PERCEPTUAL PARAMETERS, ANIMACY AND REFERENCE FRAMES IN THE SEMANTICS OF "OPPOSITE" AND "IN FRONT OF"

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Abstract

In this paper we combine topological and dynamicity analysis with other parameters like reference frames, animacy, and function, in order to depict the polysemy of two prepositions that express spatial relationships along the horizontal axis, namely, "opposite" and "in front of". Our method consists of manual corpus analysis of 200 examples of each one of these particles from the COCA and BNC. The sense of each preposition in context has been classified according to a network of senses which includes a proto-concept, from which other senses are cognitively derived. In addition, frames of reference and degrees of animacy provide semantic contrasts between the prepositions under analysis. Finally, metaphorical senses can be described as cognitively derived from the previous parameterized senses, by means of mappings across domains (Lakoff, 1993). A first approximation to different senses is based on standard dictionaries. We claim that our analysis provides both native speakers and foreign learners with a coherent explanation of the polysemy of these items.[2]

Keywords: preposition, polysemy, radial network, proto-concept, metaphor

0. Introduction

Cognitive Linguistics offers a large tradition in the analysis of spatial polysemy. The linguistic model that has paid most attention to the semantics of this class of items is Cognitive Grammar (CG) (Langacker, 1987, 2008). In CG a unit is defined as a thoroughly mastered structure that a speaker can activate as a preassembled whole without attending to the specifics of its internal composition (Langacker 2008: 16). In other words, a unit constitutes a cognitive routine. Lexical units as well as grammatical morphemes, categories and constructions all take the form of symbolic units with both a semantic pole and a phonological pole, and nothing else is required. In this context, English spatial prepositions are relational expressions, that is, the speaker's conceptualization reflects interconnections among other conceived entities. Interconnections are cognitive operations that assess the relative positions of entities within the scope of predication. In accordance with CG, we consider spatial relation concepts as relational predicates that need two other concepts to raise a conceptualization. These two entities, conceptualized in the same construal event as the relational concept as such, are called "trajector" and "landmark", and bear an asymmetrical relationship. The former is the localized or foregrounded entity, and it is construed as the movable element in the relationship. On the other hand, the landmark functions as localizer, background, or referential entity, and it is construed as the static

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element or reference point in the relationship. In order to characterize the construal of prepositions, Cognitive Linguistics has developed multimodal descriptions based on different perceptual dimensions (Deane, 2005; Navarro 2003; Navarro & Gösser, 2011; Silvestre 2009) as opposed to the traditional view of prepositions as geometric relations. In addition, several parameters have been proposed, such as the notion of Frame of Reference (Levinson, 2003), Function (Vandeloise, 1991, 1994), or Animacy (Feist, 2004). In our proposal, we combine these parameters with the more conventionalized topological analysis, and dynamicity analysis, in order to depict the polysemy of two prepositions that express spatial relationships along the horizontal axis, namely, "opposite", and "in front of".

1. Perceptual parameters, frames of reference and animacy

The construal arrangement of the participants in a spatial situation can be best described as a multimodal configuration (Deane, 2005), where different dimensions of perception -perceptual parameters- play a role. These parameters have been described as semantic regions of spatial protoconcepts (Navarro (2000, 2002, 2006, 2011, 2012, Navarro & Gösser, 2011; Silvestre 2009) that are present in usage events in a higher or lower degree. These semantic regions defined by the perceptual parameters in a spatial construal are the following:

TOPOLOGY: Any conceptualization of a spatial Trajector-Landmark configuration is based on human visual patterns that offer a scheme for the spatial arrangement of perceived situations Thus, the participants are construed as bearing a relation of contiguity, contact, inclusion, proximity, distance, etc.

DYNAMICS: Any spatial configuration needs a force pattern of interaction between the participants, which can be described on the basis of their disposition and orientation with respect to each other, so that their relationship shows a force-motion directionality.

FUNCTION: Any spatial relation is conceptualized by humans as having a perceived consequence or effect on the entities involved (control, support, link, concealment, company, etc). The degree of animacy of the participants may play a crucial role as far as relative function is concerned.

