Prepositions in MSA and English*

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Abstract

Spatial scenes are identical in the world languages. However, cultures may diverge in profiling spatial scenes (Levinson 2003). This paper selects for study the prepositions *in* and *on* in English and their Modern Standard Arabic (MSA) counterparts *fi* and *3ala*, arguing that MSA and English seem to diverge in the spatial configurations and meanings of these prepositions. The sub-schemas of CONTAINMENT (in-ness) in MSA are found to partially overlap with those of English, with the other sub-schemas being taken care of by SUPPORT (on-ness) and PUNCTUALITY (point-ness). Such differences classify MSA more as a CONTAINMENT-based language than English, which seems to prefer SUPPORT and PUNCTUALITY. However, English and MSA seem to converge in their metaphoric conceptualizations of states owing to conceptual embodiment (Lakoff 1987). The article discusses the implications of such findings for spatial cognition and cultural cognition and EFL/ESL writing and translating.

1 Introduction

Spatial cognition is about how the human mind profiles and conceptualizes relations between objects in physical and non-physical spaces. Since spatial cognition is inaccessible to the naked eye, the linguistic representation of space is often the window into the human cognition. However, such a representation has been shown to be far from universal (Levinson 2003). Haun et al. (2011: 71) went even further, arguing that "language differences imply cognitive differences."

Spatial representation (Jackendoff/Landu 1995: 99) is profiled with a locative/spatial preposition, linking Figure (F) and Ground (G)[1], with F as an entity located in the region of space called G. For instance, in *the cat is on the mat* in English and its equivalent in Modern Standard Arabic (MSA), *alqittu fawqa a-ssajaadi*, the cat is F, the mat is G, and the relationship is SUPPORT of F by G or CONTACT of F with G. In such a case, F in English and MSA entertains the same relation of SUPPORT/CONTACT with G. However, languages and cultures may express spatial relations in language differently. For instance, while MSA uses CONTAINMENT to conceptualize the relation between *xatim* ('a ring') and *isbu3* '(a finger') through the preposition *fi* ('in') in *xatimum fi isbi3i-ha* ('a ring in her finger'), English profiles such a relation as *ring on finger* (Bowerman 1996: 154) in terms of SUPPORT.

* I am grateful to the research centre at the College of Languages and Translation, King Saud University, for their support and funding. I am also grateful to the Deanship of Scientific Research for their support.

[1] Langacker (1987) uses Trajector and Landmark while Lindstromberg (2010) uses Subject and Landmark for Figure and Ground (Talmy, 2000) adopted in this article.

However, it seems that the expression of the relation between F and G in abstract states is spatialized through the spatialization-of-form hypothesis (Lakoff 1987) indiscriminately either as CONTAINMENT and SUPPORT in both MSA and English. For instance, the state of exile is conceptualized both in MSA and English in terms of CONTAINMENT as in *fulanun fi-l manfa* ('someone in the exile') and *someone is in exile*, respectively. On the other hand, other states in both MSA and English are conceptualized in terms of SUPPORT as *3ala ?a3sabi* ('on my nerves') and its English counterpart *on edge*.

This mismatch in the behavior of F vis-à-vis G as reflected in the conceptualization of physical space in MSA and English, versus identity in the conceptualization of states in MSA and English, is certainly not owed to the geometry or function of F vis-à-vis G. It seems that in the Anglo-American culture high concavity is an important factor that may determine the way spatial scenes are profiled. For instance, with the concepts of *classroom*, *bus*, and *college* in English, *in* is more readily used with *classroom*, *on* with *bus*, and *at* with *college*. A *classroom* is profiled as a CONTAINER while a *bus* is profiled as providing SUPPORT for passengers. On the other hand, a *college* is neither perceived as a CONTAINER nor as SUPPORT for students but as an encounter point for them or simply a point in space, which I tentatively call PUNCTUALITY. A classroom satisfies all the features of being a CONTAINER; its concavity seems to entitle it to CONTAINMENT even though it is not just concavity that is facilitating the choice of CONTAINMENT in English and other languages and cultures. In the case of *on the bus*, it seems that even though a bus has all the features of a container, its high concavity, which normally entitles it to be a potential container, is overridden by the low concavity provided by the flatness of its floor. In this perception, the bus is profiled more saliently as SUPPORT for passengers rather than a container for them even though it actually contains them physically when they are being transported. In the case of *at the college*, however, even though, like classroom and bus, *college* also has all the features of a container, its high concavity has been overridden by PUNCTUALITY. Thus, it seems that in English concavity may be variously conceptualized as CONTAINMENT, SUPPORT, or PUNCTUALITY. Since it is in some cases overridden by other physical factors in English, concavity is not an exclusive measure of CONTAINMENT, which means that factors other than concavity may explain the choice of prepositions. The SUPPORT profile of *bus* is motivated by the saliency of the flooring as a support to the passengers' body (when seated) or feet (when standing up). However, profiling *college* as PUNCTUALITY is motivated by the fact that college may be considered as a super-ordinate category while its own constituent parts (such as a department, a classroom, an office, etc.) are basic categories. Since most super-ordinate categories are abstract, *college* acquires this punctual dimension in space.

However, in MSA high concavity and even some cases of low concavity may correlate with CONTAINMENT. If the same concepts of *classroom*, *bus*, and *college* are kept, the preposition *fi* ('in') is used with all of them: *fi qa3ati ad-darsi* ('in the classroom'), *fi-l Hafilati* ('in the bus'), and *fi-l kulliyati* ('in the college'). *Haql* ('a field'), which is a case of low concavity, also receives the same treatment as CONTAINMENT in MSA, i.e. *fi-l Haqli* ('in the field'). Thus, high concavity in English seems to correlate not only with CONTAINMENT but also with SUPPORT and PUNCTUALITY, and low concavity correlates predominantly with SUPPORT, which may not battle in favor of considering English as a CONTAINMENT-

based language. However, high concavity and many cases of low concavity in MSA seem to produce CONTAINMENT, which may support the hypothesis that MSA is a CONTAINMENT-based language. To say that English is not a predominantly CONTAINMENT-based language presupposes that it shows more than MSA skewing between concavity and CONTAINMENT, which produces correlations between concavity on the one hand and SUPPORT and PUNCTUALITY on the other. In short, above concavity spatial representation seems to be monitored by "functional relations" between F and G (Coventry et al. 1994: 290).

