A COGNITIVE PERSPECTIVE ON THE ARABIC SPATIAL NOUN فَوْقَ /FAWQA/ APPLYING THE PRINCIPLE POLYSEMY MODEL

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ABSTRACT

The present paper provides a cognitive linguistics (CL) framework for analyzing the semantic structure of Arabic spatial noun *fawqa* based on *Principled Polysemy Model* (PPM) of Tyler and Evans (2003). PPM approach can broaden the narrow view of classical cognitive linguists regarding the semantic variation in the concept of physical-geometry of a preposition. As a polysemous lexeme, *fawqa* used by Arabian native to express a broad range of meanings, not only spatial relation but also non-spatial relation. The substantial sense of the lexeme is investigated using a large amount of corpus data (*corpus.kacst.edu.sa*) and applying the five steps of PPM approach. Through this approach, we ascertain that every single usage of *fawqa* expressing extended senses is always in its semantic network. Our study reveals that the usages of this lexeme in many situations and many cases show non-up down spatial relation, and non-physical relation, but they essentially refer to the primary sense.

KEYWORDS

arabic spatial noun; cognitive linguistics; principled polysemy model (PPM).

ABSTRAK

Artikel ini menyajikan kerangka berpikir linguistik kognitif (LK) untuk menganalisis struktur semantis nomina spasial bahasa Arab, *fawqa* dengan menggunakan Model Polisemi Berprinsip (MPB) dari Tyler dan Evans (2003). Ancangan MPB dapat mengubah pandangan para ahli LK tentang variasi semantis konsep fisik-geometris sebuah preposisi. Sebagai sebuah leksem polisemis, *fawqa* digunakan oleh penutur jati bahasa Arab untuk mengungkapkan beragam makna baik relasi spasial maupun relasi nonspasial. Telaah tentang makna-makna leksem *fawqa* didasarkan pada korpus linguistik corpus.kacst. edu.sa dan memanfaatkan lima langkah dari MPB. Dengan ancangan MPB, penggunaan *fawqa* yang menyatakan makna-makna perluasan dapat dipastikan tetap berada dalam jejaring semantisnya. Studi ini mengungkapkan bahwa struktur makna *fawqa* dalam beragam situasi dan kasus, yang dicermati dengan mengandalkan ancangan kognitif,

memperlihatkan relasi spasial *non-updown* dan nonfisik, yang tetap merujuk pada makna primernya.

KATA KUNCI

Nomina spasial; Linguistik Kognitif; Model Polisemi Berprinsip (MPB).

INTRODUCTION

The recent studies have exposed a great amount of cognitive-based research that focused on spatial, either in relation to the language or in a line with other sciences. Geographic information system (GIS) researchers, for example, gain a tool to investigate the spatial relations in earth by relying on cognitive linguistics. Rudriguez and Egenhofer (2000) explained that mathematical approach, which does not recognize the human element (or how humans think about spatial relations), is not enough to identify and analyse how people understand and talk about space. In this regard, cognitive linguistics (CL) can be utilized as an alternative solution to a fine-grained analysis of the semantics side of a lexeme, which exhibits spatial relation.

Language talks about space and time when its speaker expresses it. When language speakers speak, using their language, it absolutely involves the notion of space, because they need to relate an entity to another entity. Therefore, if we want to relate two or more entities, we exactly use certain linguistics devices or mechanism to mediate the relation. At the same time, the devices and mechanisms that we involve are basically derived from our conceptual system of perception.

According to cognitive linguistics, the spatial world pertains to the strategies of how people comprehend space. People have a unique way to reveal spatial relation using language; while at the same time, the use of different language for stating the spatial relation depicts the interaction between how the cognition works and how the cognition realizes it using the word in that language. In this case, CL plays a great role in examining that every language has its own linguistics mechanism, semantic categorizations, and grammatical rules to talk about the same topic, especially about spatial relation. The mechanism, categorization, and rules depend on cultures and linguistics paradigm of the native speaker's cognition. Moreover, CL investigates the correlation between language and universal aspect of human experience.

The specific grammatical devices and mechanism to expose the spatial expressions in each language describe the uniqueness of that language in expressing the spatial relation. The flective languages like Arabic, Dutch, and German usually have preposition to mediate the relation between two entities. Other languages, such as Korean and Japanese have spatial markers. However, many languages have both of them. They do not only have particles, but also use spatial nouns, spatial verbs, affixes, and case markers to indicate spatial relation.

