Three Core Controversies of Original Conceptual Metaphor Theory Revisited

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Abstract

This article first introduces the main hypotheses of the original version of Conceptual Metaphor Theory (henceforth, abbreviated as CMT) presented in *Metaphors We Live By*. On this basis, it then evaluates its three controversial assumptions, referring to the research results of other influential CMT scholars. The three assumptions are: (1) metaphorical languages are possible because there exist metaphorical concepts which we can verify by their corresponding metaphorical expressions (language-concept-language circular reasoning); (2) conventional metaphors underlying literal expressions are the metaphors we live by and the object of CMT study while novel metaphors underlying figurative expressions are not the metaphors we live by since they lack systematic corresponding expressions (definition and scope of conceptual metaphors); (3) we understand the abstract target domain via the concrete source domain (unidirectional cross-domain mappings). In order to settle these tree controversies, future metaphor researchers should endeavor to find supporting evidences from multimodal manifestations, different languages and cultures and psychological experiments.

Key words: Conceptual metaphor theory; *Metaphors We Live By*; Circular reasoning; Definition; Unidirectional cross-domain mappings

1. INTRODUCTION

As a relatively young linguistic approach, cognitive linguistics differs from other approaches in the study of language in the most distinctive way that language is assumed to reflect certain fundamental properties and design features of the human mind (Evans & Green, 2006, p.5). CMT is proposed against that background, claiming that metaphor is not merely a linguistic phenomenon but more importantly a way of thinking. The establishment of CMT marks the cognitive turn in metaphor study.

This pioneering theory is first proposed systematically in Lakoff and Johnson's collaborative masterpiece *Metaphors We Live By* published in 1980. Lakoff is an American cognitive linguist and philosopher and served as a professor of linguistics at the University of California, Berkeley, from 1972 until his retirement in 2016. Apart from CMT, he has also made contributions on the study of categorization, cognitive lexical semantics, Construction Grammar, framing, Neural Theory of Language and application of cognitive semantics to politics. The co-author Johnson is a Knighted Professor of Liberal Arts and Sciences in the University of Oregon, well-known for his contributions to embodied philosophy, cognitive science and cognitive linguistics.

The study of metaphor has attracted much attention in the history of humanities and social sciences. The publication of *Metaphors We Live By* ushered in a cognitive turn in metaphor study. During these forty years, metaphor researchers in the cognitive paradigm have developed and modified the classic CMT including "Primary Metaphor Theory" (1997) by Grady, "Conceptual

Blending Theory" (2002) by Fauconnier & Turner, "The Neural Theory of Metaphor" (2008) by Lakoff, "Multimodal Metaphor Theory" (2009) by Forceville & Urios-Aparisi, "Deliberate Metaphor Theory" (2013) by Steen, "Extended Conceptual Metaphor Theory" (2020) by Kövecses. This article aims to revisit the original version of CMT (1980). It first summarizes its core tenets and then evaluates its three problematic ideas, informed by the discussion of later scholars.

2. MAIN HYPOTHESES OF ORIGINAL CMT

Metaphors We Live By consists of 30 chapters, which can be divided into two parts: core assumptions of CMT (Chapter 1 to Chapter 17) and metaphor in philosophical background (Chapter 18 to Chapter 30). These two parts suggest the two greatest contributions to metaphor study and cognitive linguistic study: (1) Metaphor is not merely a rhetorical device of discourse, but also a reflection of people's thoughts and action, which challenges traditional metaphor studies. (2) The assumption of experientialism that meaning is dependent on experience is different from the previous objectivist and subjectivist semantic views. This remarkably original and forceful idea challenges traditional western philosophy and linguistics.

To put it more specifically, there are mainly ten core tenets in original CMT: a) Metaphor is pervasive and conceptual, existing not just in language but in thought and action. Language is one manifestation of metaphorical thoughts. b) The linguistic expressions characterizing general metaphorical concepts are literal but not figurative. Conventional metaphorical concepts are metaphors we live by. c) Conceptual metaphor is the mechanism by which we understand abstract concepts via concrete concepts. d) Conceptual metaphors can be classified into three categories: structural metaphors (one concept is metaphorically structured in terms of another), orientational metaphors (we understand concepts in a spatial orientation) and ontological metaphors (we understand our experiences in terms of objects and substances). e) Conceptual metaphors are coherent with culture. f) The connections between metaphorical concepts are more likely to involve coherence than consistency, as sometimes two metaphors are not consistent (they form no single image), they nonetheless "fit together". g) Metonymy, just like metaphor, is not merely a referential device, it also serves the function of providing understanding. h) Conceptual systems are grounded in physical experience and cultural experience. i) CMT used to handle metaphor phenomenon is better than the abstraction view and the homonymy view. j) Both the objectivist view and the subjectivist view are problematic. There is a third choice: experientialism/experiential realism, which claims that metaphor is imaginative

rationality. This new approach can bridge the gap between the objectivist and subjectivist myths.