This paper addresses physical and non-physical relations between F and G as mediated by the prepositions *in* and *on* in English and their MSA counterparts, *fi* and *3ala/fawqa*). The article is structured as follows. The first section addresses spatial representations in English. The second spells out spatial representations in MSA. The third deals with the metaphoric conceptualization of states in English and MSA, arguing that both languages show matching patterns of CONTAINMENT and SUPPORT owing to the embodiment of the mind. The fourth is a discussion of the theoretical and practical issues related to the differences between physical and non-physical scenes in relation to profiling and conceptualizing spatial and non-spatial scenes in MSA and English. The last section addresses in the form of recommendations some of the implications of the insights of a cognitive approach to spatial and metaphoric scenes for spatial cognition and EFL/ESL writing and translating.

2 Spatial representation in English

Studies on spatial cognition across languages and cultures abound **(**Landau/Jackendoff 1993; Bowerman 1996; Levinson 1996, 2006; Feist/Gentner 2003; Munnich/Landau/Dosher 2001). Feist (2000: 3) argues that spatial scenes "exist objectively in the world, separate from linguistic conceptualization." Thus, we might speculate that if spatial scenes are objectively available to human perception without the medium of language and culture, and if spatial language is actually mapped on pre-linguistically learnt image schemas, then most, if not, all languages would and should conceptualize spatial scenes in the same fashion. However, as is clear in the case of the *ring* and the *finger* invoked earlier, Arabic and English do not seem to conceptualize spatial scenes in the same fashion.

On the other hand, Munnich et al. (2001: 204) argue that "the task of negotiating space is, after all, constrained by the physical space we live in, our perceptual capacities to detect spatial information, and common evolutionary demands." If we take the physical space as the sum of gravitation, cardinal directions, plains, mountains, and oceans, all physical spaces across the world are uniform. Moreover, if the conceptualization of spatial scenes depends on perceptual capacities, all human beings that suffer from no impairment of any kind have the same capacities to perceive spatial information in their environment. Furthermore, all humans show the same evolutionary demands. Thus, if physical space, perceptual capacities, and evolutionary demands are the same across humanity, why do different languages and cultures conceptualize spatial scenes differently? Surely, the reason is neither in the physical affordances of the environment, nor in human perceptual capacities, which are uniform in humans, but in cultural preferences in perceiving spatial scenes the way different cultures do.

2.1 Containment scenes in English

Landau and Jackendoff (1993: 229) capture relations in space through what they term "relative distance," which is spelled out as follows:

(1)

a. Location in the region interior to the reference object (*in, inside*);
b. Location in the region exterior to the reference object but in contact with it (*on, against*);
c. Location in the region proximate to the reference object (*near*);
d. Location distant from the reference object (*far* and perhaps *beyond*)

These F–G configurations are semantically known as CONTAINMENT, SUPPORT/CONTACT/ATTACHMENT, PROXIMITY/ADJACENCY, and SPATIAL REMOTENESS, respectively. This paper investigates (a) and (b) only.

Coventry et al. (1994: 290) argue that "functional relations underlie the meaning of the spatial prepositions *in, on*, and *at.*" For them, "functional relations have to do with how objects are interacting with each other, and what the functions of the objects are" (Coventry et al. 1994: 291). According to this view, if a given relation between F and G exists (say, CONTAINMENT), this relation is the same across languages and cultures if the same function holds between F and G., thus capturing the conceptual relation of CONTAINMENT as follows:

> First, this involves a functional relation, which we might call locational control, whereby the location of the ground controls the location of the figure. So if the container is moved, its contents should move with it, and in order to move the contents independently of the container, the control relation must be overcome, e.g. the contents would first need to be taken out of the container. But it also involves a spatial relation corresponding roughly to enclosure of figure by ground (Coventry et al. 1994: 291).

This definition of containment as "locational control" presupposes that all grounds should be movable as well as their figures. It is in the nature of figures to be smaller than grounds, which makes it difficult for some grounds to be moved. For instance, in "the students are in the classroom," it is impossible to move the container (i.e. the classroom), and since this cannot be done the contents cannot be moved even though they can move without it. Moreover, this definition seems to offer a restricted conception of containment as in when G is concave and F is inside it.

On the other hand, Levinson (1996: 187) argues that containment has "a topological flexibility of application" as in the following examples:

(2)

a. The peaches are in the can [enclosed]
b. *The peaches are in the bowl* [partially enclosed]
c. The dog is in the farm [bounded in two dimensions]
d. *The shuttle is in outer space* [unbounded][2]

It seems that the situation with CONTAINMENT in English is not as neat as described by Levinson. Along with *the dog is in the yard/in the garden*, which are spaces bounded in two

[2] The comments in square brackets are italicized in the original text.

dimensions, there are cases where the same flat spaces are considered as grounds providing SUPPORT for F rather than CONTAINMENT such as in (3) below:

(3) *The farmer is working on the farm*.

The G (the farm) in (3) is a flat surface like in (2c). However, (3) is a case of SUPPORT while (2c) is a case of CONTAINMENT. So, how is the profiling of *the farm* in (2c) as CONTAINMENT to be conciliated with its conceptualization as SUPPORT in (3)?

The answer may be sought in Feist (2000) and Feist and Gentner (2003), who argued that four factors may influence the use of *in* and *on* in English:

> We found evidence that the geometry of the Ground, functional information about the Ground, the animacy of the Ground, and the animacy of the Figure are all taken into account when choosing an appropriate preposition to apply to a scene. It appears that to appropriately capture the meanings of English spatial relational terms, one must incorporate the influences of multiple factors of spatial scenes (Feist/Gentner 2003: 6).

The two-dimensional bounded space in (2c) can to be explained by the geometry of G, which presupposes that F must be located inside G (i.e. being a dog F must be contained in the interior of G). However, (3), in spite of similar spatial conditions to (2c), cannot be accounted for by the geometry of G since F is conceptualized as being in contact with G (which, as a result, presupposes that G is not considered a container for F but as a supporting surface to F). In Feist and Gentner's (2003: 6) words, the F–G relation in (3) is conceptualized in terms of SUPPORT owing to "functional information about the Ground."

However, the animacy of F may be invoked as an influence for preposition selection. Consider the following examples:

(4)

(a) *The farmer is working on the farm*.
(b) *The car is in the farm*.

