

Dimensions of Metaphor Meaning

Dimensões do significado da metáfora

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Abstract: For many years, scholars have been proposing generic or universal theories of metaphor, but metaphors turn out to be more complex than that. In this paper, we discuss cases that show that metaphor meanings and mappings are contextual. By contextual, we mean the interactions between multiple factors in different timescales. The cases we analyze to make our point come from our study of resistance to metaphors. When people resist metaphors, they tend to explain what meaning the metaphor has to them, thus we see naturally occurring evidence for metaphor's dynamic and multidimensional meanings. Contrary to Lakoff's claims, there can be no single source of meaning to metaphors. In a complex systems perspective, metaphor meaning is construed in the interactions between different factors, such as the background of the speakers and listeners, the grammatical form of the metaphor, the co-text, personality, other characteristics of the metaphor (aptness, familiarity, conventionality), the history of previous uses of the metaphor, etc. All these factors operate in a non-deterministic way. In this perspective, conceptual metaphors, acquired through experiences, are one source of constraint to meaning. People share similar meanings to the degree that they share similar experiences, knowledge, and biases.

Keywords: conceptual metaphors; context; complex systems.

Resumo: Por muitos anos, pesquisadores vêm propondo teorias genéricas ou universais para as metáforas, mas as metáforas se mostram mais complexas na realidade. Neste artigo, discutimos casos que mostram como os significados e mapeamentos das metáforas são contextuais. Por contextual, referimo-nos às interações entre vários fatores em diferentes escalas de tempo. Os casos que analisamos para corroborar nossa perspectiva vêm de nossos estudos da resistência às metáforas. Quando as pessoas resistem às metáforas, elas tendem a explicar o significado que a metáfora tem para elas. Nessas situações, vemos evidências naturais para os significados dinâmicos e multidimensionais da metáfora. Ao contrário das afirmações de Lakoff, não pode haver uma única fonte de significado para as metáforas. Em uma perspectiva de sistemas complexos, o significado da metáfora é construído nas interações entre diferentes fatores, como os backgrounds de falantes e ouvintes, a forma gramatical da metáfora, o co-texto, o contexto, outras características da metáfora (aptidão, familiaridade, convencionalidade), a história de usos anteriores da metáfora, etc. Todos esses fatores operam de forma não determinística. Nessa perspectiva, metáforas conceptuais, adquiridas pela experiência, são uma fonte de construção do significado. As pessoas compartilham significados parecidos à medida que compartilham experiências, conhecimento e vieses parecidos.

Palavras-chave: metáforas conceptuais; contexto; sistemas complexos.

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1 Introduction

When you are sick, your body gets weaker. Because of that, doing simple tasks, like getting out of bed, feels challenging. It may feel as if someone was holding you down, an antagonist, an enemy. A concept like *enemy* has many dimensions. One of them is the phenomenological dimension, that of a force that holds you back as you push against it. A different dimension of *enemy* is more abstract: *enemy* is that person against who you strick back in a war. This is a “frame” level (Siman; Morato, 2016) dimension: *enemy* in an element that takes part in a war event. So if I tell you *Cancer is an enemy* which dimension of meaning I am referring to?

The right answer is: you don’t know. No one does. The best one can do is to look at the context and try to infer what the most likely meaning could be. In fact, *enemy* has a lot more dimensions of meaning

than the two described above. Cancer can be an enemy because it is “bad”, because it “hurts” you, because you “hate” it, because it “attacks” you, etc. Cancer can be an enemy in many situations as well. It can be an enemy of your body (cells fighting cells), it can be your enemy in your daily life (you fight it by trying to carry on with your regular activities), and it can be the enemy of society (you fight it by creating social awareness and other social services). So if I say *Cancer is an enemy* which one of those situations (cellular, individual, or social) am I referring to? You can’t tell if there is no supporting context.

