GEMA Online® Journal of Language Studies
Volume 22(2), May 2022 http://doi.org/10.17576/gema-2022-2202-01

Over Again: A Cognitive Account of its Meaning Transference in the Light of an Image-schema Based Model

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ABSTRACT

This article is the second in a two-article series that first critiques polysemic and monosemic theories to the meaning transference of *over* and then accounts for the word's meaning transference from an image-schema based model. To be specific, this qualitative study aims to explain the processes of *over*'s meaning transference from spatial to non-spatial ones with 1350 instances in the 2017 Corpus of Contemporary American English, genre: Fiction. In the light of a combination of Multimodal Image Theory and Extended Conceptual Metaphor Theory, the mappings from SPACE domain to non-spatial domains, image-schema transformations, and a range of conceptual metaphors associated with *over* were systematically analysed to first identify the word's senses and then account for the mechanisms of its meaning transference. It was found that mappings together with image-schema transformations are significant in motivating the meaning transference processes. The results of the study are summarized as follows: (i) The prototypical sense of *over,* represented by a pair of image complexes, designates the relative UP spatial positions and potential forces between the Trajectory (TR) and Landmark (LM) denoted by the preposition; (ii) its spatial senses cognitively generate within three spatial modalities of thought: Visual space, Maneuver space, and Kinetic space, and (iii) its non-spatial senses are attached to a range of conceptual metaphors which are spatially grounded. In other words, three spaces provide *concrete* image-schemas or experience which are virtually represented/ mapped on to abstract experience shown by the retaining salient TR-LM configurations.

Keywords: *over*; meaning transference; image-schema; Multimodal Image Theory; Extended Conceptual Metaphor Theory

INTRODUCTION

Over is a special English preposition because it denotes a lot of spatial and non-spatial senses, and the image-schemas associated with *over* are very diversified as shown by both Lakoff (1987) and Tyler and Evans (2003). The meaning transference of *over* has been addressed by different authors (Long & Huyen Trang, 2020); however, the previous approaches seem to present *over*'s semantic continuity unsystematically or too arbitrary. This qualitative study initiates with the assumption that the semantic continuity of *over* has not been clearly shown, and the internal structure of the polysemous *over* should serve as a grounding space for further discussion of how its spatial senses transfer to the non-spatial ones. In other words, this study adopts a polysemic framework in hope of explaining how spatial senses of *over* transfer to non-spatial ones, according to which the two objectives of the paper are (i) to identify spatial and non-spatial senses of *over*, and (ii) to analyse how non-spatial senses of *over* are transferred from the spatial ones.

eISSN: 2550-2131
ISSN: 1675-8021

STATE OF THE ARTS

Insofar as fourteen authors have been trying to analyse *over* from different perspectives, namely Brugman and Lakoff (1988), Boers (1996), Deane (2005), Dwell (1994), Kreitzer (1997), Lakoff (1987), Tyler and Evans (2003), Zlatev (2003), Van Der Gucht et al (2007), Roussel (2013), Gilles and Thierry (2014), Brenda (2014), Long (2018), and Mori (2019). Generally, there are three polysemy frameworks addressing the meaning transference of *over*: an image-schema transformational approach (Lakoff, 1987; Boers, 1996; Deane, 2005); multiple levels of schematization (Kreitzer, 1997), and metaphorical development due to inference based on usage (Tyler and Evans, 2003). A monosemic perspective to *over* is first advocated by Van Der Gucht et al (2007) and then developed by Gilles and Thierry (2014).

Our previous analysis of the polysemic approaches to the meaning transference of *over* has yielded the following remarks (Long & Huyen Trang, 2020):

1. An image-schema based approach to account for the meaning transference of *over* proves to be theoretically workable (Deane, 2005).
2. The image-schema based model to account for the meaning transference of *over* should include four spaces: *Visual space*; *Kinetic space*; *Maneuver space*, and *Mental space.* The spatial senses of *over* would generate among three first spaces while its non-spatial senses are supposed to cognitively generate in the Mental space.

In respect to the above remarks, only the work by Deane (2005) is presented in this section, serving as a basis for the refusal of the monosemic approach advocated by Van Der Gucht et al (2007) and Gilles and Thierry (2014). Then, an image-schema model would be proposed to cognitively account for the meaning transference of the word.

THE SOUNDNESS OF A POLYSEMIC FRAMEWORK

Deane (2005) proposes a framework termed "Multimodal Image Theory" to analyse *over* within three types of spatial images, each of which constitutes a single modality of spatial thought:

1. *Visual space* images treat spatial relationships in reference to occlusion, visual separation, angle of low- or high-resolution gaze which is greatest at zero depth from the point-of-view, least at horizon distance.
   In the *Visual space*, construers would follow three rules to judge a spatial scene: Preference Rule Principle, Stereoscopic Principle, and Distinctiveness Principle.
2. *Maneuver space* images presuppose an object-centred frame of reference involving the movement of TR and LM such as the clearance between them, the effects of moving, or rotating the TR and LM towards each other. The characteristics of TR and LM are shown in the following table.

TABLE 1. Characteristics of the TR and LM (Talmy, 2000b:183)

TR's characteristics	LM's characteristics
• Has unknown spatial to be determined; • More moveable	• Acts as a referent entity; having known properties that can characterize the primary object's unknowns

eISSN: 2550-2131
ISSN: 1675-8021

• Smaller • Geometrically simpler (often pointlike) in its treatment • More recently on the scene • Of greater concerned/ relevance • Less immediately perceivable • More salient, once perceived • More dependent	• More permanently located • Larger • Geometrically complex in its treatment • Earlier on the scene/ in memory • Of lesser concern/ relevance • More immediately perceivable • More background, once primary object is perceived • More independent

3. *Kinetic space* images calculate the force-dynamic interaction (Talmy, 2000a) such as the conceptual paths which define direction (and potential) for movement, agonist and antagonist force. Three spaces share what is termed "Cross modal Correspondences" and the analysis must follow two principles "Egocentric Alignment Principle" and "Cross-modal Equivalence Principle". Table 2 summarizes the complex images associated with *over*:

TABLE 2. *Over* as a spatial marker

	Explanations
The prototypical sense	The prototypical sense of *over* is defined by a pair of images. a. From the side at high resolution: the TR is separated from the LM by a vertical gap. b. From the side at low resolution: the TR is separated from the LM by a vertical gap. The gap between TR and LM is not significant from the side at low resolution.
The Visual space	The images represented in this space are locative and stationary, besides the prototypical sense of *over,* there are two other pairs of images. **Pair 1:** a. From the side at high resolution: there is a gap between the LM and TR. b. From the side at low resolution: the gap between the LM and TR is unclear. c. From the top of the scene: the TR occludes the LM **Pair 2:** a. From the side at high resolution: the TR is near the LM b. From the side at low resolution: the TR is higher than the LM in reference to the natural barriers.
The Maneuver space	a. Initial position: there is a potential clearance between the TR and the LM, with the TR oriented parallel to or contact the ground. b. Image after rotation: the clearance is not significant.
The Kinetic space	First Kinetic Image Sequence: a. The LM forms part of the base on the locomotor surface; the TR is in open space, has force-dynamic impetus parallel to the base. b. Resultant state: the TR is on the side of the LM from its initial position. Second Kinetic Image Sequence: a. The LM forms part of the base on the locomotor surface; the TR is in either open or close space, and it is on one side of the LM. b. Resultant state: the TR surpasses the LM. Third Kinetic Image Consequence: a. The LM forms part of the base on the locomotor surface; the TR is in either open or close space, and it is higher than the LM. b. Resultant state: the TR contacts the LM due to force.