It seems that in (4a) the use of ON is motivated by the animacy of F (the farmer) and the functional characteristics of G (the farm). Farmers work ON the farm if they are doing farm work such as plowing fields, planting crops, pruning trees, etc. In (4b), however, the use of IN is motivated by the inanimate nature of F (the car). In (4a), G (the farm) provides SUPPORT for F (the farmer) in his farm work movements while in (4b) G (the farm) only provides CONTAINMENT for F (the car). It could be ventured that CONTAINMENT may disfavor movement and favor static postures while SUPPORT does not disfavor movement and dynamism, which may explain the use of *ON* with farmer and *IN* with car.

Thus, CONTAINMENT is one relation that may include bounded spaces, partially bounded, bounded in two dimensions, and may even include unbounded flat surfaces as Levinson argues. Such relations are diagrammed as follows:

Bounded Partially bounded two dimensional Unbounded

Figure 1: CONTAINMENT scenes in English

2.2. Support scenes in English

The foregoing discussion suggests that CONTAINMENT in English is motivated by both the nature of F and G. What is/are the motivation(s) for SUPPORT. Tyler and Evans (2003: 28) describe SUPPORT as follows:

> The conceptualization of this spatial scene[3] (which involves a primitive theory of the support relationship and its consequences) derives from basic human understanding of gravity, knowledge that certain surfaces can prevent an item such as a cup from falling to the ground, and an understanding of the physical properties of the entities involved (e.g., cups tend to be smaller than tables, cups tend to be made of relatively lightweight material so that they can be easily lifted by humans, tables tend to be made of materials which can support objects like cups, etc.).

Although *The cup is on the table* discussed by Tyler and Evans is a prototypical case of SUPPORT in English, it is not representative of all cases of SUPPORT in which G precludes F from falling from G to the ground. To "prevent an item such as a cup from falling to the ground" is a volitional operation which only animate beings can perform. What is actually at stake is the shape and size of G, i.e. its flatness, material consistency, balance, etc. rather than its volitional capacity to preclude things from falling on the ground. To adduce counterevidence to this explanation, (4a) may be invoked again to show that G (the farm) is not preventing F (the farmer) from falling on the ground. Clearly, we need a deeper understanding of the sub-schemas of SUPPORT in English.

The SUPPORT schema in English seems to be more complex than Tyler and Evans may think. Let us consider the following static spatial configurations taken from Bowerman (1996: 154):

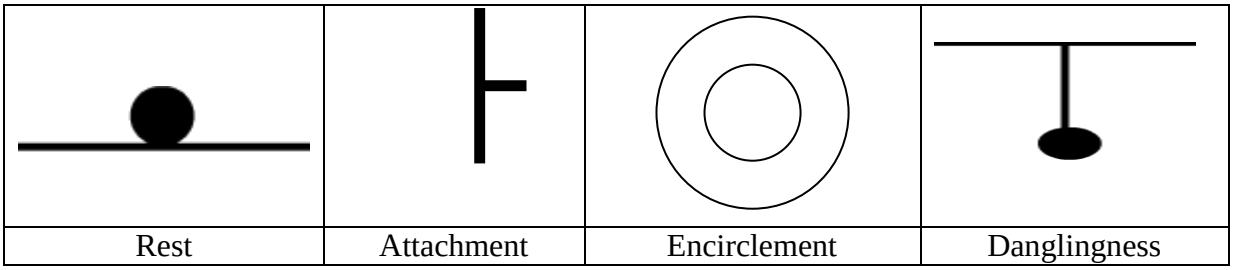
(5)

a. Cup on table
b. Handle on pan
c. Ring on finger
d. Picture on wall

Apart from (5a), in which G satisfies the conditions described in Tyler and Evans' definition of SUPPORT, whereby G provides horizontal support for F, the other examples in (5) above are not cases of SUPPORT in Tyler and Evans' favored sense. In (5b), the side of the pan seems to provide the handle with a point of Attachment, drawing an angular relation between

[3] The cup is on the table.

F and G rather than a horizontal one. In (5c), the kind of SUPPORT the finger actually provides for the ring is bizarre since it is actually the finger that is inside the ring, i.e. the ring is being "supported" by the finger in a relation of Encirclement. In (5d), the wall as a flat surface does not provide the same support as in (5a), which conceives of G as being horizontal in relation to F. In (5d), G is vertical, and provides support for F by enabling it to hang onto the wall, thus drawing a Danglingness relation with it. Thus, in English the SUPPORT schema should be differentiated into four sub-schemas that for lack of better concepts I give them the labels of Rest (5a), Attachment (5b), Encirclement (3c), and Danglingness (5d). these sub-schemas of SUPPORT scenes are diagrammed in the following fashion:



Rest	Attachment	Encirclement	Danglingness

Figure 2: SUPPORT scenes in English

To sum up, spatial configurations using *in* and *on* in English must show readiness and propensity for CONTAINMENT and SUPPORT, respectively. In general, CONTAINMENT and SUPPORT seem to depend on the geometry of concavity and flatness of G, respectively, even though this excludes linguistic data such as (2c) and (2d) given by Levinson (1996) above. However, concavity is not always CONTAINMENT, and flatness is not always SUPPORT in English. Therefore, concavity is not enough warranty for CONTAINMENT in the same sense that preventing from falling on the ground is not enough warranty for SUPPORT. Both CONTAINMENT and SUPPORT are not selected independently of the (in)animate nature of F and G.

3 Spatial representation in MSA

In order to account for spatial scenes in MSA, there is need to capture the nature of different potential grounds that admit profiling as containers and supports. In MSA, CONTAINMENT seems to overpower the simple concave shape of the G. For instance, alongside Gs that are concave and have the propensity to serve as actual containers, there are three-dimensional grounds that are not hollow but are regarded as containers. Such Gs include human body parts, objects in the world, and even substances and liquids. CONTAINMENT also seems to include three-dimensional entities such as flat surfaces, be they horizontal or vertical. The Gs that realize CONTAINMENT in MSA do not seem to be free from the influence of F. On the other hand, the grounds that admit *3ala/fawqa* (ON in English) seem to involve both actual support and lack of it. In other words, MSA conflates in *3ala/fawqa* ON, OVER, and ABOVE, thus subsuming REST and NONREST under one spatial relation (SUPPORT). Levinson (2003: 134) mentions that "Australian languages often conflate IN and UNDER, Japanese conflates ON and OVER," explaining that "in doing so they conflate into single lexical concepts only neighboring spatial relations." Thus, because it has fewer locative

prepositions[4] MSA seems to put straining demands on spatial cognition to express diverse F-G spatial relations.