3. CONTROVERSIAL IDEAS AND DISCUSSIONS

In this section, three questionable assumptions of original CMT are discussed as well as the comments and criticisms from other scholars. These controversies are its language-concept-language circular reasoning, definition and scope of conceptual metaphors and unidirectional cross-domain mappings.

3.1 Language-concept-language Circular Reasoning

In this book, a lot of expressions are found as follows: "Metaphors as linguistic expressions are possible precisely because there are metaphors in a person's conceptual system" (Lakoff & Johnson, 1980, p.6). "Language is an important source of evidence for what that system is like" (ibid, p.5). "Primarily on the basis of linguistic evidence, we have found that most of our ordinary conceptual system is metaphorical in nature" (ibid, p.4). "Because the metaphorical concept is systematic, the language we use to talk about that aspect of the concept is systematic" (ibid, p.7).

From these expressions, we get one of the basic assumptions of CMT: metaphor is not just a linguistic phenomenon, it is conceptual in nature. Metaphorical expressions are possible because there exist metaphorical concepts in our conceptual systems, and at the same time we can verify the existence of metaphorical concepts by their corresponding metaphorical expressions. Some scholars point out that this assumption forms a circle of language-concept-language, called circular reasoning. The next part will discuss this problem from two perspectives.

3.1.1 Relationship Between Language and Conceptual Metaphor

Bartlett & Ruangjaroon (2022) summarize the core tenets of the standard CMT as "linguistic claim" and "cognitive claim" (the "cognitive claim" will be discussed in section 3.3.1). The "linguistic claim" assumes that "conceptual metaphors are *necessary* and *sufficient* for linguistic metaphors", which involves the relationship between language and conceptual metaphor. Bartlett & Ruangjaroon (2022) show their disagreement and challenge this claim with the following examples:

(1) She is a morally righteous person.
(2) Juliet is the sun.
(3) He kicked the bucket.

They think that sentence (1) is not metaphorical, which proves that conceptual metaphor is not a *sufficient* condition for linguistic metaphor, while sentences (2) and (3) show that linguistic expressions can exist without the existence of conceptual metaphor, which further

denies that conceptual metaphor is a *necessary* condition for linguistic metaphor. Hence the authors hold that conceptual metaphors are neither necessary nor sufficient for linguistic metaphors, undermining the "linguistic claim" of CMT and refuting the language-concept-language reasoning.

It is hard to agree with Bartlett & Ruangjaroon (2022)'s idea. Their view seems to be too radical since Lakoff and Johnson just emphasize the existence of metaphorical concepts and claim that their existence can be verified by linguistic expressions, but do not indicate that all expressions in language should be underlain by conceptual metaphors. Furthermore, the claim that sentences (2) and (3) show no underlying conceptual metaphor is also questionable, and I prefer Kövecses (2020) and Gibbs (2022), who firmly believe that sentences (2) and (3) are underlain by conceptual metaphors.

Gibbs argues that idioms and proverbs which describe human physical experience will facilitate their metaphorical meanings. When one physically "goes out on a limb," one is metaphorically also in a precarious, potentially dangerous situation. "The physical and metaphorical meanings of these idioms and proverbs are isomorphic" (Gibbs, 2022, pp.21-22). Therefore, Gibbs' argument can be used to refute Bartlett and Ruangjaroon's claim that the source domain LIGHT is not a conceptual prerequisite for grasping the target domain LOVER and we needn't understand DYING by KICKING A BUCKET/PHYSICAL MOVEMENT, either. Imagine this picture: a person stands on the top of an overturned bucket with a noose around his neck and he will be hanged when the bucket is kicked away. There is a metaphorical thinking underlying this idiom: DEATH IS TICKING THE BUCKET.