As can be seen, Deane's approach exploits the notion of *image-schema,* or to be more precise, the internal-concept structure of *over* denoted by its TR-LM configurations, to treat the word's meaning transference from the prototypical sense, and Deane's analysis minimally

decreases the distinct senses of *over*, showing that the meanings of the word are more closely related than what has been suggested earlier.

In fact, the model advocated by Deane has successfully bridged the gaps that the previous approach left (Long & Huyen Trang, 2020). Firstly, it presents the meaning transference of *over* as a system from the prototypical sense to the extended ones through three aforementioned principles, showing that the interpretation of *over* is a multi-stage cognitive process. Distinct senses; i.e., On-the-other-side-of or Covering sense presented by Tyler and Evans (2003) are variants of the prototypical sense. Secondly, the framework has rigorous constraints on three modalities of thought separating human categorization processes and hence solving the issue of sense redundancy. In other words, all aspects in the TR-LM spatial configurations denoted by *over* have been considered, providing salient aspects in the SPACE domain four further discussion. However, the non-spatial senses of *over* are not treated in the light of Multimodal Image Theory. Therefore, in order to explain how non-spatial senses of *over* are transferred from spatial ones, there is a need of a combination of approaches to account for "spatial" *over* and "non-spatial" *over*.

A MONOSEMIC FRAMEWORK

Gilles and Thierry (2014) provide an instruction-based analysis of *over,* built upon the monosemic approach set by Van Der Gucht *et al* (2007), within the corpus of British National Corpus. There are three significant remarks which oppose Tyler and Evans's (2003) view (Gilles & Thierry; 2014:14):

1. 'the meaning of *over* is an instrumental meaning which can only be instantiated in combination with lexical meanings';
2. 'the meaning of the linguistic context should not be projected into the meaning of the preposition'
3. 'the meaning of *over* should be conceived of as a 'general' non-lexical meaning which only specifies a relation between slots that have to be filled by autosemantic items, e.g., Noun *over* Noun, Noun BE *over*, Verb *over* Noun, *etc*.' (Van Der Gucht *et al*; 2007: 748)

In general, Gilles and Thierry (2014) emphasize the role of context to give a definition of *over* and advocate a compositional gestalt framework to provide a revised range of meanings denoted by *over.* In their study, *over* is analysed as a preposition, an adverb, and a particle. All fifteen senses of *over*, introduced by Tyler and Evans (2003), were reanalysed and their nominal terms were revised, for example, "Temporal", "Focus-of-attention" should be "Scanning of an Interval" and "Topic" respectively. The links between the senses are the *schematic meanings* of *over*.

The monosemic approach to the semantics of English prepositions is criticized in Tyler and Evans (2003, pp. 37-61). Within the scope of the goal set in the first part of the article, it is supposed that there exist issues with this approach. To begin with, although the two authors mention the schematic meanings of *over* to account for its meaning transference, metaphors and metonymies have been ignored when non-spatial senses of *over* are presented; in other words, they only present senses of *over* without mentioning the mechanism of what is the ground for such transference/ senses. Additionally, as Gilles and Thierry show "over convokes a bounded domain and evokes a movement of covering of the domain, its bounds included" (Gilles & Thierry, 2014,

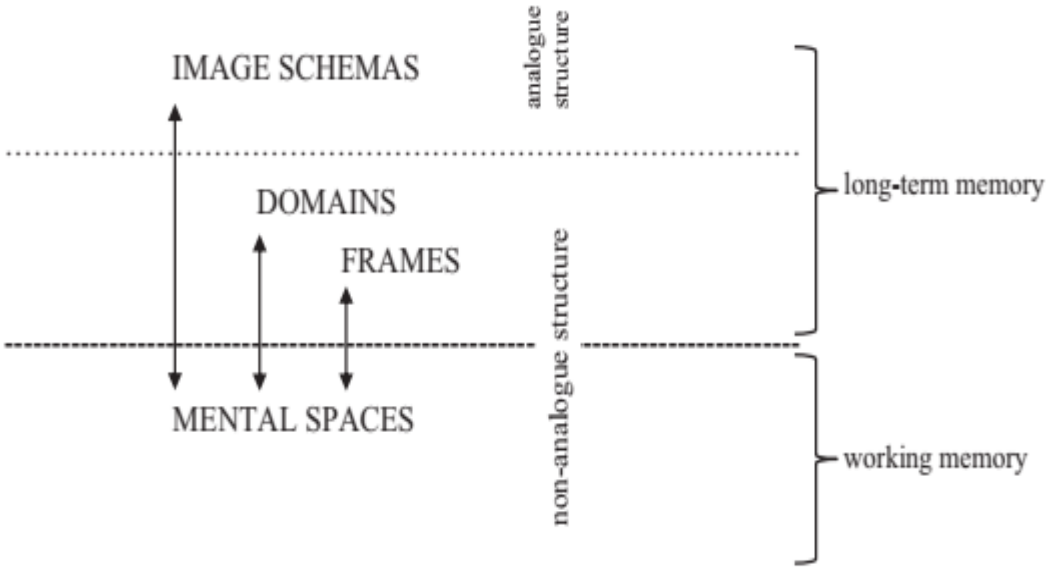
p. 26), they have ignored the internal TR-LM configurations and image-schemas denoted by *over* as a preposition, which makes the senses of *over* are loosely related.

METHOD

A COMBINATION OF MULTIMODAL IMAGE THEORY AND EXTENDED CONCEPTUAL METAPHOR THEORY

The previous literature review suggests that the semantics of *over* consists of four spaces of thought, beside the prototypical sense: Visual space, Maneuver space, Kinetic space, and Mental space. Three first spaces were introduced by Deane (2005) and in this study, *over* would be reanalysed in those spaces, serving as a basis for the further discussion in the Mental space. Concerning the nominal terms for senses of *over*, the terms from Tyler and Evans (2003) and Gilles and Thierry (2014) would be borrowed with the stand that the terms should be derived from the visual and functional information of *over* (Deane, 2005).