Metaphor meaning is contextual and communication is non-deterministic (Fuentes; Miguel, 2016; Siman, 2022). By contextual, we mean that metaphor meaning is produced by the interaction between multiple factors (the time of metaphor, the choice of grammar, what you know about the speaker, what your experience with that metaphor is, what types of information you have been exposed to previously, your ideology, etc.). When we say that communication is non-deterministic, we mean that when someone uses a metaphor, speaker and listener may be sharing anything from a very similar meaning to a completely different meaning. The speaker might be referring to a phenomenological aspect of his experience, but the listener can be understanding something a lot more abstract. Communication is not perfect, but it is good enough (Ferreira; Bailey; Ferraro, 2002).

The problem with many theories of metaphor is trying to develop a universal account of something contextual and dynamic. In this paper, we provide support to substantiate the argument that metaphors have different meanings and can be mapped in different ways. We analyze cases of resistance to metaphors (Gibbs; Siman, 2021) because that is when people are more likely to specify what they mean by a metaphor, or why they don’t like a metaphor.

We believe this is an important exercise. For one thing, when we analyze metaphors in discourse (e.g., corpora), we never get the chance to ask the speaker what they mean nor to ask other people what they infer from the metaphor. It is common to project conceptual metaphor constructs to other people’s discourse (Goatly, 2007; Kövecses, 2015; Lakoff, 2014). But it is really hard to figure out differences among humans if we don’t start looking for them. For example, Semino *et al.* (2016) have found out that some people get empowered by war metaphors, while others get disempowered. The importance of this finding is that

it led the authors to propose that each individual has the right to use the metaphors that are the best for them (“the metaphor menu”); no scholar or doctor should decide what’s best for the individual. By ignoring people’s differences, we incur the error of believing that there is one solution that fits all, that we can decide for others, that we can hate others based on what we project into their minds/discourses. The best way to respect diversity is to acknowledge and study diversity. This paper illustrates differences in metaphor meanings and mappings with the hope that scholars will become aware of the subtleties between sharing a meaning and projecting it onto people’s discourse.

2 Theoretical background

The classic position of Conceptual Metaphor Theory (CMT) (Lakoff; Johnson, 1980) is that metaphors are processed by cross-domain mappings that are pre-established in our semantic memory (Lakoff, 1993, 2008). That is, metaphors such as *this relationship isn’t going anywhere*, *my marriage is on the rocks*, *we are stuck*, and *we are on a journey together* should all be processed by the same system of cross-domain mappings. In this system, lovers are mapped onto travelers, relationship is mapped onto vehicles, difficulties are mapped onto obstacles, and so on. Both conventional and novel metaphors should be processed automatically and unconsciously by these mappings.

Recently, different authors are defending different approaches to conceptual metaphors. For instance, Steen (2017) proposes that non-deliberate metaphors – the majority of conventional metaphors we use every day - are processed by categorization or lexical disambiguation. For example, *Love is a journey* could be processed by accessing the lexical meaning of *difficult* or *exciting*, without ever needing to access or produce cross-domain mappings. Only deliberate metaphors, which are metaphors used as metaphors, something the author predicts is very rare, are processed by cross-domain mappings. In fact, ideas like Steen’s have been around for a while. See what Glucksberg e McGlone, (1999, p. 1556) propose regarding when we use cross-domain mappings to interpret metaphors:

In situations that warrant contemplation and analysis, such as the study of poetry or creative writing, people may recognize and/or utilize conventional analogies of the sort Lakoff has described.

Analogical retrieval in these situations is conscious and deliberate, not unconscious and automatic.

The problem with considering that only deliberate metaphors are processed by cross-domain mappings is that there is evidence that suggests that in some contexts people process metaphors by cross-domain mappings unconsciously (Thibodeau; Durgin, 2008; Thibodeau; Boroditsky, 2011). It seems that it is fair to consider that conceptual metaphors are processed by cross-domain mappings unconsciously - even if not in all experiments and real-life situations. What remains to be specified are the conditions that lead to one or the other way of processing metaphors, and “deliberateness”, at this point, does not seem to be a categorical factor.