3.1 Containment scenes

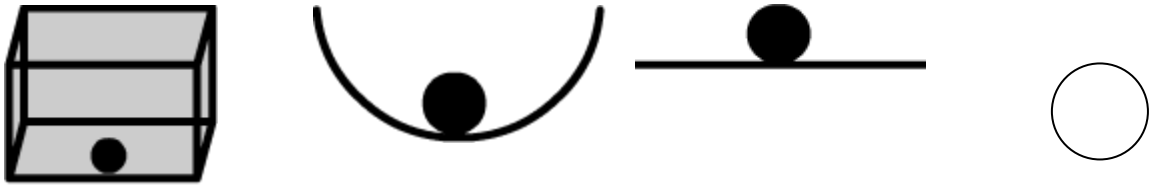
In spite of lack of quantitative and empirical studies of prepositions in MSA, *fi* ('in') seems to be more dominant than *3ala* ('on') as will be shown in the examples used in this study. Consider the following examples:

(7)

a.	maa?un	fi	qaaruratin
b.	water	in	a bottle
c.	qahwatun	fi	ka?sin
d.	coffee	in	a glass
e.	xarufun	fi-l	Hadiiqati
f.	a sheep	in the	garden
g.	3uSfurun	fi-s	samaa?i
h.	A bird	in the	sky
i.	miSmarun	fi-s	sabburati
j.	a nail	in the	board
k.	miSmarun	fi-s	saqfi
l.	a nail	in the	ceiling
m.	siwaarun	fi-l	yadi
n.	a bracelet	in the	hand
o.	Θurayya	fi-s	saqfi
p.	a chandelier	in the	ceiling

All the examples in (7a–e) are cases of CONTAINMENT. However, they can be demonstrated to show various sub-schemas. For instance, (7a) is a prototypical example of CONTAINMENT known as Enclosure, whereby the concavity of G (the bottle) allows F (water) to be fully enclosed. There also exist spatial scenes where enclosure can be partial (Partial Enclosure) as in (7b), where the glass is open on top since glasses are normally without a lid. Another kind of enclosure provides three-dimensional bounded spaces as in (7c), where, although G is not concave, it serves the function of enclosing F in a way different from enclosure in (7a) and (7b). The enclosure which is exemplified in (7d) offers a totally Unbounded Space, where G is lacking in concavity and differing from (7a–c) in the type of relation between F and G. Indeed, G in (7d) shows neither concavity as in (7a) nor flatness as in (7c). The conceptual metaphor that best captures these enclosure-based spatial scenes in MSA is the following: FULLY, PARTIALLY, THREE-DIMENSIONAL, BOUNDED, UNBOUNDED SPACES ARE CONTAINERS. The types of enclosures are schematically represented as follows:

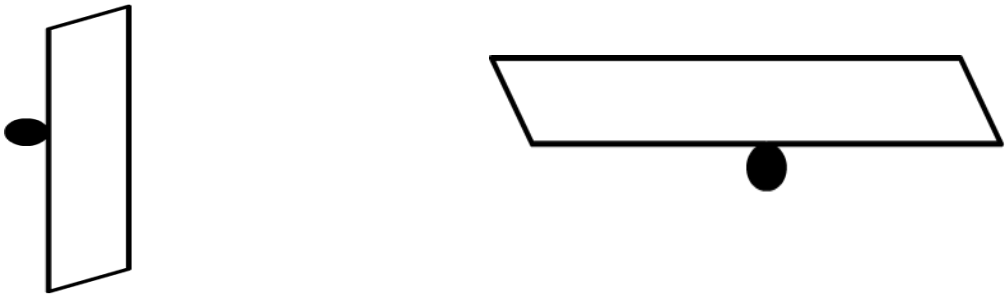
[4] MSA has fewer prepositions than English. Such prepositions include *fi* ('in'), *fawqa/3ala* ('on'), *taHta* ('under'), *min* ('from'), *ila* ('to'), *bi* ('by'), ma3a ('with'), etc.



(7a) (7b) (7c) (7d)

Figure 3: CONTAINMENT as Enclosure scenes in MSA

However, Enclosure is not the only dimension of CONTAINMENT in MSA. In examples (7e and 7f), G is a flat surface, thus showing no concavity at all. On the other hand, in (7e) G is a vertical flat surface while in (7f) G is a horizontal surface. Yet, this lack of concavity and the vertical and horizontal posture of these Gs do not seem to preclude them from qualifying as containers. Containment in these two examples depends on the features of F, whereby G is penetrated by F. Working with the Taizzi dialect of Yemen, Mohammed et al. (2012) argue that one of the uses of the preposition (fi) is that "the LM is situated horizontally above or under the TR" as in (7f) and (7c), respectively. It should be noted that if the Ground is horizontal here, obviously the Figure is situated vertically in relation to it. Thus, the sub-schema active in this kind of containment is Penetration, whereby F penetrates G, which is how it is contained by it. The conceptual metaphor that best captures these penetration-based spatial scenes is the following: FLAT, VERTICAL, HORIZONTAL SURFACES ARE CONTAINERS. This kind of CONTAINMENT is represented graphically as follows:

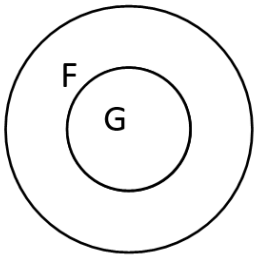


(7e) (7f)

Figure 4: CONTAINMENT as Penetration scenes in MSA

Apart from the Enclosure and Penetration sub-schemas, CONTAINMENT in MSA also shows another important sub-schema. Example (7g) above describes a spatial scene where neither the concavity nor flatness is relevant since the hand is a three-dimensional body part. Thus, unlike all cases of CONTAINMENT discussed so far in MSA, (7g) says what it does not do. Although it says that F (bracelet) is in G (hand), in actual fact it is not F that is inside G as the spatial scene below shows, but it is the other way round, i.e. the hand (i.e. G) is inside the bracelet (i.e. F). This notion of being "inside" is, however, not precise enough because F does not have any physical characteristic that qualifies it to be a container of any kind for G in this example. Therefore, the appropriate sub-schema of CONTAINMENT in this case is Encirclement, whereby it is F that encircles G. Like the examples of Penetration in (7e–f), it is the geometry of F which seems to determine Encirclement-bound CONTAINMENT. It should be noted that G here is not playing its function of containment as its shape does not allow it to do so. Instead, it has an inherent characteristic to be encircled.