Arabic has preposition and spatial noun as linguistics devices to exhibit its spatial language. The number of studies on Arabic spatial preposition and spatial noun has shown that geometry is basically a master point of conceptual meaning. It means that the relation of an object (we call it a trajector–TR) to another object (we call it a landmark–LM) is physically mediated by a spatial lexeme. The examples are as follow:

1. /al kita:bu *'ala*l maktabi/ 'the book is <u>on</u> the table'.
2. /al riya:hu *fawqa*l bahri/ 'the wind is <u>above</u> the sea'.
3. /wa ya'lamu ma: *fi*l arha:m/ '... and he knows what is in the womb'.

'ala in 1) shows the sense "higher than", *fawqa* in 2) exhibits "higher than with proximity" sense, and the last, *fi:* in 3) suggest a "containment sense" where an entity (anything represented by "what") is surrounded by another entity, that is the *womb*. These spatial language examples demonstrate how human cognition encodes the scenes around them and states it with their language using particles. However, if we try to elaborate other examples, as below

4. /as su:ratu *ala*l ha:iti/ 'the picture is <u>on</u> the wall'.
5. /Ahmad yarqudu *fawqa*s sariri/ 'Ahmad is sleeping <u>on</u> the bed'.
6. /ana askun *fi*sy sya:ri' sudirman..../ 'i live <u>in</u> sudirman street'.

we find another sense of 'ala in 4), as the picture is not located in the position higher than the wall. Moreover, in 5), the scene of the Ahmad position is lying on the bed. There is no distant between the surface of the bed and the part of Ahmad's body. Why does the construction use Arabic particle *fawqa*, while at the same time, *fawqa* is equal to above in English, which has a proximity sense? The phenomenon in number 6) is also similar. There is no containment sense in that sentence because "the house of ana" is not surrounded by the street, or the street in that situation is neither a bounded space nor a container of the house. Therefore, in order to adequately analyse the relation between two entities and more, labelled by any particles or prepositions, a more complex analysis of geometry is basically needed.

The existing literature (e.g. Wright 1967; Haywood and Nahmad 1962; Al-Sayyuti 1985; Sibawayh 1988; Al Gholayini 1994; Al Hasyimi 2010; and Badawi, Carter, and Gully 2013) used lexically-syntactic perspective in analysing of Arabic spatial prepositions. They concluded that physical-geometry is the essential central meaning of Arabic spatial prepositions. They have classified prepositions, either as separable or inseparable (Haywood and Nahmad 1962; Wright 1967), explicit or implicit (Al Sayyuti, 1985; Sibawayh, 1988), and true prepositions or semi prepositions (Badawi, Carter, and Gully 2013). Meanwhile, Al Gholayini (1994) and Al Hasyimi (2010) did not only explain the grammatical use of prepositions in Arabic, but also accounted for many senses of each preposition, where the senses depend on the context in which it was used. Al-Sayyuti (1985) and Nasser (2013) have also revealed the same findings. The results from the existing literature indicate that prepositions are polysemous in nature and have physical-geometry as a central meaning.

However, the physical-geometry is not the only central meaning of Arabic preposition when we observe the use of Arabic preposition in natural language. It has many possible meanings other than the physical-geometry. They can reveal the abstract concepts, emotions, and states. Below are the examples

7. /wa laqad saraytu *'ala*z zola:m/ 'i walked <u>in</u> the dark'.
8. /li-annal wahdatal wathaniyyah ta'ti *fawqa* kulli i'tiba:r/ 'since the national unity exist <u>over</u> all of the things'.
9. /ma: tara: *fi:* khalqir rahma:n min tafa:wut/ 'you do not see in the creation of the most merciful any inconsistency'.

The sentences above exhibit 'ala, fawqa, and fi: with abstract meaning. /'alaz zola:m/ *'walked in the dark'* at 7) is not physical relation. Moreover, /fawqa/ 'over' in 8) presents the most important thing, which is the *unity of the nation*. In 9), / fi:/ 'in' shows the process of creation. All of the senses in those examples do not expose physical geometry meaning.

The above examples demonstrate that Arabic prepositions do not only represent non-physical geometry meaning but also have polysemous nature. This polysemy does not only talk about more than one meaning but also states that each word has a central meaning and other meanings, which are derived from the central one. In other words, every sense of the preposition has relation one to another.

The principled polysemy model (PPM) of Tyler and Evans (2003) can help us to solve the problem of discovering the various possible meaning of an Arabic preposition, beyond the physical geometry meaning, and finding the protoscene of the meanings. The PPM approach give us an opportunity to attest that every single word is polysemous, and the senses, which it has, relate each other in the semantic network. Moreover, the PPM gives us an exclusive way to find the protoscene based on 5 criteria instead of a purely intuitive basis; and to find extended senses based on 2 criteria.