Kövecses thinks that unconventional or deliberate linguistic metaphors like "Juliet is the sun" come with a large non-deliberate conceptual package, i.e., the seemingly isolated linguistic metaphor is evoked by underlying metaphorical concepts. He also believes that idioms can be underlain by conceptual metaphors in a complex hierarchy of schematicity. Therefore, both Gibbs and Kövecses agree with the assumption that idioms (kicked the bucket) and novel linguistic metaphors (Juliet is the sun) have underlying conceptual metaphors. However, Gibbs and Kövecses' assumption mentioned above will not resolve circular reasoning problem of CMT since most conceptual metaphor manifestations are found in language.

3.1.2 Nonverbal and Multimodal Manifestations of Conceptual Metaphors

Although the examples and explanations Bartlett & Ruangjaroon (2022) use to question the relation between conceptual metaphor and language in CMT are problematic, they support the idea that just finding linguistic manifestations to verify the existence of

conceptual metaphor is invalid. In order to break the circular reasoning, on the one hand, more evidences from neuroscience, psychology and computational linguistics are needed to attest to the psychological reality of conceptual metaphors. It is well known that one way of cognitive linguists to evaluate the adequacy of their models is to consider converging evidence, which means that the model must not only explain linguistic knowledge, but must also be consistent with what cognitive scientists know about other areas of cognition. On the other hand, non-linguistic and multimodal manifestations should be brought into focus. Language is just one manifestation of conceptual metaphors, there are other modes like visuals, music, sound and gestures, which can also prove the existence of conceptual metaphors.

3.2 Definition and Scope of Conceptual Metaphors

To discuss the definition and scope of conceptual metaphors, two important concepts should be paid attention to: *literal* and *figurative* expressions. Are the linguistic expressions characterizing general metaphorical concepts literal or figurative? The answer given in *Metaphors We Live By* is *literal,* as shown in "The language of argument is not poetic, fanciful, or rhetorical; it is *literal*" (Lakoff & Johnson, 1980, p.5). In Chapter 11, the authors claim that the metaphor THEORIES ARE BUILDINGS has a used part (foundation and outer shell) and an unused part (rooms, staircases) (ibid, p.51). If the unused part is used to structure the concept THEORY, the linguistic expressions (His theory has thousands of little rooms and long, winding corridors) fall outside the domain of normal *literal* language and are called *figurative* or *imaginative* language. Thus *literal* expressions (He has constructed a theory) and *imaginative* expressions (His theory is covered with gargoyles) can be instances of the same general metaphor (THEORIES ARE BUILDINGS) (ibid, p.53).

The authors further claim that although both *literal* expressions and *figurative* expressions can be instances of the same general metaphor, the former is more important than the latter. According to them, *literal* linguistic expressions seem to correspond to *conventional* metaphors (the term *metaphor* refers to conceptual metaphor, if not explicitly expressed as a linguistic expression), which they regard as the metaphors *we live by* and the object of CMT study. Since they are autonomous and unconscious, we are not aware of them and use them in *literal* linguistic expressions in daily life. By contrast, what the authors refer to as *nonliteral, figurative*, *imaginative, poetic, fanciful, idiosyncratic* or *rhetorical* metaphorical linguistic expressions are underlain by *unconventional* or *novel* metaphors, which are not in the scope of CMT study.

The authors then summarize three kinds of imaginative (nonliteral) metaphors: (1) extensions of the used part of a metaphor, (2) instances of the unused part of a

literal metaphor and (3) instances of the novel metaphor. Obviously, this categorization shows that novel metaphor is one type of (nonliteral) metaphor, but to my knowledge, it should include the first two. To put it more concisely, the novel metaphor is equal to all the three types of imaginative (nonliteral) metaphors.

It is interesting to find that Lakoff and Johnson regard the conventional metaphor as *alive* while the novel metaphor as *dead*, which is different from our typical understanding that we generally think of novel metaphors as *alive* while conventional metaphors as *dead* because they have lost their figurative meanings (a possible explanation given to this difference is that Lakoff and Johnson treat dead-alive distinction from a conceptual level but not linguistic level). There are some expressions indicating this idea:

"Expressions like *wasting time, attacking positions, going our separate ways,* etc., are reflections of systematic metaphorical concepts that structure our actions and thoughts. They are 'alive' in the most fundamental sense: they are metaphors we live by" (Lakoff & Johnson, 1980, p.55). "If any metaphorical expressions deserve to be called 'dead', it is these, though they do have a bare spark of life, in that they are understood partly in terms of marginal metaphorical concepts" (ibid).