The fourth space of *over* is its *Mental space* which refers to the human construal of virtual configurations between the TR and LM. It is different from the notion of *Mental spaces* advocated by Fauconnier (1994). The Mental space of *over* is analysed in the light of *Extended Conceptual Metaphor Theory* (Kövecses, 2020), according to which the link is a continuum from mental spaces to frames, domains, and finally the image-schemas. To be specific, a metaphor that is used in a specific communicative situation as part of a mental space, or scene, will activate the frame structure to which it is linked, which will, in turn, activate the domain of which the frame is a part, and the activation will reach the image schema that conceptually supports the frame. This activation route is in agreement with a number of others in the cognitive linguistic study of metaphor, such as Lakoff's (1991) "invariance principle" and Ruiz de Mendoza's (1998) "extended invariance principle." Figure 1 illustrates the analysis process. The broken vertical lines indicate activation:



Source: Kövecses, 2020

FIGURE 1. Activation from mental spaces to frames, domains, and image schemas

The relationship between *image schemas, domains, frames*, and *mental spaces* helps construers to understand the general issue of how schematicity (cf. Langacker, 1987) plays a role in metaphorical conceptualization. Domains may assume more abstract conceptual structures that are known as *image schemas*. For example, JOURNEY assumes the more schematic structure of MOTION and, more specifically, SOURCE-PATH-GOAL MOTION (to distinguish it from other types of motion). Some domains may take several image schemas to support them conceptually. For example, the BODY domain is based on the image schemas of CONTAINER, VERTICALITY, STRUCTURED OBJECT, and so on; in other words, abstract domains exploit image-schemas in basic domains like SPACE to denote their TR-LM configurations. Additionally, domains may also share several image schemas regardless of whether they are abstract or basic ones. For instance, the BUILDING domain (in the sense of an enclosed construction), like the BODY domain, is also based on the CONTAINER, VERTICALITY, and STRUCTURED OBJECT schemas.

Sullivan (2013, p. 22) defines cognitive domains as "the cognitive structure comprising all schematic information potentially available for mapping via a given metaphor." Furthermore, she suggests that domains consist of *frames* (Fillmore, 1982). Frames involve more specific and conceptually richer information than domains. For example, the BODY domain includes several distinct frames, such as PERCEPTION, INGESTION, and EXERCISING. These frames account for such metaphorical linguistic expressions as *I see what you mean* (PERCEPTION), *digest an idea* (INGESTION), and *a mental exercise* (EXERCISING) (Sullivan, 2013). Together, they make up what is known as the generic-level metaphor THE MIND IS THE BODY (see Johnson, 1987; Sweetser, 1990). The frames in a domain consist of roles and relations between the roles which can be filled by values.

When the roles are filled by particular values in actual discourse in specific communicative situations, it comes to *mental spaces* (see Fauconnier, 1994). Mental spaces can be structured by one or several different frames. That is, they can be the realizations of a single frame or they can rely on a combination of roles and relations from several distinct frames. Mental spaces are, then, even more specific than frames. At the same time, they are also coherent organizations of experience, just like frames and domains, but they function at a very specific and conceptually rich level (Kövecses, 2017).

All in all, the *Mental space* of *over* include its non-spatial senses which are attached to a range of conceptual metaphors treated in the light of Extended Conceptual Metaphor. In general, the hybrid framework is summarized in the following figure:

eISSN: 2550-2131
ISSN: 1675-8021

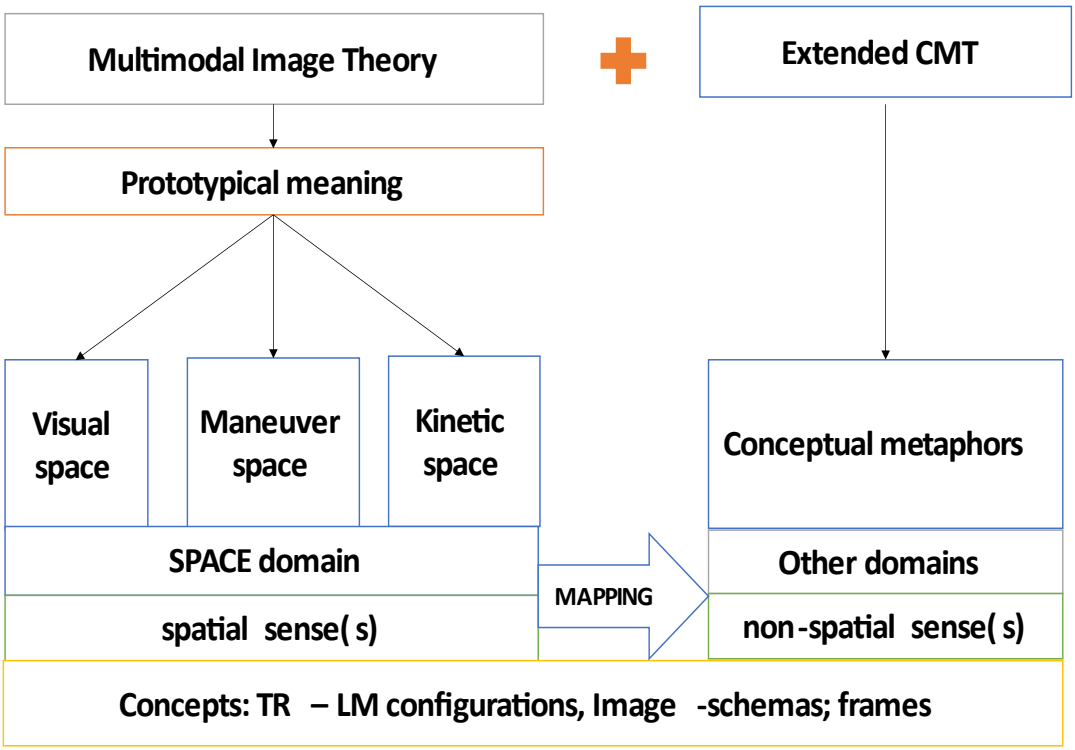


FIGURE 2. A hybrid conceptual framework to account for meaning transference of *over*

RESEARCH QUESTION AND DATA PROCESSING

In accordance with the aim and objectives of the study presented in the introductory section, the research aims to answer two questions:

1. What are spatial and non-spatial senses of *over* in its contexts of use?
2. How do the meanings of *over* transfer from the spatial to non-spatial ones in its contexts of use?

The answer to the first question offers a range of the visual and function information of *over* while the answer to the second question provides a link of senses, thereafter sheds light on the mechanisms of the meaning transference of the word.

In view of the data for the paper analysis, Contemporary American English Corpus (COCA) was chosen amongst the seventeen text corpora for three main reasons. Firstly, COCA is currently the largest corpora in linguistics with more than 560 million words of text in five genres: spoken, fiction, popular magazines, newspapers and academic texts. Only in the year of 2017, more than 20 million words had been added. Hence, to ensure the update of contemporary English, COCA is appropriate. More importantly, the corpus shows its unique features with chart listings and collocates searching of up to ten words right or left the node word; re-sortable concordances and comparisons between genres and time periods (Davies, 2010). This makes it easier for linguists to categorize the collocates and structures associated with the word.

For the sake of data analysis, 1350 sentences (425 instances of non-spatial *over*; 925 spatial *over*) were collected. The data collection and processing were in the following procedure:

Stage 1: Software AntConc (64-bit, version 3.5.7) developed by Anthony (2017) was exploited to find the concordance of *over* in the corpus.

Stage 2: When all collocates of *over* were collected, they were then cleaned. This means that all repeated sentences were omitted, and all sentences bearing the same syntactic structures without any cues to show different meanings of *over* in comparison with the previous ones were deleted.

Stage 3: All spatial and metaphorical usages of *over* were analysed in the light of Multimodal Image Theory and Extended Conceptual Metaphor Theory respectively, and the senses were put into one of the following groups: spatial configurations (static or dynamic) and non-spatial configurations. The visual and functional information of *over* in such group were categorized, basing on which the senses were nominally termed.