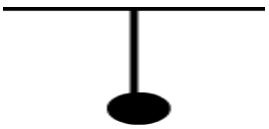
The conceptual metaphor that may capture this kind of containment is ENCIRCLEMENT IS CONTAINMENT.



(7g)

Figure 5: CONTAINMENT as Encirclement scenes in MSA

So far, CONTAINMENT in MSA has been demonstrated to offer sub-schemas such as Enclosure, Penetration, and Encirclement. Only with Enclosure has it been shown that the geometry of G is the factor that determines the spatial scene as a container. With Penetration and Encirclement, F has also been shown to play a decisive role in selecting CONTAINMENT for the spatial scene. However, these sub-schemas do not exhaust all types of CONTAINMENT in MSA. For instance, in (7h) F is a three-dimensional object while G is a horizontal flat surface. This spatial scene involves F with G neither in Enclosure, Penetration, nor Encirclement as the features of both F and G forbid such operations. The relation that links F with G in this scene is one in which G serves as a point of attachment to allow for F to be suspended in the air, which relation has been called Danglingness for lack of a better alternative. Again here, what allows Danglingness is not so much G as F. It is true that for something to be dangling there is need for gravitation, which is provided here by the horizontal stature of G (ceiling) the pointed nature of F (nail) that penetrates G (ceiling). Therefore, the horizontal and flat geometry of G (ceiling) in both (7f) and (7h), do not seem to preclude F from motivating the sub-schemas of Penetration and Danglingness. The conceptual metaphor that can be suggested for this kind of containment is DANGLINGNESS IS CONTAINMENT as diagrammed below:



(7h)

Figure 6: CONTAINMENT as Danglingness scenes in MSA

In sum, MSA seems to conflate all the sub-schemas of Enclosure, Penetration, Encirclement, and Danglingness under CONTAINMENT. Further, Enclosure seems to range from totally bounded spaces, partially bounded spaces, two-dimensional spaces, and even totally unbounded spaces to the extent that Enclosure has become a misnomer. As has been implicitly shown in this sub-section, the flexibility with which MSA profiles various sub-scenes of CONTAINMENT seems to owe much to the Arabs' cultural perception of space as something to be conquered, populated, and inhabited.

3.2. Support scenes

SUPPORT scenes in MSA use the prepositions *fawqa/3ala* ('on'), where sometimes SUPPORT means Rest i.e. contact between F and G as in (8a); some other times Non-Rest, i.e. lack of contact between F and G as in (8b).

(8)

a. kitaabun fawqa at-Tawilati
   a book on the table

b. Taa?iratun Hallaqat fawqa al-jabali
   a plane circled over the mountain

(8a) (8b)

Figure 7: SUPPORT scenes in MSA

MSA includes two sub-schemas under SUPPORT. In (8a), F is fully supported by G, which provides SUPPORT to the extent that F is gravitationally precluded from falling on the ground. In this case, both F and G are at rest or stationary. However, in (8b) G provides no such support to F, but serves as a spatial frame or "reference point" (Langacker 2000: 364) for F to perform the movement it does without being in contact with or supported by G. In the case of (8b), G is stationary while F is dynamic. With both contact and lack of contact sub-schemas, the geometry of G is the determinant factor in the pragmatics of the prepositions *fawqa/3ala* ('on') in MSA. In both cases it is general world knowledge about gravitation and flying that determine the pragmatic differences between (8a) and (8b). The polysemy of *fawqa/3ala* ('on') in Arabic has it that there is no relationship other than SUPPORT between F and G in (8a). As to (8b), for G (plane) to be on G (mountain) in MSA it cannot be in contact with it, otherwise it is not flying anymore. Such a distinction is resolved in English, which uses ON and OVER, respectively.

4 Metaphoric scenes

In the previous parts on spatial scenes in MSA and English, it has been evidenced that both languages and cultures show disparities in terms of which constructions with *fi* ('in') are rendered as *in*, *on*, and *at* constructions. How about metaphoric conceptualizations of spatial scenes with *fi* and *fawqa/3ala* in MSA and *in* and *on* in English?

Constructions with *fi* and *in* that include a metaphoric G create states such as *?ana fi ?azmatin* or *I am in a crisis*. In cognitive semantics, states are studied as part of what Lakoff and Johnson (1999) call the event-structure metaphor. Lakoff (1993: 220) argues that "states, changes, processes, actions, causes, purposes, and means, are characterized cognitively via metaphor in terms of space, motion, and force." The experiential motivation for this event-structure system comes from our familiarity with motion in space, where these metaphors "emerge from everyday bodily experience" (Lakoff/Johnson 1999: 171). Lakoff and Johnson (1999) argue that the event-structure system shows a duality of patterning captured in THE

LOCATION EVENT-STRUCTURE METAPHOR and THE OBJECT EVENT-STRUCTURE METAPHOR. According to this duality, *being in* and *having/possessing* a state are the rule, whereby being in a state is being caught in a bounded space or possessing the state as one possesses an object. For the purposes of the current article, STATES ARE POSSESSIONS will be ignored since they do not involve spatial scenes. THE LOCATION EVENT-STRUCTURE METAPHOR will be exemplified for English and MSA through:

(9)

a. He is in trouble.
b. Huwa fi ma?zaqin ('He is in trouble')

In both (9a) and (9b), the abstract concept, *trouble*, is conceptualized as a location, i.e., as a bounded region in space, which suggests the conceptual metaphor, STATES ARE LOCATIONS. The topology of a bounded region includes an interior, an exterior, and a boundary, which inferentially not only provides but also predicts other possible linguistic metaphors like *out of trouble/xaraja min al-ma?zaqi* ('he came out of trouble'), *in deep trouble/fi ma?zaq kbiir* ('in big trouble'), etc., and precludes the existence of certain linguistic expressions that do not conform to the image-schematic topology of containment governing the abstract concept, *trouble*, such as **to be on trouble, *to be above trouble,* or **to be under trouble*. Although MSA and English belong to different families of languages, namely, the Semitic and Germanic, respectively, both languages show compatibility of states as shown in (9) above. However, the conceptualization of states may vary between these two languages at the level of their cultural preference of a particular member of the duality Location-Possession. Such a compatibility between MSA and English regarding states is motivated by conceptual embodiment, which is part-and-parcel of a theory of human understanding, i.e., "indirect understanding via metaphor" (Lakoff/Johnson 1980: 178).

