DIMENSIONS OF COUPLING SOURCE AND TARGET DOMAINS IN MULTIMODALITY-BASED AND ORIENTATIONAL METAPHORS

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ABSTRACT

Embodied Metaphor Theory (EMT) resides in the premise that source and target domains become coupled in our conceptual system inasmuch as we don't reason about the target without our understanding of the source domain (e.g. Lakoff and Johnson 1980). However, there has been no study to explore the dimensions of this coupling process in different types of conceptual metaphor. This paper is based on an experiment wherein 30 subjects are required to draw conceptual mappings across the domains Life and Journey (multimodality-based metaphor) and across Verticality and Quantity (orientational metaphor). Our main goal is to assess whether these participants can draw conceptual mappings across these phenomena without being told the underlying metaphor in each case.

Keywords: metaphor, multimodality, coupling process, affordance-deliberateness, salience.

RESUMEN

La teoría de la metáfora conceptual reside en el hecho de que los campos meta y origen están emparejados en nuestro sistema conceptual de manera que no podemos razonar sobre el campo meta sin el entendimiento del campo origen (e.g.Lakoff and Johnson 1980). Sin embargo, no ha habido ningún estudio para explorar las dimensiones del proceso de emparejar dichos fenómenos en diferentes tipos de metáfora conceptual. Se realizó un experimento en el cual treinta participantes[1] intentaron construir correspondencias conceptuales entre los campos Vida y Viaje (metáfora multimodal) y entre Cantidad y Verticalidad (metáfora de orientación). Nuestro objetivo es el de verificar si los participantes pueden construir las correspondencias conceptuales en cada caso, sin haberles indicado la metáfora conceptual en cuestión.

Palabras clave: metáfora, multimodalidad, proceso de emparejar dominios, prominencia.

1. INTRODUCTION

EMT resides in the following premises: first; in conceptual metaphor there is a one-way-meaning transfer across phenomena—from more concrete onto more abstract domains. Second, we do not understand abstract domains except through metaphorical mappings—i.e. through other domains. And third, such domains become coupled in our reasoning system inasmuch as we do not reason about the target without our understanding of the source domain (e.g. Lakoff and Johnson 1980; Ruiz de Mendoza 2011). A case in point is the conceptual metaphor in which the domains Quantity and Verticality are coupled: More Is Up/Less Is Down. Furthermore, this coupling process also characterizes more complex metaphorical mappings such as those that give rise to Morality Is Verticality (e.g. Lakoff 2002).

Yet, there has been no contrastive study on the dimensions of the coupling process between source and target domains in different types of metaphorical mapping. Such study may yield further empirical evidence that may substantiate a theory that potentially identify different coupling processes of source and target domains in different types of metaphors.

As an initial step towards pursuing this goal, we propose an experiment to analyze and assess whether source and target domains in multimodality-based and orientational metaphors are coupled in our conceptual system. In order to carry out this study, first, we need to define orientational and multimodality-based metaphors.

Following Lakoff and Johnson, orientational metaphors are grounded in physical experience and draw on spatial orientation such as 'up-down, in-out, front-back, on-off, deep-shallow, central-peripheral' (1980/2003:15).

Though EMT has put major emphasis on the linguistic manifestation of conceptual metaphor, Forceville argues that it may stand on different modalities (1996/2009). Furthermore, based on its mapping typologies, conceptual metaphor may incorporate different mechanisms to map source and target domains (Boieblan 2014:286).

Taken together, these findings may suggest that source and target domains in multimodality-based and orientational metaphors are coupled differently and processing their meaning may vary too. In the

present research we are going to explore dimensions of the coupling process in two metaphors: LIFE IS A JOURNEY (multimodality-based metaphor) and quantity is verticality (orientational metaphor). We hypothesize that if the domains Life and Journey and Quantity and Verticality are conceptually coupled, showing subjects linguistic and visual manifestations of such domains would enable them to retrieve the necessary information and draw potentially conceptual mappings across these phenomena.