The previous studies on Arabic prepositions that we stated above focused on the general properties of some Arabic prepositions in their analysis. In those studies, the effort to investigate in a detailed way the possible other meanings of Arabic prepositions beyond physical-geometry sense is limited. The analyses are based only on the lexical syntactic perspective in a strict spatio-geometric sense using some examples of sentences that contain a spatial preposition, including *fawqa*. Therefore, the alternative meaning other than physical geometry that we can probably discover from an Arabic preposition in a more detailed way was also limited.

The aim of this paper is to demonstrate a fully rich analysis of Arabic spatial noun *fawqa* using cognitive linguistics (CL) approach based on the principled polysemy model of Tyler and Evans (2003)., This paper does not only reveal the primary and secondary meanings of spatial noun *fawqa* but also investigates the semantic network of the meanings.

In this paper, we contribute to the Arabic linguistics literature by providing the integrated framework to answer the problem of how to find the primary and the extended meanings of the Arabic preposition *fawqa* using the CL framework based PPM. Different from previous studies that focus on a spatio-geometric sense of a preposition, in this paper we try to reveal other senses beyond the spatio-geometry that is based only on the lexical syntactic perspective. The non-spasio-geometrical senses, which emerge in the sentences of corpus, are linguistic evidence that Arabian native speakers have cognitively UP-DOWN image schema in their conceptual system.

We also contribute to the existing literature by conducting a fine-grained analysis of the possible conceptual meaning of the use of a spatial noun *fawqa* in natural language and the relation between one and other meaning concepts. The existing literature on the same research area only focused on the spatio-geometrical meaning of some prepositions, including *fawqa*, analysed from some limited examples of sentences. As a result, the various conceptual meaning that can be discovered from the existing literature are limited. To the best of our knowledge, there are only two articles that deal with the application of CL on one Arabic preposition or spatial noun. Those are Mahpeykar and Tyler (2011) that investigated the semantic of be in Farsi language and Khan And Ali (2017) who analysed the semantic of fi: in the Quran. Recently, there is no literature that dedicates to the study of the CL application, exclusively based on PPM on Arabic spatial noun *fawqa*. Using the PPM, our study reveals that the primary meaning of *fawqa* is up down schema with the distance, remoteness.

The rest of the paper will be organized as follows. Section 2 describes the methodology that we apply to analyse and discover the primary and extended meaning of *fawqa* and the possible relation between them. Section 3 is dedicated to the analyses and discussions of the results of our applied methodology to the corpus data of *fawqa*. Finally, section 4 concludes the results of the study.

2. METHODOLOGY

2.1 Data Collection

Data for this research was collected from the Arabic Corpus through the search of the keyword *fawqa*. The data was retrieved through the Search Arabic Corpus software available at http://corpus.kacst.edu.sa. There are some considerations for using this corpus website as a source of data. First, to some extent, among the Arabic corpus websites, the corpus of this website is the most complete and updated one, in terms of the number of texts (1,323,185 texts), the number of words (1,182,515,633 words), the time when the text was firstly published (from year 801), and the number of countries that produce the texts (38 countries). The second reason is that the website is easy to access and at no cost.

The software that we use to withdraw the data works on the basis of lexical item selection. On the selection of a lexical item, all the lexical entries in the corpus are retrieved by the software. For extracting the data, we apply a multi-stage sampling approach. First, we selected the area of internet and newspaper as cluster samples. These areas were selected because they cover the largest portion of the use of spatial relation *fawqa* in comparison with other areas. In the next step, we selected country as a basis of analysis. In this regard, we chose Saudi Arabia because it is the origin country of the Arabic and has the largest number of Arabic texts and lexemes.

All constructions that contained *fawqa* were selected after applying some filtering process for area, field, topic, country, and starting year. In this study, we used internet and newspaper as the selected areas, Saudi Arabian as the selected country, and 2011 as the selected starting year. For the topic and field, we considered all topics and all fields respectively. Based on this filtering scheme, 5034 tokens of *fawqa* from 3716 texts were retrieved.

To obtain the representative results and analysis with respect to the variation of language use, the sample of texts that contain *fawqa*, which we want to analyse, was randomly selected (as suggested by McEnery & Wilson 2001) from 3716 texts. The selection of observed random texts was conducted by utilizing the random number generator provided in MS Excel. Following Kang (2012), we selected about 10 per cent of the texts that contain spatial relation *fawqa* as a sample. This sampling procedure is conducted to assure the randomness of the corpus data that we want to analyse in an objective and structural way.

