở*.

Horizontal/behind +contact

(39)   *Những*   *bao thủ*   *ở*   ***sau***   *cái*   *hình.*
      PL   envelope   PM   **behind**   CL   picture
      'The envelope(s) stuck behind the picture.' (Picture 77)

(40)   *Tréu*   *banh*   *nằm*   ***sau***   *cái*   *tủ.*
      CL   ball   lie   **behind**   CL   wardrobe
      'The ball lies behind the wardrobe.' (Picture 78)

In Example (41), an object is described, that is - according to the speaker's knowledge – attached to the wall, but behind the wall. The existing contact of figure and ground object is not clearly shown by only considering the expressions given in the examples (39) and (41). Contact in Vietnamese can be usually only clarified by the use of appropriate verbs, such as 'hang', 'stand', or 'stick' etc., or respectively, it will be understandable out of context and through knowledge of the speakers. A picture normally has contact with the wall when it is dependent on it and the contact must therefore not be explicitly specified by using a particular verb. The addressee usually has the needed knowledge from experience.

(41)   *Bức ảnh*   *ở*   *trên*   *phía*   *sau*   *tường.*
      picture   PM   on   direction   behind   wall

'The picture is behind the wall (on the wall).'

Horizontal/behind –contact

Examples (42) and (43) illustrate the horizontal relation while figure and ground object are not in physical contact. Also here with a manner verb *chốn* ('hide') in example (42) or with the Positional Marker *ở* in example (43) combined with *sau* ('behind').

(42) *Con   trai   chốn   **sau**   chiếc   ghế sa long.*
    CL   boy   hide   **behind**   CL   armchair
    'The boy is hiding behind the armchair.' (Picture 64)

(43) *Ngôi   nhà   ở   **sau**   cái   cây.*
    CL   house   PM   **behind**   CL   tree
    'The house is behind the tree.' (Picture 79)

2.4 In, inside

2.4.1 In, inside +/-contact

The conception of figure in or within ground is expressed with the spatial relator *trong* plus locative manner verb and/or the Positional Marker *ở*.

In +contact

Examples (44) and (45) illustrate the in-Relation of two objects that are in physical contact. These examples show that encoding static spatial relations are possible with (example 44) or without the Positional Marker *ở* (example 45) without expressing a significant spatial situation.

(44) *Trái   taó   **nằm**   ở   **trong**   cái   tô.*
    CL   apple   **lie**   PM   **in**   CL   bowl
    'The Apple lies in the bowl.' (Picture 2)

(45) *Cái   hộp   **nằm**   **trong**   túi xách tay.*
    CL   box   **lie**   **in**   handbag
    'The box is in the handbag.' (Picture 14)

In, inside –contact

Examples (46) and (47) illustrates the in-Relation of objects in space that are not in physical contact with each other. Both examples describe a human figure in spatial relation with a non human ground object. It can be seen that the usage of the Positional Marker *ở* is equally possible than using a manner verb of location like *nằm* ('lie').

(46) *Con   thỏ   ở   **trong**   chuồng.*
    CL   rabbit   PM   **in**   cage
    'The rabbit is in the cage.' (Picture 54)

(47) *Con   chó   nằm   **trong**   chuồng chó.*
    CL   dog   lie   **in**   doghouse
    'The dog lies in the doghouse.' (Picture 71)

For expressing the special case of a spatial relation presented in example (48a), Vietnamese speakers use the spatial relator *trên*. Remarkably, in Vietnamese the cork can not be described with the preposition *in*, respectively the spatial relator *trong* ('in') (example 48b) as this would be possible in German or English. This would require the cork to be completely pushed into the bottle and lying inside of it. According Vater (1991: 70), such examples show to what extent culturally-bound

customs, which form part of our world-knowledge, finally allow us to make a precise interpretation of locative relations.

(48) a) *Cái   nút chai   ở   **trên**   cổ chai.*
          CL   bottle cork PM   **on**   bottleneck
          'The cork is in the bottle neck.'   (Picture 62)

      b) *Cái   nút chai   ở   **trong**   chai.*
          CL   bottle cork PM   **in**   bottle
          'The cork is in the bottle.'   (constructed example)

This discrepancy between the profile and active zone is not unusual in the language (Langacker 2009: 43). The active zone in example (48a) is the part of the cork, which touches the bottle actually. For the speaker and the adressee of the statement it is clear that the cork is not completely in the bottle as in the constructed example (48b). According to Langacker (2009: 45), in everyday life it is normally simply not possible to always accurately describe all the details of an event idea. Anyway, language is understood, which makes it clear that complete understanding is possible only through a comprehensive knowledge of the situation.