It seems, however, that STATES ARE LOCATIONS is not the only conceptual metaphor that governs states in English and MSA. Consider the following examples:

(10)

a. I am on edge.
b. 3ala ?a3sabi ('I am on my nerves')

The state of being nervous in both English and MSA in (10a–b) is conceptualized in SUPPORT terms, whereby F is metaphorically supported by G, providing it with a metaphoric location. In (10a–b), G (nerves) provides F (the speaker) with a metaphoric support region in metaphoric space, whereby F is profiled as supported by G as indicated by the preposition *on*/*3ala*.

4 Discussion

Evidence from language acquisition shows that *in* and *on* are acquired first (Mandler 2004: 250). One of the functions of these image-schemas is to "create the representational base onto which language can be mapped" (Mandler 2004: 118). Feist and Gentner (2003: 1) argue that "spatial relational terms are among the most difficult expressions to acquire when learning a second language."

Why is a particular scene conceptualized in terms of CONTAINMENT in MSA and in terms of SUPPORT in English? Both CONTAINMENT and SUPPORT are entrenched in the cognitive environment since they are the most prevalent categories in the socio-physical environment. Since CONTAINMENT and SUPPORT are equally entrenched, one expects CONTAINMENT to be about F as enclosed within G and SUPPORT to be about G serving as support to F in space. However, the situation does not seem to be as neat as this. There seems to be some form of skewing or mismatch between the property of CONTAINMENT and SUPPORT and their linguistic expression in conceptualizing spatial scenes. Thus, the predominance of CONTAINMENT or SUPPORT in conceptualizing these scenes does not seem to depend on the properties of the socio-physical environment alone, but also, more importantly, on how a culture profiles the spatial scenes. To illustrate this, consider how the following static spatial scenes in MSA are rendered in English:

	MSA scene	Literal translation	English scene
1	tuffaHatun fi Tasatin	'Apple in bowl'	Apple in a bowl
2	miSmarun fi-l Haa?iTi	'Nail in the wall'	Nail in the wall
3	xaatamun fi iSbi3in	'Ring in finger'	Ring on finger
4	Ɵurayya fi-s saqfi	'Chandelier in the ceiling'	Chandelier on the ceiling
5	Damidatun fi rijli-ha	'Bandaid in her foot'	Bandaid on her foot

Table 1: Correspondence of CONTAINMENT sub-schemas in MSA and English

Examples (1) and (2) in Table (1) above show CONTAINMENT in MSA and English as encoding the sub-schemas of Enclosure and Penetration, respectively, while examples (3), (4), and (5) profile Encirclement, Danglingness, and Attachment, which are conceptualized as SUPPORT in English and CONTAINMENT in MSA.

Figure (5) below shows sub-schemas CONTAINMENT in MSA and English. In the area of intersection between MSA and English, only Enclosure and Penetration are shared. However, on the leftmost side of Figure (5) Encirclement and Danglingness are two MSA-specific sub-schemas of CONTAINMENT. These two sub-schemas of CONTAINMENT in MSA are profiled as SUPPORT in English. Thus, CONTAINMENT in MSA, and by extension the preposition *fi* (in), seems to have a wider applicability than its English counterpart.

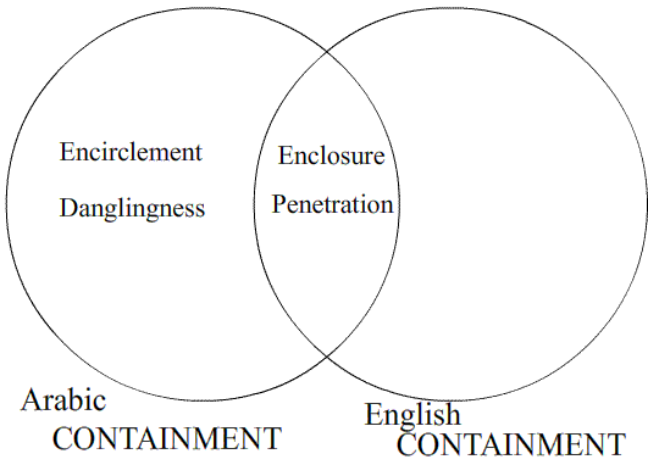


Figure 8: Intersection sub-schemas of containment in MSA and English

It should be noted that there are cases of Enclosed or partially Enclosed spaces in English that are neither cases of CONTAINMENT, nor SUPPORT (*on*). Such spaces include *school*, *college*, *university*, *supermarket*, *cafeteria*, *café*, etc. which may also use the preposition *at*. Consider the examples in the following Table:

	MSA configuration	Literal translation	English configuration
1	Omaru fi-l madrasati	Omar [is] in the school	Omar is at school
2	Omaru fi-l kulliyati	Omar [is] in the college	Omar is at college
3	Omaru fi-l jaamati	Omar [is] in the university	Omar is at the university
4	Omaru fi-l kafitiriya	Omar [is] in the cafeteria	Omar is in/at the cafeteria
5	Omaru fi-l maqha	Omar [is] in the café	Omar is in/at the *café*

Table 2: Correspondence of *fi* (*in*) in MSA and *at* in English

All the F–G spatial configurations in Table 2 above are profiled in terms of CONTAINMENT in MSA. In English, however, all of them are profiled in terms of PUNCTUALITY (*at*). Landau and Jackendoff (1993: 227) argue that for F to be at G, G must be "bounded in extent". In this connection, MSA does not discriminate between spaces that are bounded and spaces that are bounded in extent, thus indiscriminately lumping all of them under CONTAINMENT.

Like CONTAINMENT, SUPPORT seems to show some form of skewing across MSA and English. For instance, examples (1) and (2) in Table (3) below are cases of SUPPORT in both MSA and English, profiling the Rest and Non-Rest sub-schemas, respectively. However, while MSA uses the same preposition *fawqa* ('on') to profile Rest and Non-Rest, English uses two different prepositions (*on* and *over*) to profile them. On the other hand, examples (3), (4), and (5) in Table (3) are cases of CONTAINMENT in MSA, profiling Encirclement, Danglingness and Attachment, respectively. However, such sub-schemas are conceptualized in English as SUPPORT as shown in the rightmost column in Table (3) below:

	MSA configuration	Literal translation	English configuration
1	qalamun fawqa at-Taawilati	Pen on the table	Pen on the table
2	Taa ?iratun fawqa l-jabali	Plane on the mountain	Plane over the mountain
3	xaatamun fi iSbi3in	Ring in a finger	Ring on finger
4	Ɵurayya fi-s saqfi	Chandelier in the ceiling	Chandelier on the ceiling
5	Damidatun fi rijli-ha	Bandaid in her foot	Bandaid on her foot