2.2 Analytical Method

For each spatial relation *fawqa* in the selected sample texts, we classify it based on the theoretical framework of the division of spatial devices into spatio- and non-spatio- physical geometry. The determination of the classification of *fawqa* into physical geometry and other categories is based on the entity of Trajector (TR) and Landmark (LM) in the sentence that contains the word fawqa. After the classification of themes, the data was further analyzed on the basis of embodiment experience concept in Rohrer (2007) and Talmy (2000). Based on the embodiment experience concept, we can state among other things that an object is on the *above* position or in *under* position or other motion concepts.

Armed with the embodiment concept of *fawqa* in the selected texts, then we analysed the primary and extended sense of the preposition by using the principled polysemy model proposed by Tyler and Evans (2001 & 2003). This approach is applied in order to determine the semantic arguments, which the spatial noun *fawqa* attains in different situational contexts. The approach on the basis of Tyler and Evans (2001 & 2003) led to further classification of some conceptual metaphor themes and the identification of spatial noun fawqa, which is idiosyncratic in the situated usage.

3. ANALYSIS AND DISCUSSION

3.1 A Brief of *Fawqa* from Dictionaries

The Arabic literature mentions two types of prepositions in Arabic language, namely pure preposition and semi preposition. In Arabic terminology, semi preposition is called zarf. Arabic has two kinds of zarf, those are *zarf makan* (adverb of place) and *zarf zaman* (adverb of time). Several lexemes that include to zarf makan are *amaama*, *wara-a*, *khalfa*, *tahta*, *fawqa*, and *janiba*, while lexemes that include to zarf zaman are *ba'da*, *qabla*, and *hiina*. Actually, those lexemes are nouns (derivative nouns) or content words. However, they have another task as a function word, which is semi preposition.

Fawqa belongs to the second category, semi preposition or *zarf makan*, since *fawqa* essentially has a dual function. It may be classified as a noun, since it has the same characteristics as the Arabic nouns. The Nouns in Arabic not only can be given definite markers and indefinite markers, but they are also declinative according to their function in the sentence. *fawqa* can also be classified as a particle or preposition, which has characteristics of pure preposition. Consider the following examples.

  a. /almishba:hu *fawqa*l maktabi/ the lamp is above the table'
  b. /akhoztul tha:iratan min fawqisy syajarah/ 'I catch a bird from the top of the tree'

in a, the *fawqa* serves as a preposition which in Arabic converts the subsequent noun case from nominative to genetic. In b, fawqa exhibits a feature as a noun, since it is a genitive, resulted from a previously min preposition.

The word *fawqa* morphologically derives from the triconsonantal root / ف و ق / fa-waw-qa, corresponding to the *upper, higher, above* (Al Qazwayni 941). In the first Arabic dictionary of the first period, Al Kitabul Ain (Al Farahidiy 786, 346–347), *fawqa* means نقيض التحت / naqi: dhut tahti / 'antonim under'. The word *fawqa* was not found in two other dictionaries, which included in the first period, namely *Tahzibul Lughah* (Al Harawi 895) and *Al Ba: ri* '(Al Qa:li 901). The triconsonantal root appears again in the dictionary in the second period, namely *Al Maqa:yis* (Al Qazwayni 941), which corresponds to *high, back, go home.* In the next period, the meaning of that lexeme is more than one, but the *high* or *upper* always ranks first (Ma'louf 1960; Al Bustaniy1870). Al Farahidiy (786) does not call it a particle or a preposition, but labels it as nouns and adjectives. As an adjective, the lexeme can be categorized as particles although it is not equivalent to particles in Arabic. As a noun, it is able to function like other nouns in Arabic.

Based on that explanation, we argue that the word *fawqa* is categorized as a spatial noun. Furthermore, there is another matter that can confirm that the lexeme is more accurately referred to the spatial noun than the prepositions. The genitive case in the subsequent word of *fawqa* is not the result of the category of particles that controls the noun, but it is due to an annexation. Annexation in Arabic refers to two or more nouns incorporated in a phrase, which is known as *idhofah*. *Fawqa* occupies the *mudhaf*-annexed function, while the later noun functions as *mudhaf ilaihi* or an annexer.