2.4.2 Negative Space

It is remarkable that certain statements, which may be expressed in English with a preposition, are not possible in Vietnamese. Hence, it is not possible to refer to negative space as a *crack in the cup* or a *hole in the cloth* as figure. In these cases the cup or cloth must be designated as the figure object. Levinson and Wilkins (2006) note that the speakers of many languages use the BLC only for the description of prototypical scenes[7]. The linguistic encoding of more specific ideas such as ring on her finger (jewelry, clothing) or crack in the cup (negative space) are used for other special designs or resultative constructions (Levinson & Wilkins 2006: 16).

Carstensen (2001: 156) illustrates with two examples that the allowance of a transitive construction requires a direct relation between reference object and object localization. This relationship is not possible, for example, when a specific figure-ground-relationship exists, such as the crack in the cup. In the Vietnamese sentence – as shown in the results of this case-study – the figure object is always in the first position of the sentence, before ground. An utterance like 'hole in cloth' cannot be encoded with the basic locative construction NP_{FIG} + PM + spatial relator + NP_{GND} with figure before ground and the spatial relator *trong*, 'in'. The utterance with *lỗ* 'hole' as figure (example 49) is unnatural and ungrammatical. It would be correct to switch the event notion 'hole in cloth' and express cloth as figure (example 50).

(49) * *Cái   lỗ   ở   **trông**   miếng   vải.*
         CL   hole   PM   **in**   piece   cloth
         'The hole is in the cloth.' (Picture 18)

(50)   *Miếng   vải   có   mot   cái   lỗ.*
         piece   cloth   have   one   CL   hole
         'The cloth has a hole.'

Example (51) describes negative space with a spatial relator *trên* 'on', while the crack stands as figure. This expression is also unnatural and example (52), a construction similar to example (50) would be certainly preferable for the Vietnamese informants in everyday language. In a later survey in Vietnam (Siebenhütter 2016, 2020) these findings could be confirmed.

              FIG   GND
(51) * *Vết mit   nằm   **trên**   miệng   ly.*

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[7] A prototypical scene according Levinson and Wilkins (2006: 16) would be in this case a scene with the pattern: "movable object on limited surface".

crack	lie	**on**	mouth	cup

'The crack is in the edge of the cup.' (Picture 26)

(52) *Miệng   ly   bị   vỡ.*
mouth   cup   be   broken
'The edge of the cup is broken.'

These examples show, that peculiarities arise when from the BLC deviating spatial relations, such as negative space or clothing or jewelry items, should be described. In this case, other constructions are applied in Vietnamese. In German these spatial relations e.g., 'Der Hut ist auf dem Kopf', 'Der Ring ist am Finger' are quite common and do not need to be verbalized with another construction.

2.5 Semantic Scope

Concerning the semantic scope, it can be determined that compared with German the Vietnamese spatial relators have a very wide range. Especially *trên* ('on') and *trong* ('in') seems to be more general notions of control whereas the German *auf* ('on') conveys a more specific notion as illustrated in Table 2. The possible relations between verb and object show a broader semantic spectrum than we know from Indo-European languages (Bisang 1992: 292). This could be illustrated in the presented paper by the Vietnamese spatial examples.

In the following, the range of Vietnamese spatial relators will be examined in comparison with German prepositions. Thereby it is possible to obtain an overview for which spatial notions the individual conceptions of each spatial form are applicable. It can be seen from the Tables 2-5, that the scope of each spatial reference differs in German and Vietnamese.
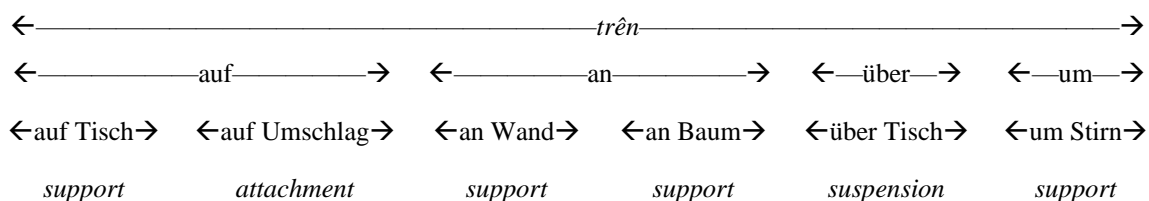
←—————————————————————*trên*—————————————————————→