Stage 4: The image-schemas of *over* from Multimodal Image Theory and Extended Conceptual Metaphor Theory were compared to show which metaphor emerged from each of the three spatial spaces of *over*, basing on which the mechanism of the word's meaning transference was found.

FINDINGS AND DISCUSSION

In the light of the proposed theoretical constraints, the spatial and non-spatial instances of *over* were analysed, showing its image complexes whose visual and functional information helps nominally term the senses denoted in each instance. It is restated that all the spatial TR-LM configurations serve as a basis for the discussion of *over* as a non-spatial marker. As will be shown, there are twelve senses of *over* and its meaning transference mechanisms are mappings together with image-schema transformations.

OVER AS A SPATIAL MARKER

The paper's reanalysis of *over* in the light of Multimodal Image Theory yields the same results with that of Deane (2005) (see Table 2 for a summary). Etymologically, according to the Oxford English Dictionary (Simpson & Weiner, 1989), the form *over* is related to the Old Germanic preposition and adverb *ufa-, uf-*, the cognate of the Sanskrit adverb and preposition *upari* and a ***locative*** form of the adjective *upara* which was a comparative formation from *upa* meaning 'over, higher, more advanced, later' (cited in Brenda, 2014, p. 141). This means that the gap between the TR and LM of *over* is significant in high resolution and the two entities are in potential contact in low resolution. The prototypical sense of *over* can be represented by the following pairs of image complexes:

eISSN: 2550-2131
ISSN: 1675-8021

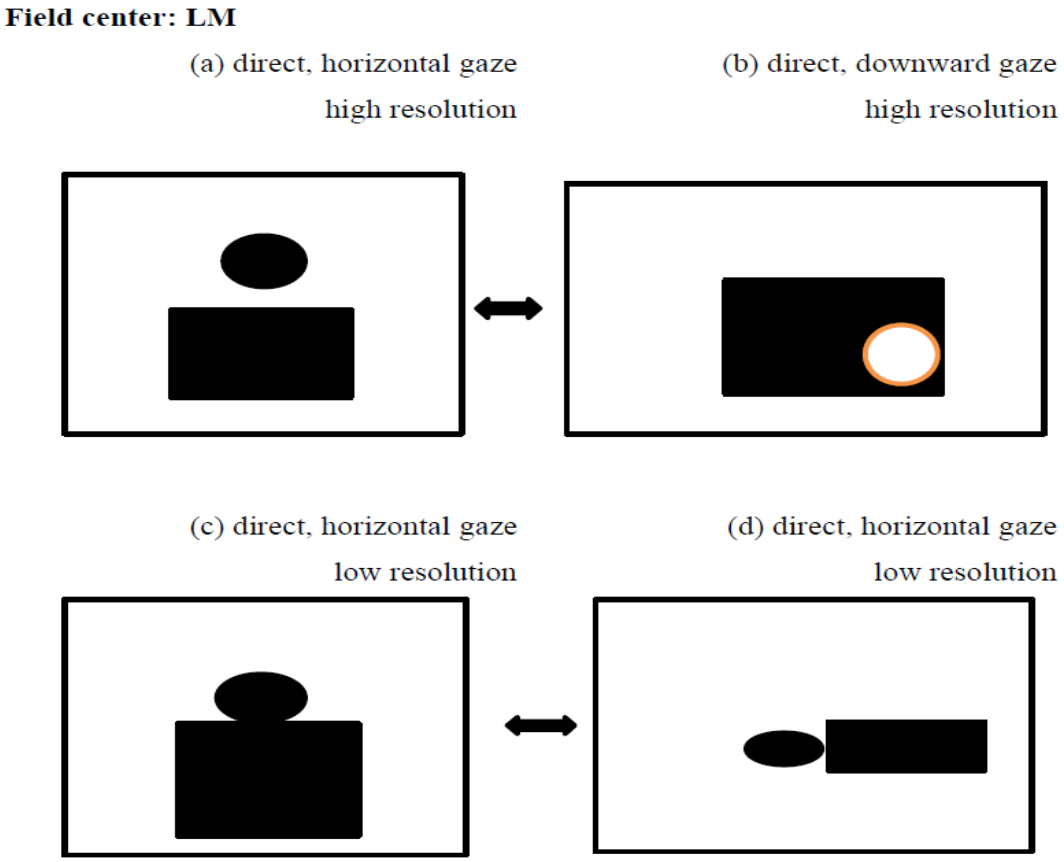


FIGURE 3. The prototypical sense of *over* encoded by pairs of image complexes

The visual and functional information of Figure 3 is underspecified. In Figure 3(b), the colour of the TR was drawn white to indicate that when a human looks at the scene in the downward gaze from a high-resolution point of view, the TR occupies almost all the focal attention, making the LM very fuzzy. Additionally, when the size of the TR changes, such kind of information will change as well. For example, when the TR is big enough to cover the LM, the visual and functional information of *over* would be "Cover", shown in the Figure 4:

FIGURE 4. The changes of TR of *over* in comparison to its LM

Additionally, o*ver* can be used with verbs denoting motion and orientation. Look at the following example:

(1) Chen leaned over the table where Larisha lay naked and cold.
The TR is *Chen* while the LM is *the table* exerted a force by the TR. In an ideal scene, the spatial configuration in (1) could be represented as follows:

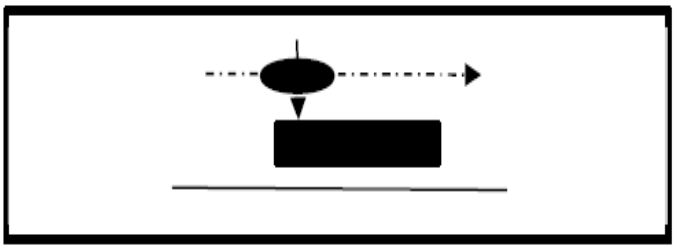


FIGURE 5. The construal of "lean over"

Rotating Figure 5 with similar force from the TR to the LM will result in the following image complexes:

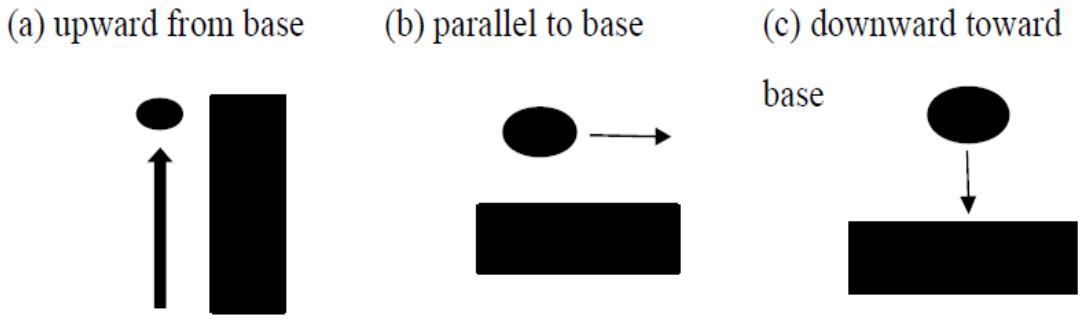


FIGURE 6. The Kinetic space of *over*

From the above image-schemas, it is supposed that *over* denotes the following senses when it is a prepositional marker:

(1) the *Prototypical sense* which designates that the TR is above the LM;
(2) the *Covering sense* when the TR occludes the LM;
(3) the *Boundary-traversal sense* with *end-point focus*; and
(4) the *Reflexive sense* when the LM is parallel to the ground and the TR moves towards the ground.