Gibbs (2017) proposes that metaphors are processed probabilistically by cross-domain mappings. That is, when we hear *Love is a journey*, depending on the context, we may access some mappings but not others. In other words, metaphors are not processed en bloc. Siman and Sampaio (2021) discuss how this probabilistic processing should reach 0% probability in some cases, which means that we need to account for the whole range of meanings that metaphors may have. Conceptual metaphors may be processed by attributes or other types of information. This claim is contrary to another old idea proposed by CMT: that abstract concepts are poor in information, and thus would be mostly composed of conceptual metaphors and their systems of cross-domain mappings (Siman; Figueiredo, 2021). Abstract concepts are rich, and metaphors are as richly processed as the context may have them.

The idea that metaphor meaning is contextual and not pre-established in semantic memory (as CMT suggested) is not new. Glucksberg and McGlone (1999) presented this idea by associating their claim with the attributive theory of metaphor. The attributive theory is an alternative to both CMT claims that cross-domain mappings are pre-established in semantic memory and Gentner's (1988) claim that metaphors are processed by analogy or property matching. Property matching is about establishing analogies (or similarities between two domains). On the other hand, property attribution should happen when the vehicle of the metaphor suggests candidate properties that can plausibly be attributed to the topic. One of the main reasons that Glucksberg has suggested such a theory is that sometimes a person knows nothing about the topic and can still process a metaphor. For instance, if I say *John is*

a *Lion*, even if you have never heard about John, you can still attribute plausible properties to John: strong, hungry, powerful, etc. Importantly, for this theory, the meaning of the metaphor can vary in different contexts. In some contexts, it might be more relevant to attribute *hungry* to John, but in other contexts, it might be more relevant to attribute *strong*, etc. In the same way, in some contexts, a metaphor like *Our relationship is a rollercoaster ride* might mean *exciting*, in other contexts, *full of ups and downs*, etc. (McGlone, 1996).

The claim that metaphors need to be processed by property attribution because people don't know the vehicle does not hold. When people don't know who John is, they still know that he is a human, male, and that there are many cultural expectations regarding what males are and are not. And in a richer context, more cues might be given as to what the speaker is trying to communicate (e.g., I saw John punching a man till he could no longer move. John is a lion. = strong/dangerous/aggressive). Thus, we need a theory that allows for the context to select what properties of the vehicle will be attributed/matched to the topic, this theory should not be exclusively semantic, as they often are (Siman, 2022).

Other than that, Bowdle and Gentner (2005) point out that vehicle and topic need to interact since the same vehicle can have different meanings when paired with different topics. For instance, *a child is a snowflake* means *unique*, whereas *youth is a snowflake* means *ephemeral*. Bowdle and Gentner suggest that when metaphors are novel, they are processed by analogy; when they are conventional, they are processed by categorization. The effects of time on metaphor processing seem to be substantial, but not categorical.

In a complex systems approach to metaphors, as we propose here, metaphors are processed by the interaction of multiple constraints that occur contextually, with different weights. Thus, processing is less like finding the meaning of the metaphor in a mental dictionary, and more like a trajectory through a landscape of attractors¹ (Spivey, 2007). The

¹ The concepts of high-dimensional space and attractor basins help us understand the mind in flux - different from the static and combinatorial mind of computational theories (Spivey, 2007). When we look at the world around us, we see it continuously. There isn't a moment when the mind is turned off and starts processing information from scratch. Not even when we sleep our mind is turned off. The processing of information (e.g., visual, linguistic, etc.) takes place in a mind in flux. The concept of high-dimensional

landscape of attractors is composed of concepts that can attract meaning with different strengths. For that reason, meaning has nuance, it does not equate to a superordinate category or a pre-established set of cross-domain mappings. In this sense, cross-domain mappings - like those presented by CMT - may be a part of the meaning in probabilistic ways (Gibbs, 2017), depending on the context. The reason why mappings can be accessed probabilistically is that they are attractors based on previous experiences with processing metaphors. Thus, cross-domain mappings might exist partially in the minds of speakers, according to their own experience - not according to CMT's principles. And context defines what information and in what depth this information will be processed.