Table 3: Correspondence of SUPPORT sub-schemas in MSA and English

In the intersection area of Figure 6 below features the sub-schema of Rest, which is an uncontroversial area for MSA and English. However, both MSA and English include specific cases of SUPPORT, namely, Non-Rest for MSA and Encirclement, Danglingness, and Attachment for English. Using the same preposition *3ala/fawqa* ('on'), MSA makes use of the pragmatic context to disambiguate the difference between Rest and Non-Rest while English is more direct in profiling SUPPORT as Rest through *on* and Non-Rest through *over*. This is why Non-Rest is difficult to conceptualize through *over* for Arabs, who may think that Rest is a case SUPPORT and Non-Rest is not. On the other hand, English profiles the sub-schemas in the rightmost part of the Figure as SUPPORT. As seen previously in Table 1 and Figure 5 above, Encirclement, Danglingness, and Attachment are conceptualized as CONTAINMENT in MSA and SUPPORT in English. Such an overlap of MSA CONTAINMENT and English SUPPORT is a cause for concern among Arabs speaking English.

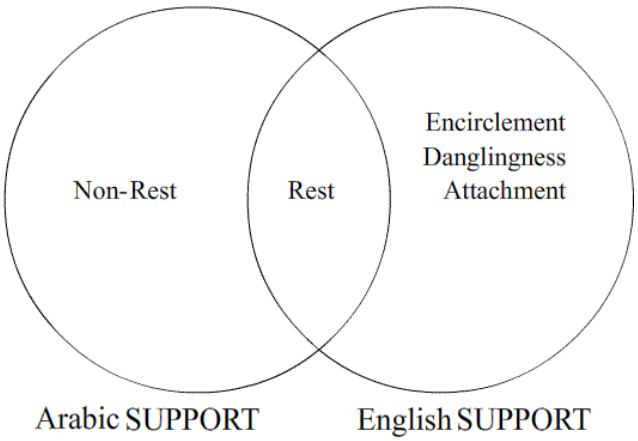


Figure 9: Sub-schemas of SUPPORT in MSA and English

5 Implications for Arab EFL/ESL students' writing and translating

So far, it has been evidenced from Section 2 and Section 3 above that spatial representations between MSA and English show more divergence than convergence while metaphoric conceptualizations of STATES AS CONTAINERS and STATES AS SUPPORTS show more convergence across the two languages and cultures for reasons having to do with cultural considerations in the case of the former and embodiment considerations in the case of the latter. The current part will use these results to, (i) discuss the findings for each language in relation to those of the other language, and (ii) offer recommendations for Arab EFL students' writing and translating based on the insights of cognitive linguistics. The question that this section seeks to answer is how the insights that have been developed in this article about the conceptualization of spatial and non-spatial scenes in MSA and English can be taken advantage of to changing learning patterns, thus equipping Arab EFL students with a systematic toolkit for writing and translating with special reference to mastering English prepositions by Arab EFL university students. But before that, a few ideas about how errors, in particular errors on prepositions, have been handled within the Arab learning context, are useful.

Kharma and Hajjaj (1989: 2) point out that part of the problem of Arabic speakers learning English can be explained by factors other than interference from MSA. What they had in mind was the quality of the teaching staff. Further explanations of inadequate EFL acquisition in the Arab world have focused on attitudes to language. Zughoul et al. (1986) and Zughoul (1986) argue that, because of their attachment to Classical Arabic as the language of the Koran, Arab students approach English study negatively by using English "instrumentally" rather than "integratively." However, as Zughoul et al. (1986: 74) rightly emphasize, it is not the case that the students are the only party to blame in the process of learning; the teaching policy and institution have a lot to do, arguing that "the effects of not adapting teaching strategies to students' needs and expectations can lead to serious implications in terms of what is perceived of as wasted efforts and useless activities." Another account of this failure is offered by Zughoul (1986: 16), who explains that, compared to literature, language and linguistics are understudied in English departments in third world universities, creating a situation where students are not equipped to cope with the demands of language on them.

Comparative studies of the conceptualization of spatial scenes through the prepositions in and on in English and their counterparts in MSA are scarce, with cognitive approaches even more scarce. Of more immediate relevance to prepositions, Tahaineh (2010: 99) classifies errors in the use of prepositions among Arab EFL university students as cases of substitution, addition, and omission, blaming them on two important strategies: overgeneralization from within the English code and transfer from the mother tongue. Tahaineh (2010: 99) rightly put his finger on two major difficulties for Arab students of English, one inherent in language itself and the other inherent in the learner's strategy of learning, namely: (1) An MSA preposition is equivalent to more than one English preposition, and (2) Interference from the native language which is related directly to the problem of literal translation from MSA into English. In the second point, Tahaineh is simply echoing Lado's (1957: 2) contention that "individuals tend to transfer the forms and meanings, and the distribution of forms and meanings of their native language and culture - both productively when attempting to speak the language and to act in the culture, and respectively when attempting to grasp and understand the language and the culture as practiced by natives." However, like in many studies about students' errors in the Arab context, Tahaineh did not seek to understand why Arab students have these problems. All Tahaineh (2010: 99) suggested to remedy this situation is "more exposure to the language through reading and listening."

Working within a cognitive semantic framework on Iraqi students studying in Malaysia, Ho-Abdullah and Hasan (2009) argued that they translate the English preposition *in* according to same domain mapping (SDM), different domain mapping (DDM), and zero domain mapping (ZDM). Since these students were working from English into Arabic, their Arabic productions seem to be in line with Arabic grammar and idioms. Although such a proposal is valid, it does not tell us how a particular scenario is adopted for each occurrence of *in*. Furthermore, it does not tell us about Arab EFL/ESL university students' linguistic behavior when writing in English or translating from Arabic into English. Although they amply documented the spatial and non-spatial meanings of this preposition, the authors stopped short of providing an explanation as to why the two languages and cultures offer different conceptualizations of these spatial and non-spatial scenes. On the other hand, Mohammed et al. (2012) argued that CONTAINMENT with *in* in MSA is sensitive to the vertical and horizontal axes. In contrast, a study by Maalej (s. a.) deals with the cognitive motivations of IN and ON in Arabic and English, which makes it closer in approach to the material and line of thought developed in this article.