The next section presents the non-spatial senses denoted by *over* and discuss how those senses are motivated from spatial ones.

OVER AS A NON-SPATIAL MARKER

The non-spatial senses of *over* are found in many domains such as *time* (a subdomain of space), *numbers* (subdomains are *temperature* or *noise*), etc. It is superfluous to list all domains/ frames to treat the non-spatial marker's senses; therefore, only the conceptual metaphors associated with the marker are presented as follows:

There are three metaphors in which the TR of *over* is conceptualized higher than the LM as it is construed in the prototypical sense of the word.

1. MORE IS UP, LESS IS DOWN.

The frequent domains of the metaphor are FINANCE or NUMBERS. Here are examples:

(2) … going well over a hundred miles an hour.
(3) The house was home to over a hundred saurs - more, as egg lings arrived.
(4) National Park boundary, the farm acreage covering over 3,800 acres in all.
(5) Most of the former over age 18 are the latter, and probably more than…

The TR and LM in these above sentences are compared in terms of values, and the contexts guide what the TR and LM are. For instance, the TR in sentence (2) is *the current speed* while the LM is *a hundred miles an hour*; the TR in sentence (5) is *the age of the person addressed* while the LM is *18 years of age*. However, it is clear enough to visualize the configuration between the two entities. In sentence (5), the LM (18 years of age) has a metonymic basis because *time* and *age* can be conceived as having numeral values. The senses denoted are purely non-spatial and metaphorical. What is remained from the spatial configuration of the lexeme? It is supposed that only the very basic schematic meaning of *over* is retained, i.e., the TR is higher than the LM.

2. HIGH STATUS IS UP + HAVING CONTROL OR FORCE IS UP.

Secondly, the image-schema associated with the prototypical sense of *over* motivates a combination of "HIGH STATUS IS UP + HAVING CONTROL OR FORCE IS UP". Here are several examples:

(6) what with the university administration being all over him about bringing you here…
(7) to share Luke, but she had no control over him. Yet, that wouldn't be the…
(8) … though she had no actual authority over me, I usually acceded to her orders.
(9) The stern control Laird Cunningham exercised over himself, his household, the many slaves who served …

In sentence (6), the LM is *him* controlled virtually by a system of the university administration (the TR), conceptualized as a rule-governed norm. The LM is a collective noun consisting of different positions with holders, and the people in the administration have more power than the LM thanks to their higher status. A similar case can be found in sentences (7) and (8). In sentence (9), the verb *exercise* denotes the virtual force that the LM bears. The data analysis also shows that this metaphorical combination is activated when *over* is collocated with nouns or verbs denoting *power, authority*, and *control*. The emergence of the metaphor can be traced to the following spatial configuration:

(10) In order to see the young, lean-faced deputy standing over me, he had to be six foot four inches tall.
(11) She stood over him. Her unbandaged eye searched his face.

Human background knowledge provides the information that once a person standing before the other in a row, he or she is of greater significance than the other. Sentence (10) makes the person

standing in front of the speaker clearer: his or her deputy who theoretically has more power or is at higher status than the speaker is. It can be concluded that the metaphor is spatially grounded. Additionally, in this metaphor, the path may become vague. An example is:

(12) "… wall about Michigan State's victory over Michigan," Ted comments, too.
The LM is *Michigan*, a baseball team while the TR is *Michigan State*, another baseball team. It is not possible to figure out any force that the TR exerts on the LM; however, the path is still felt virtually.

As can be seen, the construal of *over* in this case is complex. In order to account for such complexity, it should be based on the gravity of the Earth. It is known that the Earth attracts entities to the ground, and two entities also have their own gravitational force to each other. Therefore, ideally when both the TR and LM of *over* are parallel to the ground, the TR is exerting force on the LM due to its own dynamic force and the gravity of the Earth:

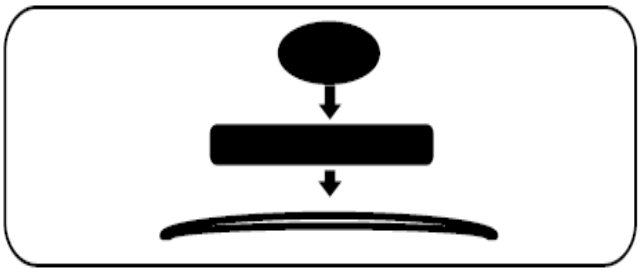


FIGURE 7. Gravity force of the Earth on TR and LM of *over*

In short, human encyclopaedic knowledge already entrenches such forces attached to *over*. That is the reason why *over* is involved in such a metaphorical combination, and in view of the sense of *over*, *Control* is appropriate (cf. Tyler & Evans, 2003)

3. COGNITION IS PERCEPTION

The last metaphor emerges from the prototypical sense of *over* is "COGNITION IS PERCEPTION." Humans construe the world through five senses, one of which is sight. When an entity is within the focal range of the vision capacity, it (a salient one) receives attention and becomes an examined entity in comparison with other object(s) serving as the LM. That is why Tyler and Evans (2003) suppose that *over* denotes *Examining Sense* and *Focus-of-attention Sense*. They suppose that when a person (TR) is higher than and close to the LM, he or she can examine that entity easily; therefore, when *over* is collocated with verbs or nouns denoting examination, *over* carries the Examining Sense. When *over* denotes *Focus-of-attention Sense*, it can be paraphrased by *about*. The image-schema of *over* denoted by the two senses is similar; however, the distinctiveness between two senses comes from the nouns succeeding *over*, i.e., the nouns collocated with *over* in *Focus-of-attention Sense* are not necessarily conceptualized as concrete. Therefore, it is possible to deduce an image-schema transformation from "concrete" Examining Sense to "non-concrete" Focus-of-attention Sense, shown in the following examples:

eISSN: 2550-2131
ISSN: 1675-8021

(13) Gage looked over the poster, his blue eyes shaded by the…
(14) … it happened, there's no use in crying over spilled fruit.
(15) Sverine watched Hwa over the rim of her teacup.
(16) Now, scientists sometimes agonize over things ordinary folks don't even see …

As can be seen, the degree of abstractness from sentence (13) to (14) increases, and in sentence (16), the phrase *agonize over* even denotes a thinking process. The paper's framework constrains that when *over* is collocated with the *mind's eye*, it denotes a metaphor. In sentence (13), the speaker uses his or her vision while in sentence (16), the cognition process is explicitly denoted via the emergence of the verb *agonize*. In comparison with Tyler and Evans's analysis, the paper analysis has so far shown that the approach of image-schema is appropriate in explaining how non-spatial senses of *over* derive.