3.2 Finding the Primary Sense of *Fawqa*

As mentioned before, this study attempts to present the ways of human cognition work to express something, using the spatial noun *fawqa*. The scenes, which *fawqa* is used in, will depict particular instances. Thereby, each scene has an exclusive use of *fawqa*, which describes the image schema. One of the purposes of this article is to find the core meaning as protoscene of *fawqa*. Therefore five criteria from Tyler and Evans

(2003) will be the tool to identify it. Tyler and Evans (2003) labelled their criteria as principled polysemy model (PPM), which consists of five steps to identify the primary sense of a lexeme.

      a. The sense must be earliest attested meaning
      b. Predominance in the semantic network
      c. Relation to other preposition or spatial marker
      d. Grammatical prediction
      e. Composite unit.

According to a, *fawqa* is mentioned in the first Arabic dictionary *Kitabul Ain* by Al Farahidiy (786) as antonym of *under*, which is above or over. In addition, he stated that *fawqa* is noun and adjective in the same time. Other dictionaries, which mentioned *fawqa*, were in the second and the third period with more than one sense, *"high, over, beyond, top and come back"*. For b, it investigates the numerous instances of the usage of *fawqa* and notices at the meaning that appears most often. From the 500 instances, most of them show that an entity (trajector) is abstract and concrete in position *higher than* another entity (land mark-LM). Below are the examples.

10. /ka:nat tadu:ru *fawqa* shafaha:til jara:id/ 'it (news) was spread on the pages of newspaper'.
11. /an yaku:na *fawqa*l hirs/ 'it may be beyond the intention'.
12. /wa ha:za *fawqa* kulli i'tiba:r/ 'this is over the examples'.
13. /.... *fawqa* kulli syay-in/ 'he prefer it over all'.
14. /anna maslahatal ja:mi'ah *fawqa*l jami:' / '...that the welfare of university is <u>on the top</u> of everything'.

The preposition on in 10 shows that the news was written on the paper, while *beyond* in 11) indicates the situation over the limit of intention. Although the word "news" in 10 is considered as concrete noun, since it was written on the paper, *fawqa* is used here not because of that reason. However, it is because the "news" is an abstract noun, spreading out on the paper (not on the surface of the paper, but surrounding the paper). Therefore, the up-down schema with remoteness is implemented here. In 11, it expresses something that is over the limit. Thus, if we vertically take it, the situation is actually *higher than* the limit, and the limit is an intention of something in this case. 12 and 13 expose the same sense. The trajectors in 12 and 13 abstractly exhibit the entities that exceed the usual situation. Exceeding the usual situation, when it is vertically quantified, shows the sense of *higher than*. The situation of 12 shows that there are many things, but someone chooses the best one, which the quality of it goes beyond the others, and so does the situation of 13. The welfare of university in 14 is the uppermost priority among others. No other things, just the welfare of it. Those expressions (12 and 13) illustrate the realities that *fawqa* is used to depict the entities that abstractly and concretely are *higher than* others.

On the step 3, *fawqa* is the synonym of *'ala*. *'ala* is one of the Arabic prepositions having similar meaning to *fawqa*. In many instances, Arabic grammarians explained that the difference between *ala* and *fawqa* is proximity and remoteness (Al Gholayini 1994; Al Hasyimi 2010). *'ala* exposes the TR sense that is *higher than* LM, and the part of the TR is in contact with the surface of the LM. Meanwhile, *fawqa* has the

similar instance of sense, with the distance between TR and LM. This step also talk about antonym of *fawqa*, which is tahta 'under', as mentioned in Kitabul Ain (Al Farahidiy 786).

15. /huwa yarqudu *'alas* sarir/ 'he is sleeping <u>on</u> the bed' .
16. /huwa yarqudu *fawqa*s sarir/ 'he is sleeping <u>on</u> the bed' (with the bed sheet).

Fawqa is not a bounded morpheme, so it never is composited with other lexical units. Therefore, the step five will not be used as a tool in this study. Meanwhile, the step d) shows that the meaning of *fawqa* in an instance can be predicted by another meaning of another instance. The corpus tells that the meaning of *fawqa* is almost close to the situation on the top of object, abstract and concrete, with or without proximity.