←————————auf————————→ ←—————————an—————————→ ←—über—→ ←—um—→

←auf Tisch→   ←auf Umschlag→   ←an Wand→   ←an Baum→   ←über Tisch→   ←um Stirn→

support	*attachment*	*support*	*support*	*suspension*	*support*

Table 2: Semantic scope of *trên* (Siebenhütter 2016, 2020)

Tables 3-5[8] show a comparison of Vietnamese spatial relators *dưới* ('under'), *sau* ('behind') and *trước* (‚before') with the German equivalent prepositions unter, *von* ('from'), *hinter* ('behind') and *vor* ('before'). It becomes obvious that the great difference that could be found for Vietnamese trên and German equivalents does not show up for spatial conceptions under, behind and before/in front.
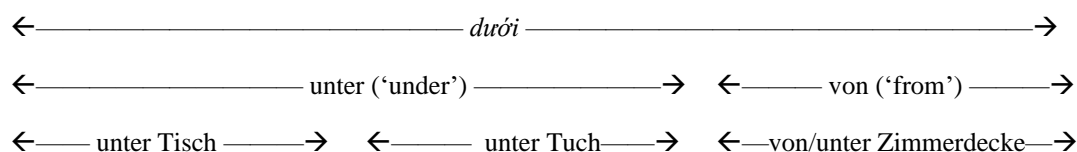
←———————————————— *dưới* ————————————————→

←———————— unter ('under') ————————→   ←——— von ('from') ———→

←—— unter Tisch ———→   ←——— unter Tuch——→   ←—von/unter Zimmerdecke—→

Table 3: Semantic scope of *dưới*

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[8] The comparative illlustration are heavily extended and revised versions drawn by the author in dependence on a comparative study from Zwarts (2010: 210).
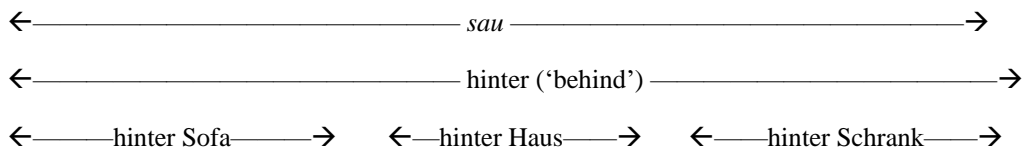
←——————————————————— *sau* ——————————————————→
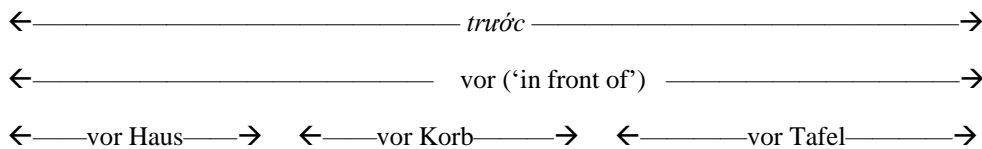
←——————————————— hinter ('behind') ————————————————→

←————hinter Sofa———→   ←—hinter Haus——→   ←——hinter Schrank——→

Table 4: Semantic scope of *sau*

←——————————————————— *trước* ——————————————————→

←————————————————— vor ('in front of') ————————————→

←——vor Haus——→   ←——vor Korb———→   ←————vor Tafel————→

Table 5: Semantic scope of *trước*

Table 6 shows that the Vietnamese spatial relators do not differ by *force dynamic notions*: The spatial relator *trên* ('on') can describe *attachment*, *suspension* as well as *support*. Hence, *trên* has a very wide scope and is combined for more accurate determination of an event notion with other linguistic resources such as locative verbs or locative Nouns and Positional Marker *ở* (Thompson [1965]1987, Vũ 1983). Only by the verb, the event concept is specified. The verb indicates whether there is contact between figure and ground object or not.

Zwarts indicates that such patterns allow to set up a hierarchy and that in all languages there is a distinction according to *force dynamic relations*: „...the analysis of forceful prepositions proposed here is […] relevant […] for all languages across the world that refer to notions of containment, support and attachment" (Zwarts 2010: 211).