2. METHOD

After having been instructed on EMT, 30 subjects were exposed to the domains of two metaphors, LIFE IS A JOURNEY (multimodality-based metaphor) and QUANTITY IS VERTICALITY (orientational metaphor). Notice that in order not to reveal the underlying conceptual metaphor, the domains were separately shown to the participants. Furthermore, the constituents of each domain had been chosen on the basis of the *salience* principle (Giora 2003) when such domains are mapped onto each other. For instance, for the domain Life, we included pictures denoting the process of *aging* (see Figure 1), and for the domain Journey, we presented pictures that instantiate the salient meaning of this domain when it is mapped onto Life (see Figure 2).



Figure1 Target domain Life.



Figure. 2 Source domain Journey.

In the case of orientational metaphor, we exploited the visual modality to instantiate the domains Quantity and Verticality (Figure 3).

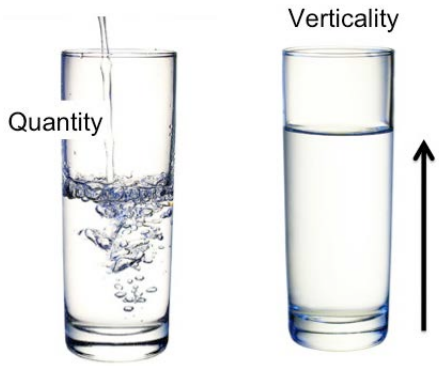

Figure.3 Source and target domains Quantity and Verticality.

These participants had 5 minutes in each case to draw conceptual mappings across these domains. Our purpose was to test whether these phenomena are coupled in the conceptual system of the participants. If so, this situation would enable the retrieval of the underlying conceptual mappings in each case.

3. FINDINGS

Participants in the present research were not able to draw any conceptual mapping across the domains Life and Journey. Recall that these domains were presented to these subjects in linguistic[2] and visual modalities. Only when they were exposed to linguistic

manifestations of LIFE IS A JOURNEY such as: *After University, I was at a crossroads, and I didn't know which way to go*, and *You have to move on and forget about what has happened etc.* that they were able to draw the underlying conceptual mapping.

In contrast, these participants were able to draw the underlying conceptual mapping across the domains Quantity and Verticality. It is worth noting here that these two domains were presented to the participants via the visual modality.

4. DISCUSSION

With a view to verify our initial hypotheses whether the domains Life and Journey, on the one hand, and Quantity and Verticality, on the other, are coupled differently, and whether these metaphors are processed differently, our discussion in the following sections will focus on two significant results: the ability to draw conceptual mappings across the domains Quantity and Verticality and the failure to do so in the case of Life and Journey. These findings are finally brought to bear on the theoretical claims of EMT in light of two operating mechanisms in conceptual metaphor: *affordance-deliberateness* and *salience*.

4.1. Cognitive affordance-deliberateness and conceptual mapping

The term *affordance* was proposed by Gibson (1966, 1979) to describe how an agent interacts with the environment. According to this author, an agent can interact with the environment through a wide range of actions. That is, when a subject is exposed to objects, the latter can decide which actions he or she can carry out to interact with such objects.

Another notion which is worth noting here in our discussion is the *deliberate* construction of conceptual mappings across phenomena in certain metaphor cases. This deliberate use in conceptual metaphor has been documented in Steen (2010:43-44), who argues that one of the aspects that distinguishes deliberate and non-deliberate metaphors is their underlying cognitive processing. He sustains that unlike non-deliberate metaphors, deliberate ones are by-default a comparison-based process because they require a more conscious mapping

between source and target domains. Accordingly, he (2010:43) ascertains that:

> "This [deliberate use of metaphor] typically occurs for all metaphors that are expressed directly, such as extended non-literal comparisons and similes. Indirect metaphors can also be used deliberately, but this does not occur very frequently".

Furthermore, Steen (2010:44) identifies two aspects in which metaphorical mapping should be looked at in terms of deliberateness: the use of metaphor and the construction of conceptual mappings (deliberate vs. non-deliberate).

Put differently, the above mentioned principles characterize the metaphor case where a subject can choose which experience to use to conceptualize a given phenomenon (see also, Boieblan 2014:279). We shall call this situation *cognitive affordance and deliberateness*.