Based on explanation above, We design a configuration for the protoscene of *fawqa* as displayed in Figure 1 below.
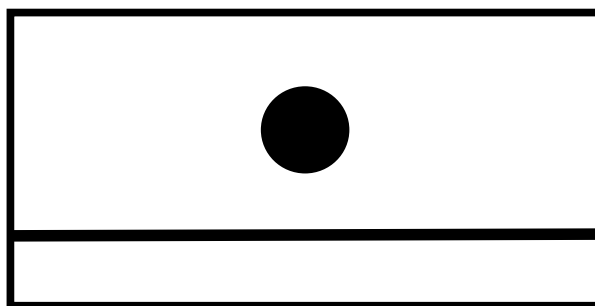

Figure 1. The Protoscene of *Fawqa.*

The bold sphere is the trajector, in the higher position than the landmark presented as a straight line. The square means that it is in bounded situation. The straight line is not only as the ground element (LM) that relates to the focus element (TR) using the particle, but also equal to the limit of something, space and time, abstract and concrete, respectively.

Since the position of the sphere is above the straight line, the sphere is exactly the one that can be seen by every people when they look at the situation. It possibly happens when they look at it from the top. Moreover, exceeding the limit, or excluding the bounded is also covered by this scene. When the straight line is regarded as a limit, the bold sphere is located vertically over the limit, and in such situation, the sphere is out of the bounded area. Other senses as the extension of the core meaning of *fawqa* will be identified in 3.3.

3.3 Finding the Extended Senses

Corpus data give a number of instances that show some senses resulted from the extension of the core meaning. The senses are mostly influenced by pragmatic thoughts and the lexemes surrounding them. In spite of that, the meaning of each instance is derived from the schema *higher than with remoteness.*

a. Beyond Sense (More than in Quantity)

All of the scenes below present the schema of something that transcends the limit. The situation in 17 exhibits the limited capacity of *I*. Therefore, the subject *I* does not want to bring anything beyond his power. If it is the case, it will not be carried by *I*. Meanwhile, on the scene 18 and 20, *fawqa* shows the meaning of more than, since the increase of point is more than the price of the day.

17. /likay la: ahmilu *fawqa* tha:qatiy/ **'so i do not carry it <u>over</u> my capacity'** (beyon sense).

18. /wa hiya ziya:dah thafi:fah *fawqa* si'ril bay'i/ 'it is a minor accretion *over* selling price' (more than sense).

The limit of capacity and the price at that day are ground elements or landmark (represented as a bold sphere in the configuration picture), while carrying something and the minor accretion are the focus elements (represented as rectangular), which are located beyond the limit of dotted line as presented in Figure 2a and 2b. Figure 2a vertically depicts something over the limit, and in the same time, we are able to notice the configuration of *higher than* schema.

19. /... min khomsi sanawa:t fama: *fawqa*haa/ '...since 5 years ago and *so on'* (so on sense).

20. /wa qafazat as'a:ru kha:mburnat *fawqa* du:laran/ 'the khamburnet's prices jump *over* dolar' (more than sense).

21. /la:kinnal musyajji'in qafazu: *fawqa*l hawa:jizil amniyyati/ 'but the brave men jumped over the security barrier' (A-B-C trajectory sense).

The example of 19 presents the *so on* sense, but essentially *fawqa* in this scene exhibits the *more than limit* situation. The limit of this instance is 5 years ago. Then, everything after 5 years ago includes this situation. If the 5 years ago started at 1900, it would go continuously. We think the core meaning of *fawqa* covers this sense.
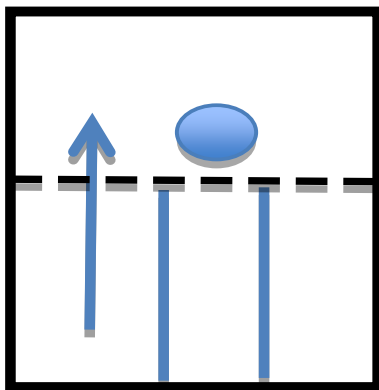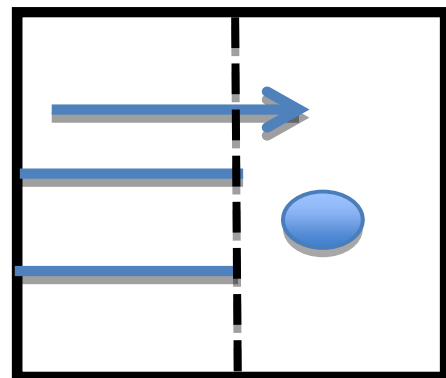

Figure 2a. beyond sense vertically.   Figure 2b. beyond sense horizontally.

b. Preference Sense (The Most Important Sense, the One and only Sense)

Fawqa has another extended meaning, that is preference sense that consists of two other senses, which are *the most important* and *the one and only* senses. If we observe both of them more sharply, we can see that they are in the one frame of paradigm. For example, when we have the one and only one son or daughter, he or she will become the important person in our life. Then, we always prefer to perfectly do anything to care for her/him than other. The below examples represent the extended meanings.