The interacting constraints that affect meaning are, for example (see more in Gibbs, 2013): (i) conceptual: previous experiences influence the processing metaphors by cross-domain mappings; (ii) individual: the experiences of each individual with the metaphors they have been more or less exposed to in a culture - people's minds are unique. This can be broken down into tendencies that can be found in different age groups, different sex, different neurological make-up, different personalities, different ideologies, etc; (iii) linguistic: metaphor may appear in different grammatical forms, which can affect its meaning. Most notably, similes and metaphors can be processed differently (Bowdle; Gentner, 2005); (iv)

space helps us to think of a mind in which there is multiple information distributed at different distances. For example, think about the concept of house and everything you know about houses. All sensory, motor, cultural, discursive, emotional information, etc. When we think of house, multiple pieces of information are available to our minds, to varying degrees: some pieces of information are more salient than others. When we hear the sentence *my house...*, we do not access all the information we have about the house, instead, some information is accessed probabilistically, depending on the interaction between contextual factors (pre-activation of house characteristics, cultural trends, etc.). In this way, we understand that the processing of information (e.g., sentences) as a trajectory (since the mind is in flux) in a high-dimensional space (with multiple information) that passes through attractor basins (or that is pulled towards information - e.g., a meaning of a word -, without having to reach that information, or realize it completely). Therefore, we say that the meanings of words are accessed probabilistically, or that the mind can display more or less specific meanings depending on the context. The lexicon is not a dictionary. It's not accessed in an all-or-nothing fashion. See Gibbs and Santa Cruz (2012) for an illustration of how this works for conceptual metaphor processing.

immediate information: this includes the interaction - or what a person knows about their interactant and what the interactant has recently said; priming effects, information that is available in the context and co-text, etc; (v) metaphors' characteristics: familiarity, aptness, conventionality, history of previous uses, etc.

None of these factors are deterministic. They affect metaphor processing probabilistically. As Glucksberg and McGlone (1999, p. 1555) conclude about CMT:

The metaphoric ground cannot uniquely be determined, contrary to Lakoff's claim, from a single taxonomic category that is identified by the metaphor vehicle (e.g., rollercoaster ride and voyage to the bottom of the sea instantiate the superordinate category 'journeys'). Why? Because there are no a priori grounds for determining which set of interdomain mappings are relevant.

Even though there are no a priori grounds to determine which mappings are relevant, metaphors' meanings are not always created in an unbiased mind. Conceptual metaphors may be tendencies that constrain meaning in some contexts. Moreover, there is not, as far as we can tell, any perfect correlation between novel or deliberate metaphors and modes of processing. In some cases, experiments even show similarities between some novel metaphor processing and conventional ones (i.e., some novel metaphors can be processed as fast as conventional ones). Glucksberg (2008) claims that both could be processed by categorization. A different interpretation would be that novel metaphors are always processed by cross-domain mappings but some are faster because their matching properties are highly (culturally) salient (Siman, 2022).

3 Mappings are defined contextually

First, we will address the issue of how mappings are established. Remember that for CMT's classic view, mappings were fixed and pre-established. But this should not be the case. For example, in the literature about Alzheimer's disease, Alzheimer's can be the enemy and the patient can be the victim (of Alzheimer's). Or the patient can be the enemy and the family member can be the real victim, since the caregiver can go through many troubles caring for their loved one. Doctors and scientists

can be the heroes who fight Alzheimer's. Or the caregiver can be the hero for his efforts. Mappings need not be fixed.