Three metaphors emerged from the prototypical sense of *over* have been discussed. The first and the second metaphors are *orientational* ones, while the third one is a *structural* metaphor. The construal of the first and the second metaphor associated with *over* is rather simple because the image-schema of *over* is easy to be visualized; however, in the third metaphor, the internal concept structure of *over* acts as an access node for human interpretation beside its collocational structures and related background knowledge. Three metaphors are activated with an UP image-schema in which the TR is higher than and within the scope of the LM. The domains are generally basic, but there is an increase in the degree of abstractness in construing. In short, it has been shown that the image-schema in three metaphors is still perceived similarly in the way that the prototypical sense of *over* facilitates human construal. However, the differences are found in the collocational syntaxes associated with *over*, making the functional information of the word change. In accordance with the *visual* and *functional information* of *over*, the prototypical sense of the lexeme motivates *four* non-spatial senses: *More* sense, *Control* sense, *Examining* sense, and *Topic* sense. Three first terms are created by Tyler and Evans (2003) while the last one is termed by Gilles and Thierry (2014). The revised term by Gilles and Thierry (ibid) was adopted in this study because the meaning of *over* in respect to the data analysis denotes the topic that people often speak about.

TABLE 3. The extended senses of *over* from its prototypical sense

Senses	Metaphors	Extended senses
The prototypical sense	1. MORE IS UP, LESS IS DOWN.	More sense
	2. HIGH STATUS IS UP; LOW STATUS IS DOWN.	Control sense
	3. COGNITION IS PERCEPTION	Examining sense and Topic sense

METAPHORS FROM THE KINETIC SPACE OF *OVER*

4. THE CONDUIT METAPHOR

In the conduit metaphor, words are ascribed to carry meaning. That is why it is possible to syntactically analyse the structure of the sentence *"I told that …"* into the structure of Subject – Verb – Object. The object of the verb is the content after *"that."* Here are some examples:

(17) We talked over lunch, walked around the shops of the old…
(18) Come. We will discuss it over tea.

The noun phrases succeeding *over* refer to a period of time, i.e., *lunch* and *tea time*. Language users construe that the verbal exchange, a kind of linguistic interaction, takes place during the time of lunch and tea. As these noun phrases refer to time, *over* can be paraphrased as *during:*

(18') Come. We will discuss it during tea (time).

The path is conceptualized as an *above and across* one, serving as the LM. Schematizing the virtual configuration of the above sentences, construers have the following figure (Figure 8) whose salient aspect is the LM:

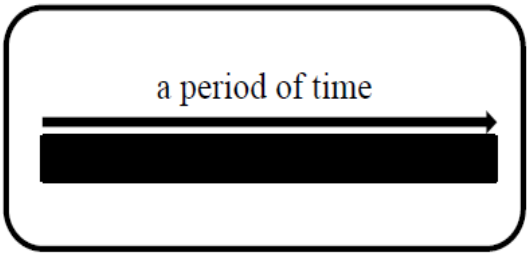


FIGURE 8. Schematizing the Conduit metaphor of *over*

However, the path also refers to means of communication:

(19) A minute later the madman resumed his talk over his cell phone, looking at a distance.

Though the path seems to be *vague*, the message is carried out from one person to another person thanks to the phone. Regardless the factors of size, shape, etc., the salient aspect of the above instance is the meaning of *over* as *"out and over."* Therefore, within the scope the Conduit metaphor associated with *over*, there is a shift from *temporal* concepts to *means-of-transmission* concepts. In the case of *temporal* concepts, a noun stands for the time during which verbal exchange occurs, while in the case of *means-of-transmission* concepts, language users always find a means of communication like a telephone or a radio as a source for one-way communication. The image-schema of *over* in the Conduit metaphor, as mentioned earlier, can be seen as either bounded "above and across" or "out and over."

The construal of the first image-schema is easy to grasp, while that of the latter requires a combination of schematic imaginations. *Out* refers to a source, for example a radio, a television channel. *Over* refers to a line LM configuration with two-way exchange, for example a telephone. Hence, the construal of the looking-simple phrase "over the radio" can be schematized as "out from the radio". In general, the construal of *over* associated with the Conduit metaphor is rather complex, triggering a non-spatial and metaphorical sense.

5. LINGUISTIC (INTER)ACTION IS A PATH

As mentioned earlier, *the Conduit metaphor* carries the message between people, or in other words, there exists a kind of linguistic (inter)action between both the speaker and listener. Based on this discussion, language users can imagine the schematic meanings of *over* in the following sentences:

(20) So go home and think, talk it over. Decide what you want this society to look…
(21) He began to talk over her and disregarded her need for quiet when…
(22) "What do you get?"
"Problems. Talking over the increasingly desperate homeowner …"
(23) They'd argued over what they should do…

Three sentences from (20) to (22) denote the multidirectional and dynamic path of the LM configuration. If being replaced by *on* or *about*, the verb phrase *talk over* would not carry such a dynamic sense. Specifically, the contextual information from sentence (20) would yield a frame of a verbal exchange in a house between two people discussing the model of society; the domain is not specified because the content of the exchange might denote a domain matrix involving both basic and abstract domains. Sentence (23) is a special case because the lexeme *over* is collocated with the verb *argue* which also activates the conceptual metaphor "ARGUMENT IS WAR." However, the main construal of *over* in this case is in agreement with the above analysis "dynamic path LM configuration." In all instances, the exchanges are bidirectional or multidirectional.

One question is why *over* is the best candidate. Supposedly, when using *over*, the speakers expect to convey its dynamic and multidirectional path (in its Kinetic space) rather than the static path of *about* or *on*. The remained salient aspect of *over* is the LM dynamic path, and once again, the non-spatial sense in this case is motivated by image-schema transformation.

6. COGNITIVE ACTION IS A PATH

The third metaphor is "COGNITIVE ACTION IS A PATH," referring to the thinking patterns in the human mind. Such assumption is ascribed due to the usage of *over*:

(24) …reflect well on your fellow Filipinos. Think it over. I'll look forward to your favorable reply.

The phrase "think it over" denotes a cognitive, multidirectional process. It is multidirectional because the brain works in a complex way, rather than just transmitting information through vesicles to neurotransmitters. However, the abridged way is that one cell communicates with other cells, and taking the topological use of English prepositions into consideration, *over* denotes such transmission. Additionally, recalling the information in the three spaces of *over*, it is also found that *"think over"* denotes more complexity than the phrase *"think about"* does. Firstly, *over* can be used to denote a dynamic, multidirectional path. What is more, *over* shows the boundary transversal image-schema (discussed by Brugman and Lakoff, 1988). Therefore, the syntax *"think over something"* or "*think something over*" also means "think to overcome difficulties/ problems."

It is proposed that this metaphor emerges from the "COGNITION IS PERCEPTION" metaphor. Look at the following example:

(25) You watch over someone? Seen your daughter recently?

The same schema would be explored by comparing the image-schema from sentences (24) and (25). While the sense of *over* in sentence (25) is spatial and metaphorical, the sense of *over* in sentence (24) is purely non-spatial and metaphorical. This is a result of the decrease in spatial degree in human cognition. Again, the use of *over* is attached to a non-spatial sense which is spatially grounded.

eISSN: 2550-2131
ISSN: 1675-8021

7. AN ACTIVITY IS A PATH

Another metaphorical usage of *over* can be found in the metaphor "AN ACTIVITY IS A PATH," which relates to a number of metaphors. Let's look at the following examples:

(26) I couldn't get over the fact that my mother was dead.
(27) The textbook was left over from a correspondence course he'd taken years.
(28) I bet that damn Cobb never handed it over.