In this respect, the relative animacy of the participants may affect the applicability of spatial relational terms (Feist, 2000). According to Feist, the animacy of the TR influences preposition choice in English. For example, if we consider the expression "The **fly** on the *floor"* in contrast with "The *pebble* in my **hand**", we will observe that the fact of having "fly" as trajector facilitates a spatial construal with the preposition "on", because this preposition conveys a sense of control on behalf of the trajector. Conversely, "pebble" reduces the probability of construing a spatial relation where "on" expresses the relation, because that noun is not animate, and does not comply with the condition of animacy for the control pattern expressed by "on". We see that the degree of relative animacy of the participants generally plays a role in preposition choice. This is

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a relevant phenomenon which shows usage contrasts between the propositions analysed in the sections below.

Finally, prepositions incorporate a frame of reference -or locative frame- where the situation construed by their meanings is encapsulated or anchored. According to Levinson (2003: 38ff) there are three frames of reference grammaticalized or lexicalized in the languages of the world:

a) Intrinsic frame of reference: It involves an object-centred coordinate system where the coordinates are determined by the inherent features, such as sidedness (left-right), or facets of the landmark (top-bottom, front-back, etc.) These "inherent features" are often humanly projected features on the basis of function (the front of a house), shape (front of an arrow), canonical orientation (front of a chair), characteristic motion (front of a bicycle) and use (front of a desk).

b) Relative or deictic frame of reference: It depends on the speaker's or viewer's position and perspective in relation to the scene. This frame presupposes a viewpoint and a trajector and landmark distinct from it. Thus, the construal includes three entities: trajector, landmark and viewer/speaker, in order to assign directions and orientation to the scene. Thus, the viewer's position and orientation is relevant so as to define the planes and axes of the Tr/Lm construal in terms of left/right, front/back, and up/down.

Absolute frame of reference: It is defined by external world coordinates fixed by direction provided by gravity (up-down), by the visual horizon, the sun, or other fixed references. Cardinal directions are canonically fixed absolute coordinates (North-South, East-West). Other absolute references may be culturally determined by the topography where a language is -or was- traditionally spoken (e.g. "up-the-river" may end up meaning "northwards"). Absolute systems impose a constant background calculation of directions.

2. Method of analysis

In order to carry out our research, a corpus of 200 examples of each preposition 'opposite' and 'in front of' from the COCA and BNC have been analysed manually. We have observed a set of parameters that may influence construal. Firstly, the topological, dynamics and functional construals were examined focusing on the entities participating in the relationship, the trajector and the landmark. We came up with two proposals: on the one hand, a proposal for a primary meaning of both prepositions and on the other, we proposed a distinction in the different construals between the two prepositions analysed. Secondly, a classification of the entities taking part in the relation, trajector and landmark, was carried out in terms of animacy conditions – according to a scale including human, animal, mobile objects, organisms and fixed objects (Feist, 2000). Finally, frames of reference of both prepositions were analysed so as to report which frame of reference they incorporate.

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3. Opposite

3.1.1. Topological Construal

As for the topological relationship between the trajector and the landmark, we observe that in the physical domain, there is no contact between the Trajector and the Landmark. All the Examples analysed indicate some distance between the participants, so that they are kept apart from each other. A direct exchange or interaction between the entities involved is not the case.

In the example number (1) -H9U 1696 from the BNC- the spatial trajector-landmark configuration is based on the distance between the participants having no contact (two passengers sitting opposite each other and separated).

Examining example number (2) - JY 2003 from the BNC- we identify the Hotel Talabardon as the trajector and the fine church as the landmark. Both entities are opposite each other. The participants are, in this case, bearing a topological relationship of no contact between them. Some distance is considered so no exchange or interaction is possible.

Examples:

(1) H9U 1696 'It's very cold tonight,' I said politely to the passenger who was sitting opposite me.

(2) AJY 2003 Hotel Talabardon, opposite the fine church, has superb Paimpol oysters.