Looking at how people resist metaphors, we see other examples:

(1) Cancer begins with a single mistake within our bodies, so why would I want to think of my **body as an enemy** when, for the most part, it has served me well? I wasn't about to **go to war with myself** even when my body made a mistake.²

In the excerpt above, the body is the enemy, which contrasts with other uses of war metaphors in which cancer is the enemy and the body may be a battleground.

(2) Cancer, I soon learned, is my own cells going rogue. Suddenly all the combat language was confusing. **Am I the invading army or the battleground? Am I the soldier or a hostage the soldier's trying to liberate?** All of the above? If the chemotherapy and radiation and surgery and drugs don't work, and I die, will people be disappointed in me for not "fighting" hard enough? For me, cancer never felt like a war. Cancer wasn't something I "had," but a process my body was going through³.

In the excerpt above, the patient is confused with many mapping possibilities. Is the patient's body the invading army or the battleground when we are raging war against cancer? It could be anything that makes sense contextually. The importance of emphasizing that meaning is contextual is that often activists will claim that they know what mappings are being established when people use a metaphor (Lakoff, 2014). But they cannot be sure. Thus, it makes no sense to condemn a person for using some metaphor on the grounds that the metaphor implies something evil. Let's say a cancer activist may want to urge society to stop using war metaphors because she does not want her body to be a battleground. But not everyone who is using *war against cancer* is implying that a patient's body is a battleground. Not everyone is implying that if the patient does not recover, he is a loser. As we mentioned in the last section, metaphors' meanings and mappings are set probabilistically in context. People should not demand that other people

² Available at: <https://www.rogelcancercenter.org/living-with-cancer/sharing-hope/war-metaphor-cancer-can-be-relieved-duty>, accessed in Jan, 2022.

³ Available at: <https://edition.cnn.com/2017/07/21/opinions/cancer-is-not-a-war-jardin-opinion/index.html>, accessed in Jan, 2022.

stop using a metaphor because of their own interpretation of that metaphor. Much less because of Lakoff's theoretical claims.

But this is exactly what scholars have done recently in our fight against Covid-19. They have urged everyone to stop using war metaphors on the premise that their own interpretation of the metaphor is the correct one or is the one that is more likely to happen in society!⁴

As a last example, consider this speech by Prof. Jordan Peterson:

(3) But it is a hell of a thing to call us [humans] a cancer on the planet, there is no excuse for that. **Because what you do with cancer is eradicate it.** And I don't think that that is a very noble motive, personally. And I think it says a lot about the people who use this phraseology, that they would dare to conceptualize humanity in that manner.

We believe that it is hardly the case that when people say *humans are a cancer on the planet*, they are suggesting that we eradicate humans. Our own interpretation is that they mean humans are doing harm to the planet and must change their ways before it is too late. Not all mappings that could be established SHOULD be established or are regularly established by listeners. Different people may have different interpretations of this metaphor.

4 Meaning is defined contextually

Not only mappings are established contextually, but the meaning of the metaphor is contextual as well. In the two excerpts below, speakers discuss what *life is a game* means. While we could say that people are conceptualized as players for both speakers, for speaker 4, life should not be compared to a game because games are about competition, while life, ultimately, is not. The second speaker highlights that many types of games do not involve competition, and when he thinks about life as a game, he thinks about the randomness and unexpected nature of the world. Thus, *life is a game* is not always about winners and losers, as CMT would have predicted.

(4) Okay, so maybe people do view life as a game, but what's wrong with that? Well, essentially, life isn't a game. The risks are different, the

⁴ Reframing covid: <https://sites.google.com/view/reframecovid/> (accessed on Jan, 2022).

rewards are much different, and the rules are not even similar. [...] **The mindset of a game, the idea that it is all about beating other people, doesn't cut it in reality.** We must focus on more than just winning. We must realize that we cannot win. We cannot beat the standard which has been set for us on our own.