22. /wa an taku:na maslahatal baladi _fawqa_ kulli syay-in/ 'the virtues of country should be _over_ anything' (the most important sense).

23. /u:shi:kum bi taqwallah _fawqa_ kulli syay-in, tsumma hubbul wathan/ 'i advice you all to committee allah _before_ everything, then loving your homeland' (preference sense).

24. /'ala an yaku:na syi'a:ruhum "misr fawqal jami:'"/ ..the motto must be misr is _on top_ of everything' (the one and only sense).
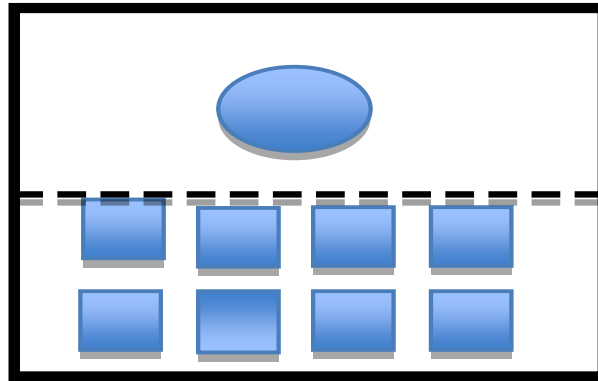
Figure 3. The Configuration of the Preference Sense.

The configuration explains that there are many things under the dotted line (border line). All of them are not chosen, since the choice falls to the great one over them. Thereby, the TR is located higher than other because it is the premier one.

c. Responsible Sense

We find this sense in one instance of the corpus. The phrase _the intelligence on their back_ means that they have the intelligence, and they try to be responsible of what they have. As a form of their responsibility, they are always together with their intelligence because the intelligence always on their back. The phrase does not state that the intelligence is in their mind or brain because the intelligence needs to manifest in action; it is not merely about thinking.

25. /... asna-a himlihim li-ikya:si _fawqa_ zhuhu:rihim/ '..while they bring the intelligence _on_ their back'.

The configuration of this sense is similar to protoscene, but the proximity is in abstract domain because the intelligence is not the physical object and the back is the depiction of something that is carried.

d. Covering Sense

The last extended sense of _fawqa_ is equal to an extended sense of over in English. When the TR is located over the LM, it means that the TR covers a part side of the LM. Moreover, if the volume and size of TR are large, the TR will cover almost all the surface part of the LM as the scenes presented below. In these examples below, we take three instances, which display the covering sense.

26. /ma: za:la 'amu:dud dukha:n al katsi:f yartafi'u *fawqa* mustawda'il waqu:d/ 'the thick smoke goes up <u>above</u> the fuel factory'.
27. /..wa 'an tafri:ghil waqu:d fawqal bahri/ '...and cleaning the fuel <u>over</u> the sea'.
28. /... almatha:ru was saha:bu al mutana:syiratu *fawqa* jiba:lil mantiqati/ '... the rain, and the spread cloud are <u>over</u> the mount at the city'.
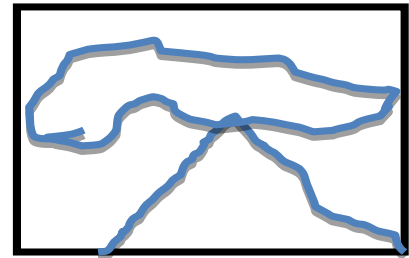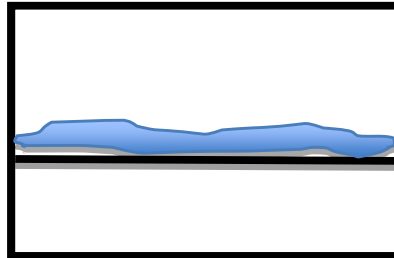

Figure 4a. The Configuration for 26. (Source: tribunnews.com).

Figure 4b. The Configuration for 27.

Figure 4c. The Configuration for 28.