To close this section, a few recommendations for teaching prepositions as part of EFL/ESL language acquisition will be formulated:

1. As stated earlier on, physical spatial scenes tend to pose more problems to Arab EFL students than metaphoric spatial scenes that have been exemplified through states in MSA and English. There are cases where MSA and English show compatible spatial F-G configurations across CONTAINMENT and SUPPORT. However, spatial scenes are dealt with differently by MSA and English cognitions since, although spatial categories are universal, not all of them yield universal spatial F–G configurations. For that, Arab EFL students should be directed to learn why different languages and cultures tend to conceptualize spatial scenes differently. This question is raised and partly answered within cognitive linguistics, invoking the interaction between the

symbolic dimension of language and the role of the socio-cultural context, which made it possible to talk about "linguistic relativity" (Levinson 1996).

2. The cognitive semantic view of teaching prepositions (Boers/Demecheleer 1998) should be appealed to in order to isolate the different schemas underlying CONTAINMENT and SUPPORT in MSA and English, using corpora for data collection and analysis. The different schemas for CONTAINMENT and SUPPORT should be analyzed and compared/contrasted across MSA and English for generalizations to be made and areas of difficulties to be determined and solutions for them to be sought. This exercise which consists in searching for schemas should prove more valuable than drilling students for the various collocations since it will verge on isolating a finite set of rules or generalizations for basic schemas that govern the use of the prepositions *in* and *on* across MSA and English, while drilling with the purpose of students' retaining the environments in which these prepositions may occur is a huge task to undertake, memory-straining, and with no real guarantee of learning outcomes.
3. As part of the pervasiveness of metaphor in all walks of life (Lakoff/Johnson 1980), students should be made aware of the existence of constructions using prepositions that may be either non-metaphoric or metaphoric. Students' attention should be drawn to the fact that spatial meanings as encoded by prepositions are more subject to divergence across languages than non-spatial meanings. Students should also be made aware of the cultural differences between MSA and English in representing space. However, students should be made aware of the convergence of non-spatial meanings across MSA and English, since these meanings are governed by embodied cognition (Lakoff/Johnson 1999), which is universal.
4. Cognitive linguistics can tell us in connection with *in* and *on* across MSA and English not only about how to write metaphorically in one language or translate a metaphor from one language into another, but also the fact that states are conceptualized as STATES ARE CONTAINERS, which gives us predictive power since we have knowledge of the topology of containers, making certain constructions even in languages that we do not know impossible to produce.
5. In connection with writing or translating by Arab EFL students, the insights of cognitive linguistics can be taken advantage of. As expounded earlier in the article, states across MSA and English are governed by the conceptual metaphor, THE LOCATION EVENT-STRUCTURE METAPHOR, which has been captured in STATES ARE CONTAINERS (Lakoff/Johnson 1999) and STATES ARE SUPPORTS. Lakoff and Johnson (1999: 149) found that there is a "duality of patterning," which is the possibility for languages to conceptualize their events either under THE LOCATION EVENT-STRUCTURE METAPHOR or under THE OBJECT EVENT-STRUCTURE METAPHOR, whereby STATES ARE POSSESSIONS. This has not been dealt with because the linguistic metaphors that realize STATES ARE POSSESSIONS do not take a preposition altogether such as "I have a headache."

Thus, if students' awareness about these differences is raised, the beginning of a solution can be attained. In other words, what is needed is an exercise in comparative spatial cognition. Once this knowledge about each culture's rationale of spatial cognition is acquired and entrenched, most of the difficulties would progressively disappear. The role of drilling may come in here for students' knowledge to be reinforced and entrenched. Every use of a structure has a positive impact on its degree of entrenchment, whereas extended periods of disuse have a negative impact (Langacker 1987: 59). But it is a different kind of drilling from the one being practiced in Arab universities. It is drilling of very few concepts such schemas, sub-schemas, semantically autonomous concepts, semantically non-autonomous concepts, etc.

6 Conclusion

This article has tried to defend the view that there may exist CONTAINMENT-oriented languages and SUPPORT-oriented languages. The main argument has been that MSA is an *inness*-oriented language, i.e. Arabs have a spatial cognition that is predominantly CONTAINMENT-based while English is an *onness*-oriented language, i.e. the English have a spatial cognition that is predominantly SUPPORT/CONTACT/ATTACHMENT-based. This predominance of either of the two spatial configurations in one language can be shown to be characterized by a diversity of sub-schemas of CONTAINMENT in MSA, thus accommodating the majority of spatial scenes in MSA while SUPPORT includes fewer sub-schemas. However, English shows a diversity of SUPPORT sub-schemas (on, at, over, above, etc.) that accommodate many spatial configurations in the language and culture while fewer sub-schemas find themselves grouped under CONTAINMENT. This preference claim for CONTAINMENT in MSA and SUPPORT in English should not be thought of as an either-or matter, but rather a cognitive dominance that needs to be further investigated and confirmed or disconfirmed through corpus study of this phenomenon in MSA and English.

It may seem paradoxical to argue that English and MSA show differences in profiling their spatial scenes in spite of the similarities that cultures show, especially the fact that all cultures include objects that people locate in space. As Lakoff (1987: 51) argues, categories are "human-sized," i.e., "they depend not on objects themselves, independent of people, but on the way people interact with objects: the way they perceive them, image them, organize information about them, and behave toward them with their bodies." This at least partly explains why spatial scenes are represented differently in various languages and cultures in spite of the ubiquity and similarity of F and G across languages and cultures.

Cognition is often dissected into various kinds of sub-cognitions such as social cognition, spatial cognition, cultural cognition, etc. D'andrade (1981: 180) calls "the pool of cultural information" the cultural part of cognition. Sharifian (2011: 35) calls such a pool "cultural conceptualizations" that build into a "cultural cognition." On the other hand, Tomasello (1999: 8) suggests that human cognition owes its existence to culture. According to him, "growing up in a cultural world (…) actually serves to create some unique forms of cognitive representation." To link up with spatial cognition, cultural cognition seems to be proactive when it comes to the cognitive representation of spatial scenes in both MSA and English. The outcome is that the cognitive representation of F–G spatial scenes shows divergence in both languages and cultures. But spatial cognition is overpowered by cultural cognition, which suggests that they stand in a hierarchical relation with each other in human cognition, with the

cultural part of cognition having the upper hand over the spatial one. However, in the cognitive representation of metaphoric spatial scenes (states, here) what seems to be at work is embodied human cognition, which converges across cultures in the human minds.

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