(5) While I agree with your point of life is not necessarily about beating others, I disagree with how you conceptualize the game of life mentality. **You say that the life is a game mentality brings into play the idea of winners and losers, but games like Skyrim or minecraft are games but do not necessarily fit that description.** There is a collaborative aspect to games that I believe in when I mention that life is a game. **The randomness and unexpected nature of the world** as a result of the imperfect knowledge that we have as humans **causes me to describe these chaotic life circumstances as “part of the game”**

While *time is money* involves the relationship between our hourly work and the amount we make, it must not always be so. When people resist metaphors, they analyze different possibilities for meaning. In the excerpts below, the meaning in focus is the value of each, time and money, and its finitude.

(6) As I've written before, **money is infinite but time is not.** You can always go out and get a part-time job or start a side hustle, but you'll never be able to get back this moment or this day. **Equating the two diminishes the value of time.** And it also undermines the importance of passive investing, of building passive income streams, which I believe really is the primary goal of personal finance. **INVESTING AND PASSIVE INCOME DISRUPT THE MONEY/TIME RELATIONSHIP.**⁵

(7) It surrenders us to the idea that **money is more valuable than time. It isn't.**

I propose we flip this equation. **Time shouldn't be something we spend in order to acquire money. Money is something we should spend to acquire time.** [...] Money can be spent, earned, loaned and recuperated.

⁵ Available at: <https://millennialmoney.com/time-is-not-money>, accessed in Jan, 2022.

Time is different. There's no getting it back once it's gone. It can't be regenerated or negotiated for or made to pour out of a slot machine. Most people exchange time for money on a daily basis. We get paid by the hour, the month or the year. [...] Instead, let's think of time as the most valuable currency. **Life gives you an account. This account accepts no deposits, only withdrawals. Every day you withdraw 24 hours. You spend 8 or so sleeping, leaving about 16 hours of irreplaceable denominations of existence. It's definitely unhealthy to spend that time on a job you hate—but you shouldn't spend too much even on a job you like!**⁶

Some people suggest that war metaphors should be substituted for journey metaphors. But meaning is contextual, and for some people, this might not be a good idea. While CMT associates journeys with having obstacles, travelers, destinations, and so on, the resistance to journey metaphor is not (necessarily) about resisting any of that. It is about resisting journey's positive connotation, as we see in the examples below. It is also important to notice the other dimensions of meaning that CMT does not cover. For instance, journeys are something people perceive to have control over (this is outside the scope of CMT). In example 8, we see that the speaker mentions *a long slog* as part of the meaning of *cancer is a journey*, this parallels results from experiments, in which participants frequently state that *life is a journey* means *long*. Also, the meaning of *rollercoaster (ride)* has more to do with the primary metaphor "has ups and downs" than with classic journey mappings (McGlone, 1996; Siman, 2022; Siman; Sampaio; Júnior, 2022).

(8) To me, **journeys are fun and pleasurable and things you have control over,**" she tells HuffPost UK. "For me personally, the correct metaphor to describe cancer would be a rollercoaster because there's **so many ups and downs.**" I can completely understand why he said 'journey' as he meant it was the **start of a long slog**" says Jenny. "But for me, it was the wrong language."⁷

⁶ Available at: <https://100mba.net/time-is-not-money/>, accessed in Jan, 2022.

⁷ Available at: https://www.huffingtonpost.co.uk/entry/the-language-of-cancer-fighting-beating-going-on-a-journey-here-are-some-alternative-descriptions-those-with-cancer-prefer-to-use_uk_5e273388c5b674e44b9ef333, accessed in Jan, 2022.