They further indicate that there are idiosyncratic metaphorical expressions that stand alone and are not used systematically in our language or thought, and it is important to distinguish these isolated and unsystematic cases from the systematic metaphorical expressions. They argue that idiosyncratic metaphorical expressions play no particularly interesting role in our conceptual system, and hence are not metaphors that we live by, go beyond the research purposes. They take the metaphor A MOUNTAIN IS A PERSON as an example and claim that as we can only find one linguistic example of this metaphorical concept: *the foot of the mountain*, which stands alone and lacks systematicity, so it is not the metaphor we live by.

The definition of conceptual metaphors, scope of conceptual metaphor researches and distinction between conventional and novel metaphors seem to lack credibility for two reasons: 1) their criteria for defining conceptual metaphors may be problematic; 2) the study of novel metaphors is discarded.

3.2.1 The Criteria for Defining Conceptual Metaphors
According to the authors, conventional metaphors correspond to living metaphors, which are the metaphors we live by while novel metaphors are dead as they lack vitality and consistence and can only underlie very few linguistic expressions.

This argument seems not plausible. Regarding the quantity and frequency of instantiated linguistic examples as one of the criteria for defining conceptual metaphors is not valid because it neglects two issues: (1) how many linguistic expressions are needed if

their underlying conventional conceptual metaphor is to be defined? (2) Metaphors defined as dead may be alive in other languages and cultures. For example, In Chinese, the conceptual metaphor A MOUNTAIN IS A PERSON is not novel but conventional. Apart from *shan jiao/mountain foot* (山脚), there are so many linguistic expressions such as *shan tou/mountain top* (山头), *shan yao/mountainside* (山腰), and *zhi xü/branch beard* (枝须). Furthermore, in ancient Chinese painting theory, this metaphor is more pervasive and there are linguistic expressions like *xi xiao/laugh merrily* (喜笑), *nu su/angry* (怒肃), *xiu mei/elegant and graceful* (秀媚) in describing the characteristics of the mountain, and *jin/tendons* (筋), *gu/bones* (骨), *rou/flesh* (肉) in criticizing the brushwork of landscape. These linguistic expressions of the conceptual metaphor A MOUNTAIN IS A PERSON do not stand alone and definitely are used systematically. Hence, this metaphor is the metaphor we live by and it should be embraced into the scope of CMT study, at least in Chinese culture.

3.2.2 The Study of Novel Metaphors
The second reason for the thoughtlessness of the definition and scope of conceptual metaphors in original CMT is the discard of novel/unconventional metaphors.

The authors point out that novel metaphors, like conventional metaphors, can also have the power to define reality. In Chapter 21, they cite the CHEMICAL metaphor example to show that the way one would understand one's everyday life would be different if somebody *live by* the CHEMCAL metaphor, which is a novel metaphor. Conventionally, problems are treated as things which can be solved once and disappear forever, but to *live by* the CHEMICAL metaphor would be to accept such a fact that no problem ever disappears forever. You would direct your energies toward finding out the catalysts which will dissolve your most pressing problems. The reappearance of problems is viewed as a natural occurrence rather than a failure and problems would be part of the natural order of things rather than disorders to be "cured". The CHEMICAL metaphor gives us a new view of human problems (Lakoff & Johnson, 1980, p.144).

Three doubts may arise from the above arguments: first, the fact that the phrase *live by* is used to describe CHEMCAL metaphor indicates that this metaphor is very important at least in some culture and isn't it the conventional metaphor people can live by? Second, since novel metaphors can reflect and define reality as conventional metaphors do, why are they abandoned in CMT study? Third, one novel metaphor may be regarded as conventional in other linguistic and cultural contexts (as shown in Section 3.2.1). Hence what is the clear distinction between conventional and unconventional metaphors and what is the object and scope of CMT researches? These issues are inadequately discussed in this book.

3.3 Unidirectional Cross-Domain Mappings

The claim "mappings from the concrete domain to the abstract domain" is traditionally viewed as one of the core tenets in CMT, which arouses hot discussion among a lot of influential scholars. This assumption entails two propositions: (1) there is a clear distinction between concrete domain and abstract domain; (2) the mappings between these two domains are unidirectional. This section focuses on these two propositions.