Therefore, we take *affordance* and *deliberateness* as two interrelated principles. We shall argue that affordance is the case where we can consciously choose how and onto which we can map a given phenomenon.

From a cognitive point of view, this pattern also characterizes the multimodality-based metaphor explored in this study insomuch as these modalities can afford a wide range of conceptual mappings. Perhaps, this might have been the very reason why the participants in our experiment failed to draw any conceptual mapping in the case of multimodality-based metaphor when they were exposed to the domains Life and Journey via individual modes: vision and linguistic.

However, the principle of deliberateness can be traced at a different level in conceptual mappings. To illustrate, this principle can underlie the conceptual mapping which is not conventional. A case in point is Literary Metaphor (e.g. Lakoff and Turner 1989). This kind of metaphor needs the use of creativity to construct its mapping and to process its meaning. For instance, Juliet Is the Sun is not a conventional metaphor that can be drawn without certain creativity (e.g. see Boieblan 2014:277), therefore, it requires a deliberate cognitive process to map the two domains.

4.2 Salience principle and conceptual mapping

Following Giora (2003), the salient meaning of a domain is always activated first when processing the meaning of a conceptual metaphor. Furthermore, according to Boieblan (2014:227), drawing conceptual mapping across two phenomena does not concern a fixed set of components which is granted with certain prominence within a domain. That is, a given conceptual mapping does not become active whenever a given domain is mapped onto other domains. For the same token, the salient meaning of a given domain does not fall on the same semantic features whenever a domain is engaged in metaphorical mapping (see e.g. Boieblan 2014:227).

To illustrate, when we understand, for example, the domain Love in terms of Drug, Disease, Magic, etc. there is not a fixed set of semantic features that is ready to be mapped onto such domains. For instance, the principle of affordance-deliberateness principle operates in LOVE IS DRUGon two different levels. First, unlike QUANTITY IS VERTICALITY, *Love* and *Drug* do not become a unified experience in our conceptual system in that we can reason about Love without resorting to the domain Drug. Second, even when we choose to use the domain Drug, the mapping could differ depending on the semantic features we want to highlight. For instance, we could choose to reason about Love (in terms of Drug) that may yield an inhibitory effect on brain activities, or as an addictive Agent, etc.

Therefore, the conceptual mapping across source and target domains in the metaphor above is not inherent. Instead, a domain can have various salient meanings that can be activated based on the domain with which is coupled.

Perhaps, this situation could have played a decisive role in the experiment. That is, the ability to draw the underlying conceptual mapping across Verticality and Quantity may be due to the fact that the two domains include certain salient features that potentially trigger the retrieval of the necessary information and enable the construction of conceptual mappings. As seen before, the domains Quantity and Verticality become a unified experience in our conceptual system. Therefore, in this case the salient meaning of this conceptual metaphor was easily retrieved when the participants had access to its domains.

4.3 Dimensions of coupling process in conceptual metaphor

4.3.1 Coupling process of source and target domains in multimodality-based metaphor

Multimodality-based metaphor stands on phenomena that are rooted in different modes (Forceville 2006). In the experiment, in order to draw the corresponding conceptual mapping, the participants needed to retrieve the necessary information from visual and linguistic modes. Perhaps their failure to recruit such features in the case of multimodality-based metaphor and their ability to do so in the case of orientational metaphor are due to the fact that these metaphors require adopting a different cognitive process in each case. For instance, the principle of *affordance-deliberateness* may explain why participants were not able to gather the necessary semantic features from each mode to draw a potentially conceptual mapping.

The question to be addressed here is whether multimodality-based metaphor follows the same pattern. One way to answer this question is to argue that though LIFE IS A JOURNEY is a conventional metaphor, the participants failed retrieve the necessary information from each modality to draw the corresponding mapping because Life and Journey do not constitute a unified experience in our conceptual system. Therefore, we argue that this particular conceptual mapping (multimodality-based metaphor) requires the participants to use creativity to retrieve the necessary information and map the two domains.

Yet, they were able to construct the underlying conceptual mappings across Verticality and Quantity. Accordingly, we hypothesize that QUANTITY IS VERTICALITY and LIFE IS A JOURNEY are processed differently.