3.1.2 Dynamics construal

In the case of the preposition 'opposite', as for the dynamics parameter, there is a horizontal axis between the participants. There is a frontal orientation of the Landmark towards the Trajector, and the trajector towards the Landmark. The participants do not move. There is no force and the frequent axis is ***static***.

Taking into consideration the first example BMU 2036 from the BNC, the group (them) and Susan are oriented to each other. There is no direct interaction and no motion. The distance is enough so that participants do not reach each other.

Examples:

(3) BMU 2036 She smiled at Susan, who was sitting opposite them.

3.1.3. Functional construal

A) The construal of the functional parameter shows that the Landmark faces the Trajector and the Trajector faces the Landmark. The Trajector is functionally active or relevant because it confronts the front side of the landmark. Therefore, the sense of confrontation arises in this construal.

Examples:

(4) APT 815 The large Lichtenstein Palace (2/258) of 1791 opposite the Church of St Nicholas has seen many a change of political fortune.

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(5) ADY 362 Now he came into the dining-room where I was working and sat down opposite me at the table.

B) Analysing example (6), we found out a Metaphorical sense of the preposition *opposite*:

Example:

(6) CFF 1096 Opposite the title page was a picture of the kneeling King exchanging his royal crown for a crown of thorns.

The source domain is the space and the target domain is a written text where we have pictures, texts, etc.

In terms of topology, we see that a relative distance is preserved. For the size of a written page, the distance between participants is enough so that they do not touch.

As for the dynamics axis, a semantic bleaching emerges as the feature frontal orientation of the landmark towards trajector is lost. There is no intrinsic front from the picture and the title with respect to each other.

The functional construal is lost. The title and the picture complement each other and they are confronted. We will find words to be at the same level on the page, that is, confrontation and complementation are highlighted in this sense, and in addition, due to pragmatic strengthening, a new function appears: to be at the same level on the page.

C) When analysing the next example CH5 2097, we found out a metaphor coming from focusing on confrontation and complementation.

Example:

(7) CH5 2097 And when you have Oscar-winning actor Jeremy Irons starring opposite his wife, Sinead Cusack you know you're in for a class act.

In this case, the topology is lost. There is no clear reference to the physical axis. The participants (the actor Jeremy Irons and the actress Sinead Cusack) are not actually confronting each other all the time. We are confronting them, but not physically, that is the reason why we have a metaphor. The two roles have the same weight in the film so that the fact that in literal uses we have horizontal axis and in this way, we have a similar weight in the film. So, this instance showing a metaphor makes clear evidence of a parallel or complementary action-interaction of actors/actresses in a play or film.

3.1.4. Animacy

	human	animal	other organisms	Mobile objects	fixed objects
Trajector	39%				61%
Landmark	30%				70%

Table 1: Animacy in the preposition 'opposite'

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As for the classification of the entities involved, we observed that fixed objects are fairly more frequent than humans. This use indicates that the preposition 'opposite' does not carry in it (in both cases, trajector and landmark) a strong indication of a sense of animacy. The relative animacy of the participants with respect to each other is not very contrastive either, since the differences in percentage of animate trajectors and landmarks are not significant.

3.1.5. Frame of reference

Intrinsic frame of reference: the relative position of participants always depends on their mutual configuration facing each other.

Example:

(8) HPP 2067 Hermiston House is opposite the gates to Hermiston Walk, which leads to Herriot-Watt campus.

4. In front of

3.2.1. Topological construal

The second preposition analysed is 'in front of'; regarding the topological construal, we have observed that there is no contact between the Trajector and the Landmark. The distance between the trajector and the landmark is very short. Proximity indicates that participants can reach each other. This fact shows a clear difference in relation to the preposition OPPOSITE.

Here the Trajector is positioned very near to the front part of the landmark (something else or somebody else) with nothing in between (the landmark faces the trajector). Physical interaction is possible.

Examples

(9) CMJ 2159 Back in the office, Luke was standing in an attitude of longing in front of Patrick's computer.

(10) A6T 2000 My legs are stiff with inactivity and cold and my breath freezes in front of me obscuring the view.