The meanings of *over* in those sentences are distinctly "to overcome," "to remain," and "to transfer" respectively; however, the similarity lies in the dynamic path or schematic meaning denoted by *over*. To be specific, in sentence (26), *the fact that my mother was dead*, the LM, serves as a virtual obstacle. The TR in sentence (27) refers to *the result of an activity* while in sentence (28) the LM refers to a change of possession.

How are senses of *over* in the above sentences motivated? Lakoff (1987) would advocate that *over* in sentence (26) is attached to the structural metaphor "LIFE IS A JOURNEY." The conceptual mapping is that *getting over a real obstacle* is similar to *getting over life difficulties/ problems*. In sentence (27), the meaning of the phrase "left over" can be explained by a combination of Visual and Kinetic spaces. The verb *leave* denotes a change from one location to another location; if one thing is left behind when being looked again from the destination, that thing is located on the other end of the path. This also makes it clear that human cognitive process in this case is complex; the sense is spatial and metaphorical. However, the construal of *"left over"* is also facilitated by the schematic meaning of *over*, or in other words, an image-schema based approach can successfully explain this usage. Schematizing the image-schema in the sentence will result in the following figure:

FIGURE 9. Image-schema of "left-over"

Another use of *over* when denoting a path is the phrase "*over and over*":

(29) *... full of haunted superegos explaining over and over again why they were never known for anything...*

The path in sentence (29) is duplicated like a bidirectional vector. In this case, the schematic meaning of *over and over* is a combination of *over1* and *over2*. Figure 10 is the illustration in which the TR moves on a LM line configuration and then duplicates the path:

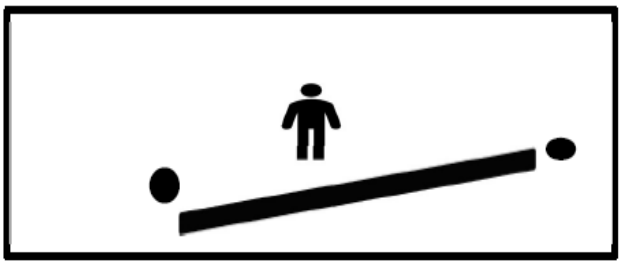


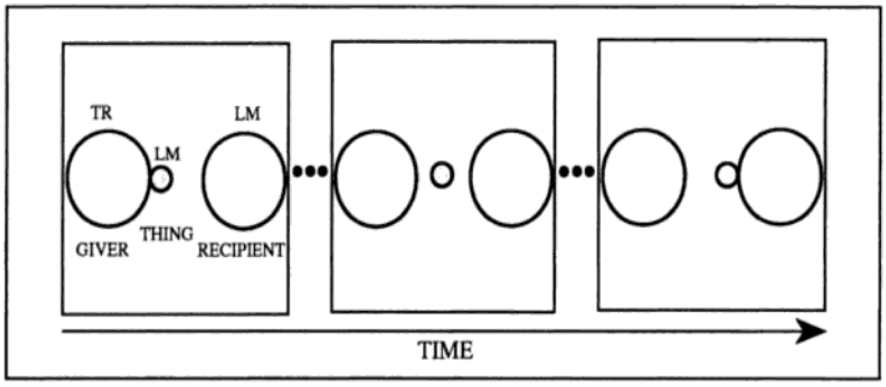
FIGURE 10. Image-schema of "over and over"

As can be seen, *"over and over"* is the result of a multi-stage construal. The path is first similar to *"left over,"* but then the path is reversed, making it a two-way line. That is why *over and over* can be used in such case. However, there are instances in which *over and over* is shortened to *over.* Here is an example:

(30) So, she quits and starts over.

The perspectival frame of the speaker in sentence (30) is neutral because the frame does not include the speaker. The sentence denotes a state-of-affair that a woman starts to do something but fail, then she makes a second attempt. The verb *start* also denotes a dynamic path and when it is collocated with *over* with dynamic Kinetic space, the phrase "start over" should be conceptualized as a back-and-forth action.

Looking back at the sentence (28), construers can see that the image-schema in the sentence is similar to what is depicted in the Figure 9, but the difference lies in the direction of the image-schema which focuses on the end. In fact, the predicate of the sentence in which *over* is construed as "Transfer Sense" (cf. Tyler & Evans, 2003) is a three-place predicate which was thoroughly analysed by Newman (1996) via the verb "Give". Figure 11 illustrates the virtual direction:



Source: Newman, 1996, p. 39

FIGURE 11. Image-schema of "hand over"

Over, in this case is attached to the metaphor "A TRANSACTION IS A PATH." This meaning emerges from the Across schema of *over*. Look at the following example in which *over* denotes a spatial sense:

(31) That afternoon he crossed over the last mountain pass and dropped down into…
Regardless of the shape of the mountain, we could find a similar of image-schema in both sentences (28) and (31).

The analysis has again shown that the metaphor "An activity is a path" is motivated from both the Visual and Kinetic space of *over,* and this is in agreement with the theoretical constraints. The senses associated with the metaphor "AN ACTIVITY IS A PATH" can be either *non-spatial and metaphorical* or *spatial and metaphorical.* They are non-spatial and metaphorical when over also conjures up the metaphor "LIFE IS A JOURNEY." When *over* is attached to the metaphor "A TRANSACTION IS A PATH," its sense is *non-spatial* and *metaphorical*.

A subdomain of space is TIME which can be conceptualized in different ways (Evan, 2004). In the corpus of the study, *over* is used to denote temporal senses with two conceptual metaphors emerging from the Kinetic space of the lexeme.

8. TIME IS A PATH AND WE MOVE ON IT

The first metaphor is "TIME IS A PATH AND WE MOVE ON IT." Here are two examples:

(39) … and told the CEO that the artifact was over one thousand years old and was of a…
(40) Taggert's skull and hidden the crime for over sixteen years.

In both sentences (39) and (40), the LM denotes temporal values, i.e., a period of time. Schematizing the LM in a vertical axis, a line from a particular point to the time of uttering could be imagined. The path is unidirectional from the left to the right in respect to normal human construal.

This sense emerges from the Kinetic space of *over* with the salient aspect that the path configuration of the LM is *a line*. The experiential basis of the metaphor lies in the correlation between the perception of motion and the human awareness that the world has changed from one moment to another one. Lakoff uses the plural first person "we" to include the participants; however, the pronoun *we* does not always denote the entities involved in the metaphor within our corpus. Therefore, it is proposed a revised metaphor "TIME IS A PATH AND ENTITIES MOVE ON IT."

9. TIME IS A MOVING OBJECT

The next metaphor related to time is "TIME IS A MOVING OBJECT" in which time is conceptualized as an *agent* and represented in different forms (Evans, 2004). Here are two examples:

(41) I get it; my fighting days are over.
(42) How about after the festival is over? I 'll be in a much better mood.