(9) Cancer is not a journey. Stop with the meaningless platitudes. Cancer is a kidnapping. A hijacking. [...] **It's not like going to Spain and getting to try out a few phrases from the phrasebook you bought in the airport. There are no tapas. It's not fun. You don't get to feel more sophisticated and cosmopolitan because of it.** Just tired. And terrified. [...] **There isn't a person on earth who would want to go where cancer takes them.** So stop trying to make it sound like it has **purpose and meaning** by giving it an archetype and calling it a journey and saying those in the middle of it are brave. It's a fucking hijacking. People who have cancer are in the middle of trauma. They are scared. They are by turns angry and in denial and grieving. Those who live do not come away unscathed from this calamity. Every single one of them has had to face their own death. It's not pretty. **It's not a waterfall in Hawaii. No one takes a selfie.** People who have cancer have to imagine the lives of their children without them. They have to come to grips with losing everything. Some have gone broke paying the ransom. Some have PTSD.⁸

It is natural that different people prefer different metaphors (Semino; Demjén; Demmen, 2016). It is natural that people may at times be offended by a metaphor that was never offensive when uttered. This happens because communication is not deterministic (Fuentes; Miguel, 2016). That is, what I say and what you understand might not always be exactly the same thing. Frequently, the most one can guarantee is that meaning, in some contexts, may be approximately the same for most people - not everyone.

We must remember that some authors have acknowledged conceptual metaphor's contextual meanings, such as Kövecses (2015), who analyses how *my wife is an anchor* can have two almost opposite meanings provided that they express different scenarios (i.e., *my wife is my support/ my wife drags me down*). But the author would maintain that, at an abstract level, LIFE IS A JOURNEY mappings would still underpin the two different contextual meanings of the metaphor. While this can be true for some contexts, this is likely not true for others, as suggested by many experiments (Holyoak; Stamenković, 2018; Miller; Raney; Demos, 2020). In the examples in this section, we show that different parts of basic CM's can be missing. For example, thinking of

⁸ Available at: <https://janecawthorne.com/cancer-not-journey/>, accessed on Jan, 2022.

chaos as part of the game (example 5) emphasizes stressors in life as obstacles in games, and says little to nothing about winners and losers. The conceptualization of time as money in example 7 makes it possible for us to spend time, but not to deposit it (which seems something possible in other instances – a quick Google search shows examples in Brazilian Portuguese of people saying *avoid depositing your time in issues that are irrelevant*. Moreover, the importance of realizing how people talk about other dimensions of metaphor meaning, such as *time is money* as being more or less **valuable** (examples 6 and 7), and *cancer is a journey* as not being about “**fun, pleasure**, etc.” (examples 8 and 9) is that these dimensions may stand on their own in other contexts, without the support of underlying CMs. Contextual meaning selects parts of a concept, and these parts may involve full-fledged CMs, partial CMs, or no CMs.

5 But is this “statistically significant”?

Even though the idea that meaning is dynamic/contextual is defended by cognitive linguists (Croft; Cruise, 2004), in other parts of this field, the fixed mappings of conceptual metaphors have been defended religiously. When conceptual metaphor processing is considered dynamic, authors only mention schemas, frames, domains, and primary metaphors (Gibbs; Santa Cruz, 2012; Kövecses, 2017), never attributes and other types of information. The idea that meaning is contextual goes against universal claims and analysis, it makes it look as though semantics cannot be a science (Siman, 2022). But this is not true. We can, after all, study tendencies in meaning-making. What we cannot do is say that we know what anybody is thinking or what they mean in a particular context.

In any case, scholars tend to struggle with dynamic theories of meaning and they want to impose some arbitrary conventions in opposition to the claim that meaning is dynamic. For example, they might say that they are only interested in tendencies in meaning that are statistically significant. In this section, we will address some of these concerns.

Firstly, it is important to realize that showing even one example that metaphors are processed in different ways is relevant because any theory that explains metaphors must explain all cases, not only the most frequent ones. This is the relevance of pursuing qualitative research and even of making arguments that are introspective: to show that the science of the “averages” is not everything.

Moreover, “the average” is a fiction. Theories like the classic CMT are fictional. There is no average human, no average cognition, no average metaphor meaning. Each human is unique, and every act of metaphor processing is unique. There are tendencies (either within one person or between people), of course, but meaning should not be exactly the same for two people or for the same person at two different times (because of different nuances) – see Spivey (2007) for an extended discussion on this topic.