←——————————————————— *trong* ——————————————————→

←—————————————in —————————————→ ←— an —→ ←— auf —→ ←—— am ——→

←—in Schale→ ←—in Hütte—→ ←—in Glas—→ ←———an/auf Spieß ———→ ←–am Fuß—→
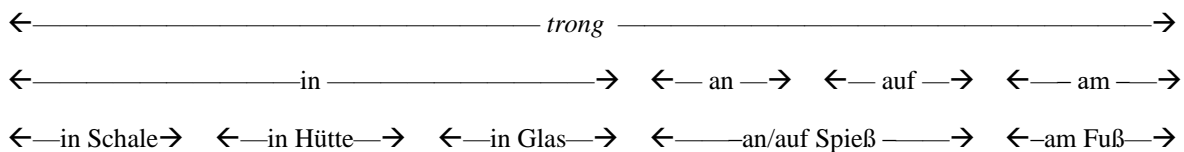
Table 6: Semantic scope of *trong*

There are clear differences in the verbalization of spatial representation in German and Vietnamese. For the various Vietnamese spatial relators, usually two or even three or more German equivalents can be found. This is so, even though it can be assumed that the human cognitive systems would all be very similar (Carstens 2001: 156). There might be several reasons for the different and non-equivalent usage of spatial prepositions for the same spatial notion. Carstensen (2001) suggests three possible reasons: Firstly, there are different ways of micro perspectiving a spatial perception. Micro perspectiving consists of profiling (determining of reference polarity), i.e. view the figure and ground, from what kind of attention and which axes are used as reference system. Secondly, because the micro perspectiving of spatial ideas is limited through the number of given possibilities. Thirdly, in cognitive semantics, it cannot be assumed that there are universal criteria for encoding of spatial notions. Rather, it must be a thought of a specific view for object pairs which is often conventionally fixed in a speech system (Carstensen 2001: 156-157). The analysis of Vietnamese static spatial reference clearly showed that the encoding of spatial notions is not universal. In summary it can be said that the Vietnamese language uses a smaller set of terms for the realization of static figure-ground relationships than for example German speakers are using for the localization of a figure object in the region of a ground.

3. Conclusion

This case-study analyzed the encoding of static spatial relations of Vietnamese speaking participants grown up in Germany and compared the results on a regular basis with the realization of static spatial relations of German. Spatial notions still remain a rich source of fascinating and challenging questions for cognitive science (Hickmann 2006: 13). After this brief investigation of spatial representations of

Vietnamese one can at least give an idea of the existing crosslinguistic differences when it comes to spatial reference. Overall, it was found that Vietnamese spatial relators are less specific than e.g., German prepositions and therefore a broader application is possible. According the data material analysed, the figure object is always in the first position in a Vietnamese sentence, followed by the ground object. Otherwise, a statement is usually ungrammatical or another construction needs to be used (see Siebenhütter 2016, 2020). Contrary, in German, *figure-ground reversals* such as *Der Apfel steckt am Spieß* ('the apple sticks on the spit') are quite common and encoded using the BLC. Vietnamese speakers used predominantly the intrinsic and relative frame of reference to encode spatial representations. The absolute frame of reference however, was not found in the whole Vietnamese data set. The Postitional Marker *ở* itself describes no clear spatial notion. The decision whether figure and ground object are in contact in the given spatial notion, can be specified solely by the additional usage of a verb. However, often no linguistic distinction is made. This suggests that speakers of Vietnamese strongly use context and sociocultural knowledge. Overall, in addition to the lexicon, word order is of utmost importance.

Furthermore, the results did not show any German language influence on spatial reference of German/Vietnamese bilinguals to their Vietnamese spatial reference. Since in this paper only a portion of Vietnamese spatial language (choice of static relations) and a comparatively small group of bilingual speakers was investigated, this paper can only be seen as an introduction to a complex area of future research. Especially the spatial concept 'outside' seems to offer a rich treasure for further research. Though, this topic is underrepresented in research (Siebenhütter 2016, 2020) and also this paper could not fill the gap. In sum, after the comparison of German prepositions and Vietnamese spatial forms, no "semantic universality" in the sense of concordance of the semantic scope could be found, which may be interpretet as suggestion that the encoding of spatial notions is rather language-specific (cf. Bowerman & Choi 2001). Certainly, it can be noted that the cognitive representation which speakers have of spatial notions, play an important role for the spatial representation in language. To improve the understanding of Vietnamese, future research should include Vietnamese Authors (e.g., Thắng).

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