3.3.1 Concrete-Abstract Distinction

First, distinction between the concrete domain and the abstract domain is in the spotlight. When mentioning metaphorical thought RATIONAL ARGUMENT IS WAR, Lakoff and Johnson claim that "we use one highly structured and clearly delineated concept to structure another" (Lakoff & Johnson, 1980, p.61). That is to say, the concept WAR is highly structured and clearly delineated, which is more concrete than ARGUMENT. But is that the case? The former seems not necessarily more concrete than the latter, since we can't clearly delineate a war either and WAR can also be regarded as an abstract concept which can be understood through other concepts and hence become the target.

For example, there are three utterances: "The war of resistance against Japan burns across the country like a raging fire", "War is the demon" and "War is a disaster". These English expressions reflect that we usually understand WAR by the concept of FIRE, DEMON and DISASTER. Likewise, many source domains in metaphorical concepts may also be inherently understood via metaphors, and that is why we have conceptual metaphors HUMAN IS MACHINE and MACHINE IS HUMAN at the same time.

Standard CMT emphasizes the distinction between literal and figurative meaning and base the distinction between concrete and abstract concepts on it (concrete concepts are understood literally while abstract concepts are understood figuratively). Some scholars have questioned this clear-cut dichotomy. A weak version of objection is from Kövecses (2020). He objects to the existence of literal meaning and claims that "both types of concepts (concrete and abstract) are characterized by being understood metaphorically and metonymically" (Kövecses, 2020, p.32). Kövecses elaborates on this issue in his monograph with the example of SMELL. The sense of smell is one of the most basic ways in which humans (and animals) gather information about reality. For this reason it serves as a perfect source domain, for example SUSPICION IS SMELL (I can smell suspicion). However, this typical source domain concept can be a target domain in "The air was filled with a pervasive smell of chemicals". In this expression, SMELL is viewed as a substance and the object or location with the smell is viewed as a container, and the existence of the smell as the substance being in the container (ibid, p.30).

A strong version of objection to abstract-concrete distinction comes from Gibbs (2022). He holds a similar view with Kövecses, but his focus is on the distinction between metaphor and metonymy. Gibbs not only denies the distinction of concrete and abstract domain but also denies completely distinct domains in human conceptual systems. He points out that there are three inferences in the cross-domain mappings hypothesis: (a) there are completely distinct domains in human conceptual systems, (b) metaphorical mappings are flying across, but not passing through, conceptual spaces when dissimilar domains are contrasted, and (c) source domains in metaphorical mappings are inherently non-metaphorical (Gibbs, 2022, p.27). He denies all these three assumptions and holds that many source domains in conceptual metaphors may also be interpreted by metaphorical ideas. The relationship between source and target domains may be related via contiguity or metonymy rather than cross-domain mappings. Metaphorical concepts and language may originate in the contiguous, and at times almost isomorphic, relationships between concrete actions and larger metaphorical ideas (ibid, p.7).

Bartlett & Ruangjaroon (2022) also question the distinction between source and target domain. They regard this assumption as "cognitive claim", i.e. *abstract target domains are necessarily structured by more concrete source domains; thus, conceptual metaphors are formed* (the other claim is "linguistic claim", which is mentioned in section 3.1.1). They also object to this claim and deny the clear-cut source-target distinction.

Kövecses, Gibbs and Bartlett & Ruangjaroon's argument that both concrete and abstract concepts can be understood metaphorically and metonymically is reliable but some of their other arguments seem to be questionable. Kövecses' assumption that there are no literal meanings at all is lacking in credibility because there are actually some literal expressions, just like "She is a morally righteous person" (mentioned in Section 3.1.1 by Bartlett & Ruangjaroon, 2022). Gibbs' claim that there are no completely distinct domains in human conceptual systems is also to be pondered over because if there are no categories and classification, science can't be conducted and developed, let alone linguistic researches.

How can we regard the concrete-abstract distinction and resolve the problem that both concrete and abstract concepts can be structured metaphorically and metonymically? Kövecses proposes the distinction of ontological part and cognitive part in concepts. According to Kövecses (2020), in the case of literal meaning for concrete concepts, the ontological content predominates over the cognitive construal part. By contrast, in the case of abstractions, the construal part predominates over the ontological part. "In conceptual metaphors, we have predominantly content-ontology-based concepts as source domains and predominantly figuratively-construed concepts as target domains" (Kövecses, 2020, pp.32-33).