In sentences (41) and (42), *time* is represented by "days" and "festival." Apparently, in the above sentences, the temporal notion is conceived as a living entity which can move along a path. Schematizing the LM path denoted in both sentences, a long path which is similar to the *Kinetic path* could be seen; however, the path is unidirectional.

The Kinetic space of *over* motivates six metaphors, each of which retains the path image-schema of the TR-LM configurations like it is in the Boundary-traversal sense with *end-point-focus.* However, the functional information of *over* in those cases is not as simple as the nominal term may denote. Take the Conduit metaphor as an example, *over* may denote Temporal sense in sentences (17-18), but in sentence (19) ascribing such a term for *over* seems to be either simplistic or irrelevant. Therefore, it is supposed that a metaphor does not guarantee a sense. The following table presents the retained image-schemas of *non-spatial over*:

TABLE 4. Non-spatial senses of *over* from the Kinetic space

Sense	Metaphors	Image-schema
3. Boundary-traversal sense with *end-point-focus*	4. The CONDUIT metaphor	The path LM configuration, shifting to the temporal value. The denoted sense: *Scanning of an interval* sense. However, the noun phrase succeeding *over* can refer to the means of communication as the ***purport*** or ***meaning potential*** of *over*.
	5. LINGUISTIC (INTER)ACTION IS A PATH	The UP image-schema retained; the noun phrase succeeding *over* can refer to the reason(s), as the ***purport*** or ***meaning potential*** of *over*.
	6. COGNITIVE ACTION IS A PATH	The UP image-schema retained; the noun phrase succeeding *over* can refer to the reason(s), as the ***purport*** or ***meaning potential*** of *over*.
	7. AN ACTIVITY IS A PATH	The path image-schema is retained; however, there are salient aspects in the schema. 1. Focus on the end-point-focus, changing the possession: *Transfer sense*. 2. The image-schema is repeated: *Repetition sense*
	8. TIME IS A PATH AND WE MOVE ON IT	The path image-schema is retained, the noun phrases succeeding over refer to the temporal values. The denoted sense: *Scanning of an interval*.
	9. TIME IS A MOVING OBJECT	The path image-schema is retained, subjects refer to temporal values. The denoted sense: *Completion sense*

It is hard to classify all meanings of *over* into categories and then ascribe a nominal term for each of them. It is thought that when the image-schema transformations are clear in non-spatial usages of *over*, the sense can be termed. With other cases, the meanings of *over* are guided by the context. The meaning of "over" in such cases is constructed "online" (Tyler & Evans, 2003) as a result of contextual information. From this perspective, Evans and Green (2006:221) propose that

fully-specified pre-assembled word meanings do not exist, but are selected and formed from *encyclopaedic knowledge*, called **purport** (Cruse, 2000; Croft & Cruse, 2004) or **meaning potential** (Allwood, 2009).

NON-SPATIAL SENSE FROM THE MANEUVER SPACE OF *OVER*

The analysis shows that the Maneuver space of *over* also motivates non-spatial senses for the lexeme. Look at the two following sentences:

(43) She turned her phone over in her hand.
(44) … buying time while she turned the matter over in her mind.

The syntax "turn something over" appears in both sentences but the co-text of the syntax is different. The former refers to a spatial scene in which the TR is the phone and the LM is her hand. The latter refers to a cognitive process which can be construed as if one person mentally rotated an entity, which can also be described by means of reflexive *over*. This sense is *non-spatial* and *non-metaphorical*.

NON-SPATIAL SENSE FROM THE COVERING SENSE OF *OVER*

Human background knowledge tells people that when the TR is big enough to occlude the LM or part of the LM from a certain vantage point, the TR is construed to cover or occlude the LM. In this case, *over* is the best candidate. As discussed earlier, human cognition takes the input from data collected through five senses, and when the Covering sense becomes a kind of virtual sense associated with *over*, it is realized that there is a combination of metaphors between "TRUTH IS A HIDDEN OBJECT" and "COGNITION IS PERCEPTION."

(45) I've spent with her; my affection covers over Nuna's flaws.
(46) A curtain of guilt closed over Zac's face.

Sentence (45) sounds like a testimony in which the TR, "*my affection,"* is greater than the LM, *"Nuna's flaws,"* and the sentence also denotes a cover that the TR provides the LM. Similarly, sentence (46) also depicts a virtual cover which is presented via lexeme *over.* The metaphor "TRUTH IS A HIDDEN OBJECT" emerges when there is a virtual cover, and the metaphor "COGNITION IS PERCEPTION" shows the cognitive process in the human mind. In comparison with Tyler and Evans's analysis, the paper has presented both concrete and virtual Covering Sense of *over*. The word *over* denotes a *non-spatial* and *metaphorical* sense when its co-text refers to a virtual occlusion.

Thus far, ten metaphors associated with the lexeme *over* have been presented when the word is used metaphorically. It has been shown that the semantics of *over* are a combination of spatial and non-spatial senses. The spatial senses are organized in three modalities of thought: Visual, Maneuver, and Kinetic spaces, from which the non-spatial senses, organized in its Mental space, are motivated. Table 5 summarizes the senses of *over:*

eISSN: 2550-2131
ISSN: 1675-8021

TABLE 5. A summary of sense transference from spatial to non-spatial of *over*

Spatial senses	Non-spatial senses
1. The prototypical sense	More Control Examining Topic
2. Covering sense	
3. Boundary-traversal sense with *end-point-focus*	Scanning of an interval Transfer Completion Repetition sense
4. Reflexive sense	

CONCLUSION

The paper has adopted a polysemic framework to account for the meaning transference of *over* as a preposition, an adverb, and a particle. The following remarks were withdrawn through the analysis:

(i). The proto-scene of *over* designates that the TR must be within the scope of the LM extension, and the TR and LM are in potential contact.
(ii). Three spatial modalities of thought of *over* are Visual space, Maneuver space, and Kinetic space. The spatial senses are found in the three modalities, and it is proved that the polysemy of *over* is closely related and its meaning transference can be traced back by adopting an image-schema based frame. This means that each instance of use of the word could be explained if construers adopt an image-based approach basing on the prototypical sense coded by a pair of image complexes.
(iii). The non-spatial senses of *over* are attached to a range of conceptual metaphors. A systematic change from purely spatial and non-metaphorical meanings to spatial and metaphorical meanings, and non-spatial and metaphorical meanings of *over* was explored. The results of the analysis once again reaffirm the hypothesis that non-spatial senses are spatially grounded.
(iv). The analysis of non-spatial senses of *over*, in the four layered direction: mental spaces - domains/ frames and image - schemas, shows that these metaphors relate abstract notions conceived as concrete entities, and map the structure of concrete experiences onto abstract experience. This is in agreement with the idea proposed by Lakoff (1987).
(v). The overall mechanism for meaning transference is mappings. Some non-spatial senses of the word can be ascribed with nominal terms; however, in certain cases, the purport or meaning potential of the word account for its usages.

In conclusion, the aim and objectives of the study have been fulfilled within the set scope. The two research questions have been answered; i.e., *over* possesses twelve distinct senses and the mechanism for its meaning transference from spatial to non-spatial senses is mapping together with image-schema transformations.

eISSN: 2550-2131
ISSN: 1675-8021

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