3.2.2. Construal of dynamics

Regarding the dynamic parameter, we can see the Horizontal axis. There is no motion of the trajector as for its position or location relative to the landmark. The Landmark is oriented facing the Trajector. Finally, we find a potential or real motion of the landmark forwards, in the direction towards the trajector.

Examples:

(11) APP 344 Instead of a pause, this announcement was the prelude to a methodical and efficient movement forward by the police, hitting everything in front of them.

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(12) G2V 1704 'If I stuck a pom-pom on each nipple and waggled them in front of Jed, he'd tell me I was blocking his view of the telly,' says Mandy.

3.2.3. Functional construal

In all the examples above, the Trajector is exposed to the landmark´s potential perception, action or influence. The landmark is functionally active. We have found an extended sense that we may call "In the presence of", which is sanctioned by a diachronic process of pragmatic strengthening. The topology parameter is lost. The most important construal parameter is function.

Examples

(13) GT2 605 He danced at the Royal Albert Hall, the Mansion House, and in front of King Edward VII and Queen Alexandra at the Chelsea Hospital.

(14) HTS 120 In future, watch your lip in front of mother and my Dad.

(15) C9W 607 We tend to think of cruelty as incorporating violence, but equally cruel is the father who constantly belittles his son or daughter in front of others.

3.2.4. Animacy

	human	animal	other organisms	mobile objects	fixed objects
Trajector	45%		4%	1%	50%
Landmark	58%		3%	3%	36%

Table 2: Animacy in the preposition 'in front of'

In relation to the characterisation of the trajector and the landmark, the percentage of animate entities is higher than the fixed objects so that 'in front of' is licensing animate human participants and we also see that the Landmark animacy is a little bit higher.

3.2.5. Frame of reference

The relative position of the participants depends on the Landmark's frontal configuration or direction of movement (intrinsic frame)

Example:

(16) ADR 129 With friends, and sometimes with sister Dannii, Kylie, like millions of tungstenos all over the world, acted out her fantasies of pop stardom in front of her bedroom mirror.

The relative position of participants depends on the speaker's (or viewer's) position relative to them (deictic frame)

Example:

(17) On warm days those of the hospital's old people who were still mobile used to sit and chatter at the table in front of the tree, watching the passers-by.

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5. Conclusions

When comparing the different parameters examined in the corpus, we found some substantial differences between the two prepositions considered for this research.

As for the topological relationship between the Trajector and the Landmark linked by the preposition 'opposite', we have detected that all the examples analysed show a situation where there is some distance between both participants. Conversely, the preposition 'in front of' occurs in many examples where proximity shows the entities to be very close to each other.

The construal of dynamics shows a horizontal and static axis between the participants as for the preposition 'opposite'. In the case of the preposition 'in front of', we found motion of the landmark towards the trajector.

Function, in the preposition 'opposite', is characterised by the confrontation of both entities, whereas the functional construal in the preposition 'in front of' indicates that the Trajector is exposed to the perception and influence of the Landmark.

In relation to animacy, we have seen that the percentage of animate entities and fixed objects are quite similar in the preposition 'opposite', whereas in the preposition 'in front of' this percentage of humans is higher in the Landmark position.

Finally, with regard to frames of reference, we found that 'opposite' always recalls the intrinsic configuration of the participants as facing each other. This fact shows that reference of trajector with respect to landmark depends on their conceptualization as entities that possess a face or frontal side. On the other hand, "in front of" shows larger versatility, in the sense that it may be used in two ways, either framed by the intrinsic frontal side of the landmark or by the speaker's (or viewer's) perspective.

	OPPOSITE	*IN FRONT OF*
TOPOLOGY	**DISTANCE**	*PROXIMITY/SHORT DISTANCE*
DYNAMICS	**STATIC AXIS**	*LM ORIENTED FORWARDS*
FUNCTION	**CONFRONTATIO N**	*EXPOSURE TO LM PERCEPTION OR INFLUENCE*
ANIMACY	**TR = LM**	*TR < LM*
REFERENCE FRAME	**INTRINSIC**	*INTRINSIC / DEICTIC*

Table 3: Comparison of the parameters analysed in the prepositions 'opposite' and 'in front of'.

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