3.4 Semantic Network of *Fawqa*

Below is the diagram that illustrates the semantic network of Arabic spatial noun *fawqa*. The explanation of each sense has been presented in the sections before.
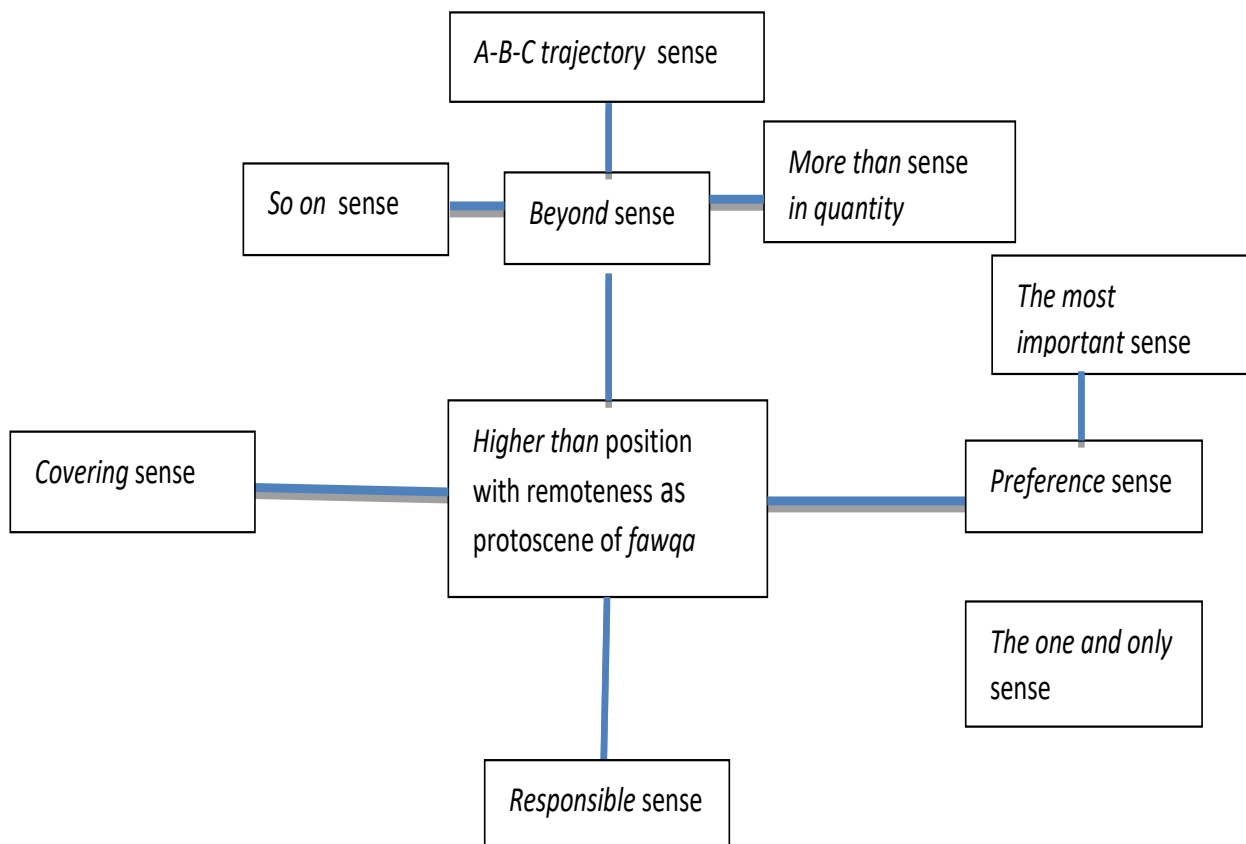

Figure 5. Semantic Network of *Fawqa*.

4. CONCLUSION

Using the sample of *fawqa* that was retrieved from a number of randomly chosen texts from the Arabic corpus database, the findings of the study show that the spatial noun *fawqa* is not merely a lexical-syntactic phenomenon but it is also a cognitive phenomenon. The result of the research finds the primary sense of *fawqa*, which **is higher than** with remoteness, and classifies the extended senses into four main senses, i.e. *responsible* sense, *preference* sense, *beyond* sense, and *covering* sense (look at semantic network of *fawqa* in 3.4). In searching for the primary and extended sense of *fawqa* by using the PPM, we use the embodiment concept to locate the right sense of the preposition. This embodiment approach takes the spatial noun fawqa from the mere grammatical function of locating objects within the spectrum of space and time to a linguistic concept, which scaffolds a large number of abstract concepts, states, events and attributes.

However, the findings of the present study are only based on lexeme *fawqa* without relating it to the verbs surrounding it. In Arabic grammar, there are spatial prepositions and spatial nouns that reveal the fixed relation to the verb. Therefore, further studies must be suggested for unveiling the semantic potentials of the *fawqa* in relation to its verb that collocates with it.

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