When scholars say they care about statistically significant results, do they think that Lakoff’s theoretical proposals are statistically significant? McGlone (1996) asked participants to paraphrase conceptual metaphors (e.g. *my relationship is a rollercoaster ride*). Results show that participants use more attributes (e.g. *exciting*) than domain-related words (e.g., words from the domain of *Journey*, such as *bumping*), that is, 74% of the paraphrases did not contain CMs, against 24% that could contain CMs. The author then wondered if participants could be deliberately trying to avoid metaphors and give a literal paraphrase of the metaphors in the stimuli. He then conducted a second study in which he asked participants to paraphrase the same metaphors with other metaphors. Results show that the paraphrases were not consistent with CMT (i.e., they were not from the same domain). For example, sentences like *his lecture was a three-course meal to the mind* would be more often paraphrased as *his lecture was a goldmine* (59%) than *His lecture was bread for the starving mind* or *his lectures were nutritious* (41%), which would be more consistent with CMT. Then, the author proceeded to test if, by showing participants a paraphrase with metaphors that are consistent and metaphors that are inconsistent with CMT, they would choose those that are consistent with CMT as better paraphrases. In fact, there is no significant preference for either type of metaphor. Lastly, McGlone (1996) gave participants a memory test, in which participants first listened to conceptual metaphors and then were given a list of words as clues to the metaphors they had listened to. Clues were either from the same domain as the metaphor or a related attribute. Attributive cues were more effective than CMs in prompting the recall of metaphors⁹.

⁹ We would like to disclose that his paragraph was mentioned in our previous work (Siman, 2022).

Taking from McGlone's studies, which are all statistically significant, Lakoff's proposals are not so relevant. But McGlone's study involved specific metaphors stated solo. A different set of conceptual metaphors or the use of a different co-text could have created different results, that would have made Lakoff's claims more relevant. Experiments have a context too. Finding that CMT's predictions are significant in one experiment (Gibbs, 2017; Reid; Katz, 2018; Thibodeau; Durgin, 2008) and insignificant in another is a matter of contexts as well.

As we have mentioned: we want theories that explain all contexts, not just a few.

6 Conclusion

Metaphors have different meanings in different contexts. A metaphor like *journey* can mean roughly *pleasant* when people say *cancer is not a journey!*. It can roughly mean *has a beginning, middle, and an end* when we say *a baby is at the beginning of his journey*. It can mean *long*, which is what many participants seem to suggest in an experiment we have run (Siman; Sampaio; Júnior, 2022). Of course, the question of whether conceptual metaphors underly all these uses even if in a graded way should still be debated. However, there is little support for the idea that conceptual metaphors should be mandatory in meaning-making (e.g., Miller; Raney; Demos, 2020).

A good candidate for explaining what metaphors mean in different contexts is the complex (or dynamic) systems approach to metaphors (Gibbs, 2013; Siman, 2022). Under this perspective, metaphor meaning is established dynamically by the interaction of different factors, such as the person's background, the task he is doing, recent information he was exposed to (i.e., priming), the exact metaphor and its co-text, the attractive effect of conceptual metaphors in the mind, etc. Importantly, this should not lead to the conclusion that two people could never agree on the meaning of a metaphor, since people share many similar experiences, similar bodies, similar readings, similar cultures, similar contextual constraints, etc. People's contextual inter-agreement on metaphor meaning should range anywhere from 0-99%. In a novel approach to metaphor processing, we suggest that metaphors are processed by the interaction of different factors in different timescales – see details in (Siman, 2022).

Metaphor meaning is contextual and depends on individual experiences and the momentaneous setup of the situation the speaker and listener are involved in. As Glucksberg and McGlone (1999) have mentioned, metaphors' meaning cannot be determined by any single source of information - conceptual metaphors or otherwise.

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