4.3.2 Coupling process in orientational metaphor

Orientational metaphor such as QUANTITY IS VERTICALITY does not allow affordance because their mapping is determined by the experiential world to the extent that a change in one of these phenomena leads to a change in the other. To illustrate, following Lakoff and Johnson (1980/2003:17), 'If you add more of a substance of physical objects to a container or pile, the level goes up'. That is, we cannot experience the increase of either domain without the increase of the other and vice versa. In this respect, the two

phenomena constitute a unified experience in our conceptual and experiential world. Accordingly, the fact that the participants in our experiment succeeded in drawing the underlying conceptual mapping across Verticality and Quantity is due to the experiential mapping that characterizes the two phenomena.

Therefore, unlike QUANTITY IS VERTICALITY (orientational metaphor), LIFE IS A JOURNEY (multimodality-based metaphor) does not prove that its domains are coupled in our conceptual system. A piece of evidence for this claim is the fact that when subjects were not able to draw the corresponding conceptual mapping when they were exposed to the domains of LIFE IS A JOURNEY. Hence, the two types of metaphor explored in the research are coupled and processed differently.

To sum up, LIFE IS A JOURNEY and QUANTITY IS VERTICALITY are rooted in different coupling processes. As shown before, these processes may have played a decisive role in the experiment in that the orientational metaphor QUANTITY IS VERTICALITY is coupled in our conceptual system and does not allow affordance since the conceptual mapping is determined by the experiential world. Furthermore, there is one single conceptual mapping across the two phenomena. In contrast, in the case of multimodality-based metaphor, the conceptual mapping across the domains Life and Journey is not confined to a particular experiential mapping.

As a result, subjects were not able to recruit the necessary information from the modalities they were exposed to, leading to their failure to identify LIFE IS A JOURNEY. Furthermore, as argued before, being unable to draw this conceptual mapping is due to the fact that Life and Journey are not coupled in our reasoning system. Unlike MORE IS UP/LESS IS DOWN, LIFE IS A JOURNEY is not a unified experience in our reasoning system.

5. CONCLUSION

From the discussion thus far in this chapter, it should be clear that source and target domains are differently coupled in multimodality-based and orientational metaphor. In the present research, we explored the dimensions of the coupling process of source and target domains in these types of metaphor. Accordingly, we argued that the fact that

the participants were able to draw the underlying conceptual mapping across Verticality and Quantity but were not able to do so in the case of Life and Journey may prove to be a result in differences in how these phenomena are coupled and processed in conceptual metaphor.

As shown in this study, QUANTITY IS VERTICALITY (orientational metaphor) and LIFE IS A JOURNEY (multimodality-based metaphor) are processed differently. Further studies are needed to address the issue over whether other multimodality-based and orientational metaphors are characterized by the same dimensions of coupling source and target domains. In particular, in this paper, we explored the results of the present research in light of two key notions *affordance-deliberateness* and *salience*.

These findings may carry profound theoretical implications for future studies in the realm of EMT as they suggest a theoretical framework that takes into account dimensions of the coupling process of source and target domains in different types of metaphor. Research in this direction may explore the dimensions of coupling processes in *structural* and *ontological metaphors* to delve more deeply into dimensions of the coupling process in figurative thoughts.

Still, further studies in this direction need to assess whether all multimodality-based metaphors follow the patterns of the coupling process between source and target domains which have been outlined in the present paper. Similarly, we will need to assess whether the conceptual mapping can be easily drawn in all the metaphors which stand on two phenomena that are processed as a unified experience.

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[1] Los participantes en este experimento son nativos de lengua española y su segunda lengua es inglés. Además, son alumnos de primer y segundo grado de los estudios universitarios: Diseño y Desarrollo de Videojuegos.
[2] Linguistic expressions denoting the domain Life include:
As she grows, she becomes more independent.
They lead a happy life.

He lived with cancer for three years before he died;
and for the domain Journey we include the following expressions:
We missed the way to the city center and wasted a too much time to get there.
The DART is a very quick and convenient way to travel to many parts of Dublin.
We had a wonderful trip and we really enjoyed ourselves.

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