That is to say, he denies the rigid distinction between the concrete domain and the abstract domain, but does not deny the unidirectionality of mappings between them.

3.3.2 Unidirectionality of Mappings

The idea that source domains can also be metaphorically conceptualized seems to result in the fact that mappings from the concrete to the abstract can be reversed and bidirectional, leading to the discussion of the second proposition.

Standard CMT holds that the mappings from the source domain to the target domain in conceptual metaphors are unidirectional, formalized by the Invariance Principle. Thus it can't explain some more complex metaphorical mappings, for example, "The surgeon is a butcher". Where does the meaning "the surgeon is incompetent" come from? To make up the gap, Fauconnier and Turner (2002) turn to a multi-domain approach called Conceptual Blending Theory, in which domains are called mental spaces. They think the online meaning construction of metaphors involves four mental spaces: two input spaces, one generic space and a blend space. The blend space consists of structures from three parts, the generic structure from the generic space, the elements selectively projected from two input spaces and the emergent structure of its own (Fauconnier & Turner, 2002, pp.40-48). "Emergent structure" is the new structure created by the blending space after running the complex cognitive processes of composition, completion and elaboration. This multi-domain model can explain the meaning "The surgeon is not competent and skillful" in "the surgeon is a butcher" metaphorical expression.

Different from Fauconnier and Turner, Kövecses still stands in CMT camp and sticks to the unidirectionality of metaphorical mappings by proposing that every concept comprise an ontological part and a cognitive part (discussed in Section 3.3.1), although he assumes that the concrete can also be understood in a figurative way.

To question the unidirectionality of metaphorical mappings, El Refaie (2019) provides more examples, by which she points that cancer results in few bodily symptoms that are outwardly visible, while its visualizations in the form of X-rays can only be spotted and seen by medical experts. Based on this observation, she argues that SEEING often functions as the target domain in cancer narratives, the conceptual metaphor then is SEEING IS KNOWING, which contradicts the universal KNOWING IS SEEING metaphor. Therefore, conventional relationship between seeing and understanding is challenged by the experience of disease. She further argues that several instances of bidirectionality or source-target reversals have been observed, particularly in more literary or poetic verbal genres in the cinema, and in surrealist art. Bidirectionality or source-target reversals of conceptual metaphor can add weight to the study of CMT, indicating that the unidirectionality principle of metaphors is not equally applicable to all genres (El Refaie, 2019, p.185).

In a word, scholars diverge on this issue. More empirical evidences, cross-cultural argumentations and nonverbal manifestations are needed in the future to resolve this controversy.

4. CONCLUSIONS

Over the forty years' modification and development, CMT nowadays is very different from the original one proposed by Lakoff and Johnson in *Metaphors We Live By* (1980). This article focuses on the three limitations of original CMT: language-concept-language circular reasoning, definition and scope of conceptual metaphors and unidirectional cross-domain mappings with following CMT scholars' critics and solutions.

Although original CMT has these weaknesses, it still dominates the metaphor study realm in cognitive linguistics and is being playing an important role in the future. Some ideas of it predict the trends of CMT development in the next forty years: (1) the idea that CMT should take into consideration other human activities apart from language suggests a boom in the research on nonverbal and multimodal manifestations of conceptual metaphors; (2) the idea that metaphorical concepts may vary from culture to culture, context to context inspires following influential scholars to delve into the diversity and variation of conceptual metaphors; (3) the entailment relationship of metaphorical concepts promotes scholars to research for the schematicity hierarchy of conceptual structures; (4) the term *correlation* used to indicate the relationship between the source and the target domain inspires following scholars to explore the distinction between correlation metaphors and resemblance metaphors, primary metaphors and complex metaphors; (5) the idea of mixing complex coherences across metaphors inspires the study of mixed metaphors.

In future CMT researches, deliberate metaphors and novel metaphors which are traditionally discarded by CMT should be paid more attention to. CMT also demands more supporting evidences provided by multimodal manifestations, different languages and cultures and psychological experiments to settle its controversial claims and to be a more universal and scientific theory.

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